SITE INVESTIGATION REPORT

Port of Oakland
Oakland International Airport
United Airlines Hangar Area - Economy Parking Lot Site
1100 Airport Drive
Oakland, California

Project No. 10-250-02-004

July 1995

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Prepared for:

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July 27, 1995

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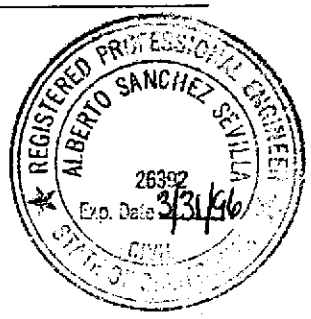

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1.0 INTRODUCTION

Alisto Engineering Group was retained by the Port of Oakland to perform a site investigation at Oakland International Airport, United Airlines Hangar Area - Economy Parking Lot Site, 1100 Airport Drive, Oakland, California. The work was performed under Port of Oakland Work Order No. 028691, dated February 28, 1995. A site vicinity map is shown in Figure 1.

1.1 Purpose and Scope of Work

This work was performed to assess the nature and extent of hydrocarbons in the subsurface soil and/or groundwater at the site and to comply with applicable regulations of the governing regulatory agencies. The scope of work for this investigation included the following:

- Procured permits to install groundwater monitoring wells.
- Drilled and logged two exploratory soil borings and collected soil samples.
- Installed groundwater Monitoring Wells MW-2 and MW-3.
- Developed Wells MW-2 and MW-3 and surveyed MW-1, MW-2, and MW-3.
- Monitored and sampled Wells MW-1, MW-2, and MW-3.
- Analyzed the soil and groundwater samples for specific hydrocarbon constituents.
- Evaluated the data and analytical results and prepared this report.

The above tasks and related field and sampling activities were performed in accordance with the requirements of the Alameda County Flood Control and Water Conservation District (Zone 7), Alameda County Health Care Services Agency (ACHCSA), and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB).

1.2 Site Description and Background

The site is in the Economy Parking Lot, approximately 700 feet southwest of the United Airlines hangar, at the Oakland International Airport. Two underground storage tanks, MF-25 and MF-26, were formerly located at the site as shown in Figure 2.

In March 1992, the tanks were removed and approximately 700 cubic yards of soil excavated from the sidewalls of the tank cavity. Compliance soil samples were collected after tank removal. Analysis of the samples detected up to 11000 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPH-G), 190 mg/kg benzene, 1000 mg/kg total petroleum hydrocarbons as diesel (TPH-D), and 19000 mg/kg total oil and grease (TOG). Analysis of the soil samples for volatile organic compounds (VOCs) detected up to 140 mg/kg 1,1,1-trichloroethane, 30 mg/kg 1,1-dichloroethane, 450 mg/kg dichloroethane, and

100 mg/kg tetrachloroethene. Analysis of the samples for semi-volatile organic compounds (SVOCs) detected 107 mg/kg dibenzofuran, and metals analysis detected 25 mg/kg chromium, 29 mg/kg nickel, 3.7 mg/kg lead, and 20 mg/kg zinc (Uribe and Associates, 1992).

Analysis of soil samples collected at the limits of the excavation detected up to 0.3 mg/kg TPH-G, 0.02 mg/kg benzene, and 7 mg/kg TPH-D. TOG and VOCs were not detected above reported detection limits in soil samples collected from the limits of the excavation (Uribe and Associates, 1992).

In May 1992, one groundwater monitoring well, MW-1, was installed at the site during a preliminary site investigation. Analysis of groundwater samples collected from Well MW-1 detected TPH-G, TPH-D, and total petroleum hydrocarbons as jet fuel (TPH-JF) at concentrations of up to 70, 5200, and 800 micrograms per liter (Uribe and Associates, 1994).

2.0 FIELD METHODS

The following field methods were used during this investigation for soil sampling, well construction, development, sampling, and surveying. A permit to install monitoring wells was acquired from Zone 7 and is presented in Appendix A.

2.1 Drilling and Soil Sampling

On April 19, 1995, two exploratory soil borings were drilled to approximately 11.5 feet below grade. Drilling was performed by Soils Exploration Services, Benicia, California, using a CME 75 drilling rig equipped with 8-inch-diameter, hollow-stem augers. Soil samples were collected at approximately 2, 7, and 10 feet below grade and field-screened using an organic vapor meter. Drilling and soil sampling procedures are presented in Appendix B. The samples were transported in an iced cooler to a state-certified laboratory following chain of custody procedures.

Boring logs were prepared using the Unified Soil Classification System, including a description of soil characteristics such as color, moisture, consistency, and grain size. The boring logs generated during this investigation are presented in Appendix C.

2.2 Monitoring Well Installation and Construction

The two soil borings were converted into Monitoring Wells MW-2 and MW-3 in accordance with the field procedures for groundwater monitoring well installation presented in Appendix B. The wells were constructed of 2-inch-diameter, flush-threaded, Schedule 40 PVC casing. Blank casing was installed from surface grade to approximately 1.5 feet below grade and 0.010-inch slotted casing from approximately 1.5 to 11 feet below grade. Well construction details are included on the boring logs in Appendix C.

2.3 Monitoring Well Development and Sampling

Well development and sampling was performed in accordance with the guidelines of the governing regulatory agencies (State Water Resources Control Board, 1989 and United States Environmental Protection Agency, 1986). The field procedures for groundwater monitoring well development and sampling are presented in Appendix D.

Monitoring Wells MW-2 and MW-3 were developed on April 19, 1995, after placing the filter pack and before installing the bentonite pellets and cement seal. Well development was accomplished by removing at least 10 casing volumes while alternately using a surge block and pump. The well development data are presented in the field survey forms in Appendix E.

On April 25, 1995, groundwater samples were collected from Monitoring Wells MW-1, MW-2, and MW-3. The wells were purged of at least 3 casing volumes before sample collection, while monitoring pH, specific conductivity, and temperature. The samples were transported in an iced cooler to a state-certified laboratory following chain of custody procedures. The groundwater sampling data are presented in the field survey forms in Appendix E.

2.4 Groundwater Level Monitoring and Well Surveying

Monitoring Wells MW-1, MW-2, and MW-3 were surveyed to the top of the well casing by a licensed land surveyor, James H. Frame, Davis, California, in reference to the Port of Oakland datum. On April 25, 1995, the depth to groundwater in Wells MW-1, MW-2, and MW-3 was measured from the top of the well casing to the nearest 0.01 foot, using an electronic sounder. The survey data and relative groundwater elevation measurements are presented in Table 2, and a graphical interpretation of the groundwater gradient beneath the site is shown in Figure 3. The well elevation survey map for the monitoring wells is presented in Appendix F.

3.0 SITE GEOLOGY AND HYDROGEOLOGY

The site is in the Coast Range Geomorphic Province, on the eastern side of San Francisco Bay, approximately 7 miles to the west of the Hayward Fault. The uppermost geologic member consists primarily of Quaternary alluvial deposits. The Quaternary alluvium is composed of unconsolidated to semi-consolidated bay mud, silt, sand, and gravel. The site is approximately 4 feet above mean sea level. The topography of the vicinity is generally flat, gradually sloping to the west, toward San Francisco Bay (Page, Ben M., 1966).

Soil types encountered in MW-2 and MW-3 generally consisted of sand and clay with sand. In MW-2, sand was encountered from surface grade to approximately 7 feet below grade, underlain by clay with sand to the total depth of the boring at approximately 11.5 feet. In MW-3, sand was encountered from surface grade to approximately 10 feet below grade, underlain by clay with sand to the total depth of the boring at approximately 11.5 feet.

During drilling, groundwater was observed at approximately 2.5 feet below grade. During sampling, groundwater was measured to be between 2.20 and 2.78 feet below the top of the casing in Wells MW-1, MW-2, and MW-3. Groundwater elevations as measured on April 25, 1995 were used to develop the groundwater potentiometric surface map shown in Figure 3. The groundwater elevation data indicate a gradient of approximately 0.005 foot per foot in a west-southwesterly direction across the site.

4.0 ANALYTICAL METHODS

Soil and groundwater samples were analyzed by Clayton Environmental Consultants, Inc., a state-certified laboratory, using standard test methods of the U.S. Environmental Protection Agency (EPA) and the California Department of Health Services.

Soil samples collected at the capillary fringe above groundwater were analyzed for the following:

- TPH-G and benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Methods 8015 and 8020
- TPH-D, TPH-JF, and total petroleum hydrocarbons as motor oil (TPH-MO) using EPA Method 8015 (modified)
- Volatile organic compounds (VOCs) using EPA Method 8240

Soil samples collected below the shallow water-bearing zone and in the clay material were analyzed for the following:

- VOCs using EPA Method 8240
- Semi-volatile organic compounds (SVOCs) using EPA Method 8270

Groundwater samples were analyzed for the following:

- TPH-G and BTEX using EPA Methods 8015 and 8020
- TPH-D, TPH-JF, and total petroleum hydrocarbons as motor oil (TPH-MO) using EPA Method 8015 (modified)
- VOCs using EPA Method 8240
- Cadmium, chromium, nickel, lead, and zinc using EPA Method 200.7
- Total dissolved solids (TDS) using EPA Method 160.1
- SVOCs using EPA Method 8270

The laboratory results for the soil and groundwater samples are summarized in Tables 1 through 4. The field procedures for chain of custody documentation and the laboratory reports and chain of custody records are included in Appendix G. The concentrations of petroleum hydrocarbons detected in the groundwater are also graphically shown in Figure 4.

5.0 DISCUSSION OF RESULTS

The results of this site investigation based on field observations and laboratory analysis are discussed below:

- Soil types encountered in the two borings generally consisted of sand from surface grade to approximately 7 and 10 feet below grade, underlain by clay with sand to the total depth of the boring at approximately 11.5 feet.

- Groundwater was observed at approximately 2.5 feet below grade during installation of Wells MW-2 to MW-3 stabilizing at approximately 2.20 and 2.78 feet below the top of the well casings.

- Groundwater elevation data indicate a gradient of approximately 0.005 foot per foot in a west-southwesterly direction across the site.

- TPH-G and TPH-D were detected at concentrations of 4.9 and 13 mg/kg in the soil sample collected from MW-2 at 2.0 to 2.5 feet below grade, which is at the capillary fringe. VOCs, including BTEX were not detected above reported detection limits in this sample. VOCs and SVOCs were also not detected above reported detection limits in the soil sample collected from MW-2 at 7.0 to 7.5 feet below grade at the sand/clay interface.

- TPH-G, TPH-JF, and TPH-MO were detected at concentrations of 6300, 11000, and 1600 mg/kg in the soil sample collected from MW-3 at the capillary fringe at 2.0 to 2.5 feet below grade. VOCs including toluene, ethylbenzene, and total xylenes were detected in this sample. VOCs and SVOCs were not detected above reported detection limits in the soil sample collected from MW-3 at 10.0 to 10.5 feet below grade at the sand/clay interface.

- Dissolved-phase petroleum hydrocarbons (TPH-G, TPH-JF, TPH-D, and TPH-MO) were detected at concentrations of up to 7200, 38000, 1400, and 31000 micrograms per liter (ug/l), respectively, in the groundwater samples collected from Wells MW-1, MW-2, and MW-3. Laboratory chromatographs indicate jet fuel as the primary dissolved petroleum product in Wells MW-2 and MW-3.

- TDS concentrations detected in the groundwater samples ranged from 1700 to 5600 milligrams per liter (mg/l).

- VOCs and SVOCs were not detected above reported detection limits in the groundwater sample collected from MW-1.

- VOCs and SVOCs were detected in the groundwater samples collected from MW-2 and MW-3 as indicated in Table 3. The SVOCs detected are constituents of fuel products.

- Metals were detected in the groundwater samples collected from MW-1, MW-2, and MW-3 as presented in Table 4. The highest concentrations were detected in the sample collected from MW-3.

REFERENCES

Uribe and Associates, 1992. Report of Removal of Inactive Tanks MF-25 and MF-26, 1100 Airport Drive, Oakland. Prepared for the Port of Oakland. May.

Uribe and Associates, 1994. Quarterly Groundwater Monitoring Report, United Hangar (Economy Parking Lot Site), 1100 Airport Drive, Oakland, California. Prepared for the Port of Oakland. October.

Page, Ben M., 1966. Geology of the Coastal Ranges of California. California Division of Mines and Geology, Bulletin 190, pp. 255-276.

State Water Resources Control Board, 1989. Leaking Underground Fuel Tank Field Manual. October.

United States Environmental Protection Agency, 1986. RCRA Ground-Water Monitoring Technical Enforcement Guidance Document. September.

TABLE 1 - RESULTS OF SOIL SAMPLING
PORT OF OAKLAND, OAKLAND INTERNATIONAL AIRPORT
UNITED AIRLINES HANGAR AREA - ECONOMY PARKING LOT SITE
1100 AIRPORT DRIVE, OAKLAND, CALIFORNIA

ALISTO PROJECT NUMBER 10-250

SAMPLE ID	SAMPLE DEPTH (Feet)	DATE OF SAMPLING	TPH-G (mg/kg)	TPH-JF (mg/kg)	TPH-D (mg/kg)	TPH-MO (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	VOCs (mg/kg) (a)	SVOCs (mg/kg) (a)	LAB
MW-2	2.0 to 2.5	04/19/95	4.9	ND<1	13	ND<4	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND	---	CEC
MW-2	7.0 to 7.5	04/19/95	---	---	---	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND	ND	CEC
MW-3	2.0 to 2.5	04/19/95	6300	11000	ND<5000 (c)	1600	ND<5	61	22	135	ND (b)	---	CEC
MW-3	10.0 to 10.5	04/19/95	---	---	---	---	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND	ND	CEC

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline using EPA Method 8015 (modified)
TPH-JF	Total petroleum hydrocarbons as jet fuel using EPA Method 8015 (modified)
TPH-D	Total petroleum hydrocarbons as diesel using EPA Method 8015 (modified)
TPH-MO	Total petroleum hydrocarbons as motor oil using EPA Method 8015 (modified)
B	Benzene using EPA Method 8240
T	Toluene using EPA Method 8240
E	Ethylbenzene using EPA Method 8240
X	Total xylenes using EPA Method 8240
VOCs	Volatile organic compounds using EPA Method 8240
SVOCs	Semi-volatile organic compounds using EPA Method 8270
mg/kg	Milligrams per kilogram
---	Not analyzed
ND	Not detected above reported detection limit
CEC	Clayton Environmental Consultants

NOTES:

(a) Various detection limits; see laboratory report.

(b) VOCs were not detected above reported detection limits using EPA Method 8240 except toluene, ethylbenzene, and total xylenes.

(c) Detection limit increased due to concentration of TPH-JF.

TABLE 2 - RESULTS OF GROUNDWATER SAMPLING
ANALYSIS FOR PETROLEUM HYDROCARBONS, BTEX, AND TOTAL DISSOLVED SOLIDS
PORT OF OAKLAND, OAKLAND INTERNATIONAL AIRPORT
UNITED AIRLINES HANGAR AREA - ECONOMY PARKING LOT SITE
1100 AIRPORT DRIVE, OAKLAND, CALIFORNIA

AUSTO PROJECT NUMBER 10-250

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	TPH-JF (ug/l)	TPH-D (ug/l)	TPH-MO (ug/l)	TOG (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	TDS (mg/l)	LAB
MW-1	05/15/92	6.97	3.16	3.81	ND<50	—	—	—	ND<5000	ND<0.4	ND<0.3	ND<0.3	ND<0.4	5900	
MW-1	08/07/92	6.97	3.26	3.71	ND<50	800	—	—	ND<5000	ND<0.4	ND<0.3	ND<0.3	ND<0.4	—	
MW-1	11/24/92	6.97	4.10	2.87	ND<50	ND<50	—	—	ND<5000	ND<0.4	ND<0.3	ND<0.3	ND<0.4	—	
MW-1	02/12/93	6.97	—	—	ND<50	—	—	—	ND<5000	ND<0.4	ND<0.3	ND<0.3	ND<0.4	—	
MW-1	03/11/93	6.97	2.15	4.82	—	—	—	—	—	—	—	—	—	—	
MW-1	05/17/93	6.97	3.20	3.77	ND<50	—	—	—	ND<5000	ND<0.4	ND<0.3	ND<0.3	ND<0.5	4100	
MW-1	08/03/93	6.97	3.21	3.76	ND<50	—	5200	—	ND<5000	ND<0.5	ND<0.5	ND<0.5	ND<0.5	7700	
MW-1	11/25/93	6.97	3.65	3.32	70	—	—	—	ND<5000	ND<0.6	ND<0.5	ND<0.5	0.7	3790	
MW-1	03/24/94	6.97	3.27	3.70	—	—	—	—	—	—	—	—	—	—	
MW-1	05/09/94	6.97	3.05	3.92	ND<50	—	—	—	ND<930	ND<0.5	ND<0.5	ND<0.5	ND<0.5	9600	
MW-1	08/29/94	6.97	3.40	3.57	ND<50	—	—	—	ND<1000	ND<0.5	ND<0.5	2.7	ND<0.5	3900	D&.
MW-1	09/27/94	6.97	3.57	3.40	—	—	—	—	—	—	—	—	—	—	—
MW-1	04/25/95	6.91	2.38	4.53	ND<50	ND<50	1400	610	—	ND<5	ND<5	ND<5	ND<5	4000	CEC
MW-2	04/25/95	6.63	2.20	4.43	5200	13000	ND<10000 (e)	19000	—	340	570	110	580	1700	CEC
MW-3	04/25/95	7.36	2.78	4.58	7200	38000	ND<40000 (e)	31000	—	150	600	100	580	5600	CEC
QC-1 (c)	04/25/95	7.36	—	—	5600	—	—	—	—	120	630	78	450	—	CEC
QC-2 (d)	04/25/95	—	—	—	ND<50	—	—	—	—	ND<0.4	ND<0.3	ND<0.3	ND<0.4	—	CEC

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline using EPA Method 8015
TPH-JF	Total petroleum hydrocarbons as jet fuel using EPA Method 8015 (modified)
TPH-D	Total petroleum hydrocarbons as diesel using EPA Method 8015 (modified)
TPH-MO	Total petroleum hydrocarbons as motor oil using EPA Method 8015 (modified)
TOG	Total oil and grease using EPA Method 5520
B	Benzene using EPA Method 8020 or 8240
T	Toluene using EPA Method 8020 or 8240
E	Ethylbenzene using EPA Method 8020 or 8240
X	Total xylenes using EPA Method 8020 or 8240
TDS	Total dissolved solids using EPA Method 160.1
ug/l	Micrograms per liter
mg/l	Milligrams per liter
—	Not analyzed/applicable/available
ND	Not detected above reported detection limit
D&M	D&M Laboratories
CEC	Clayton Environmental Consultants

NOTES:

(a) Top of casing elevations surveyed to the nearest 0.01 foot relative to mean lower low water (3.2 feet below mean sea level, Port of Oakland Datum).

(b) Groundwater elevations expressed in feet above mean lower low water.

(c) Blind duplicate.

(d) Travel blank.

(e) Detection limit increased due to concentration of TPH-JF.

TABLE 3 - RESULTS OF GROUNDWATER SAMPLING
ANALYSIS FOR VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
PORT OF OAKLAND, OAKLAND INTERNATIONAL AIRPORT
UNITED AIRLINES HANGAR AREA - ECONOMY PARKING LOT SITE
1100 AIRPORT DRIVE, OAKLAND, CALIFORNIA

ALISTO PROJECT NUMBER 10-250

		VOCs						SVOCs							
WELL ID	DATE OF SAMPLING	2-Butanone (ug/l)	1,1-DCA (ug/l)	Trans-1,2-DCE (ug/l)	Acetone (ug/l)	PCE (ug/l)	4-Methyl-2-pentanone (ug/l)	2,4-Dimethyl-phenol (ug/l)	2-Methyl-phenol (ug/l)	4-Methyl-phenol (ug/l)	Phenol (ug/l)	bis (2-ethylhexyl) phthalate (ug/l)	2-Methyl naphthalene (ug/l)	Naphthalene (ug/l)	LAB
MW-1	05/15/92	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	08/07/92	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	11/24/92	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---	---
MW-1	02/12/93	ND	ND	ND	ND	ND	ND	---	---	---	---	---	---	---	---
MW-1	03/11/93	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	05/17/93	ND	ND	ND	ND	ND	ND	ND	ND	9	260	ND	ND	ND	---
MW-1	08/03/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---
MW-1	11/25/93	ND	ND	6	ND	ND	ND	ND	ND	ND	ND	4000	ND	ND	---
MW-1	03/24/94	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	05/09/94	ND	ND	ND	ND	5.5	ND	ND	ND	ND	ND	ND	ND	ND	---
MW-1	08/29/94	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1	09/27/94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	D&M
MW-1	04/25/95	ND<20	ND<5	ND<5	ND<20	ND<5	ND<20	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	CEC
MW-2	04/25/95	200	50	ND<50	ND<200	ND<50	ND<200	60	40	60	ND<30	ND<50	50	100	CEC
MW-3 (a)	04/25/95	300	30	ND<30	300	ND<30	200	---	---	---	---	---	---	---	CEC

ABBREVIATIONS:

VOCs	Volatile organic compounds using EPA Method 8240
SVOCs	Semi-volatile organic compounds using EPA Method 8270
DCA	Dichloroethane
DCE	Dichloroethene
PCE	Tetrachloroethene
ug/l	Micrograms per liter
---	Not analyzed
ND	Not detected above reported detection limit
D&M	D&M Laboratories
CEC	Clayton Environmental Consultants

NOTE:

(a) Insufficient sample volume to analyze for SVOCs.

TABLE 4 - RESULTS OF GROUNDWATER SAMPLING
ANALYSIS FOR METALS
PORT OF OAKLAND, OAKLAND INTERNATIONAL AIRPORT
UNITED AIRLINES HANGAR AREA - ECONOMY PARKING LOT SITE
1100 AIRPORT DRIVE, OAKLAND, CALIFORNIA

ALISTO PROJECT NUMBER 10-250

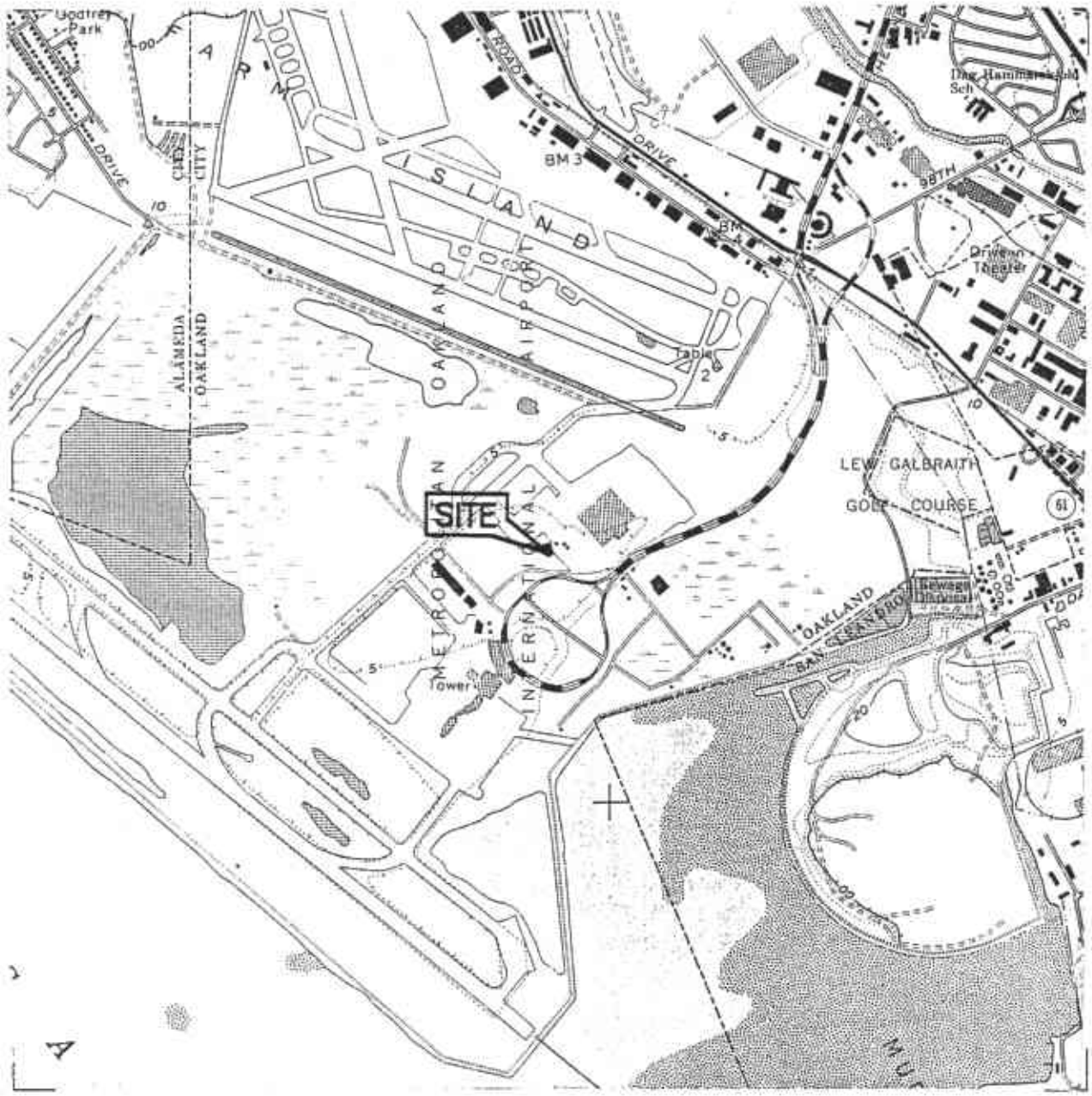
WELL ID	DATE OF SAMPLING	CADMIUM (mg/l)	CHROMIUM (mg/l)	LEAD (mg/l)	NICKEL (mg/l)	ZINC (mg/l)	LAB
MW-1	04/25/95	ND<0.005	ND<0.01	ND<0.05	ND<0.02	0.02	CEC
MW-2	04/25/95	ND<0.005	0.02	ND<0.05	0.04	0.01	CEC
MW-3	04/25/95	0.009	0.31	0.08	0.51	0.47	CEC

ABBREVIATIONS:

mg/l	Milligrams per liter
---	Not analyzed
ND	Not detected above reported detection limit
CEC	Clayton Environmental Consultants

NOTE:

Metals analyzed using EPA Method 200.



SOURCE:
USGS MAP, SAN LEANDRO QUADRANGLE,
7.5 MINUTE SERIES. 1959.
PHOTOREVISED 1980.

N

0 1000' 2000'

FIGURE 1

SITE VICINITY MAP

PORT OF OAKLAND,
OAKLAND INTERNATIONAL AIRPORT
UNITED AIRLINES HANGAR AREA–
ECONOMY PARKING LOT SITE
1100 AIRPORT DRIVE
OAKLAND, CALIFORNIA

PROJECT NO. 10–250

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

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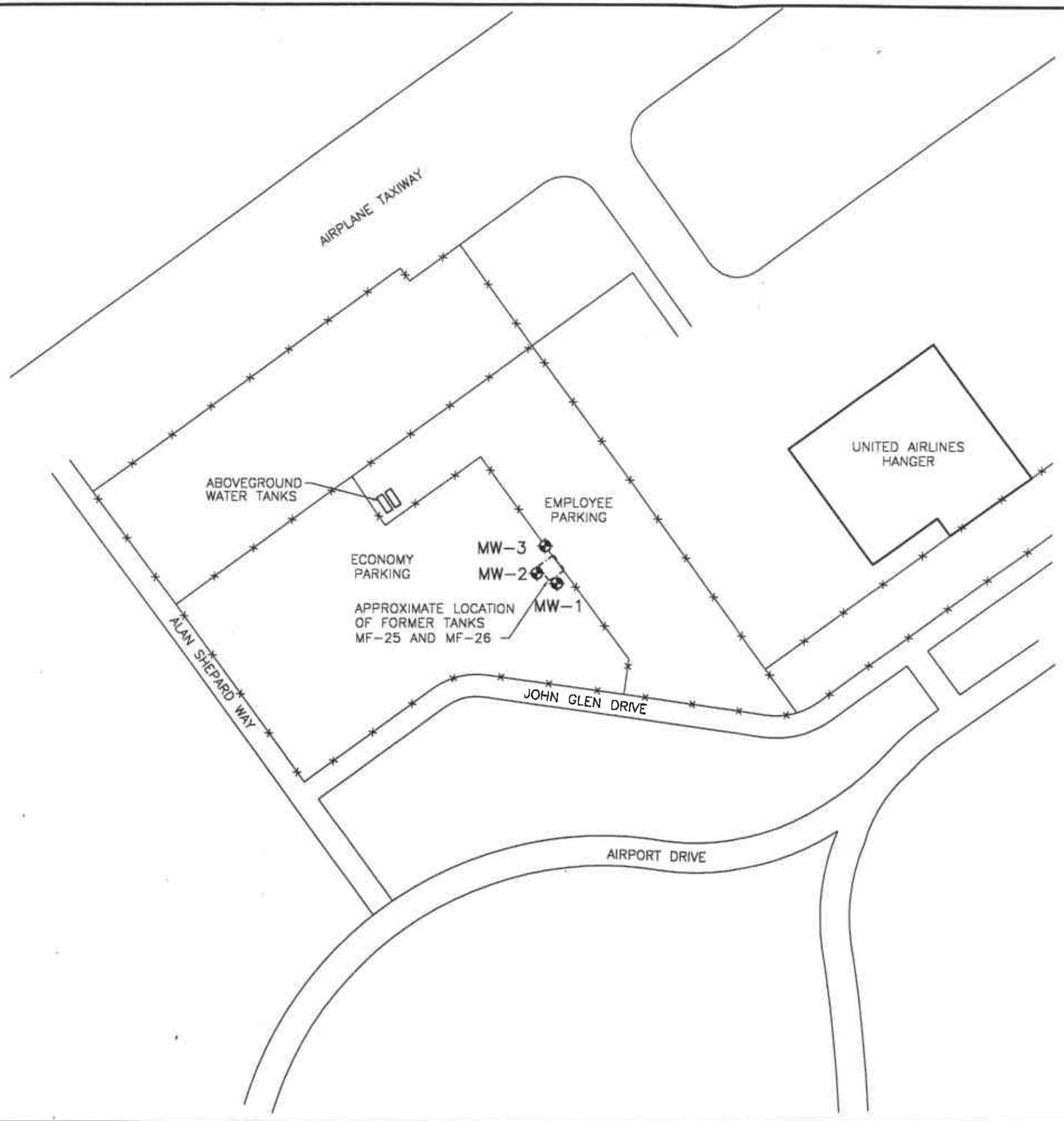
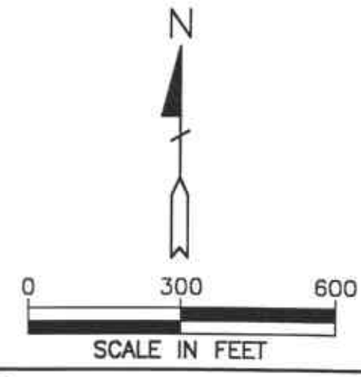




LEGEND

◆ GROUNDWATER MONITORING WELL

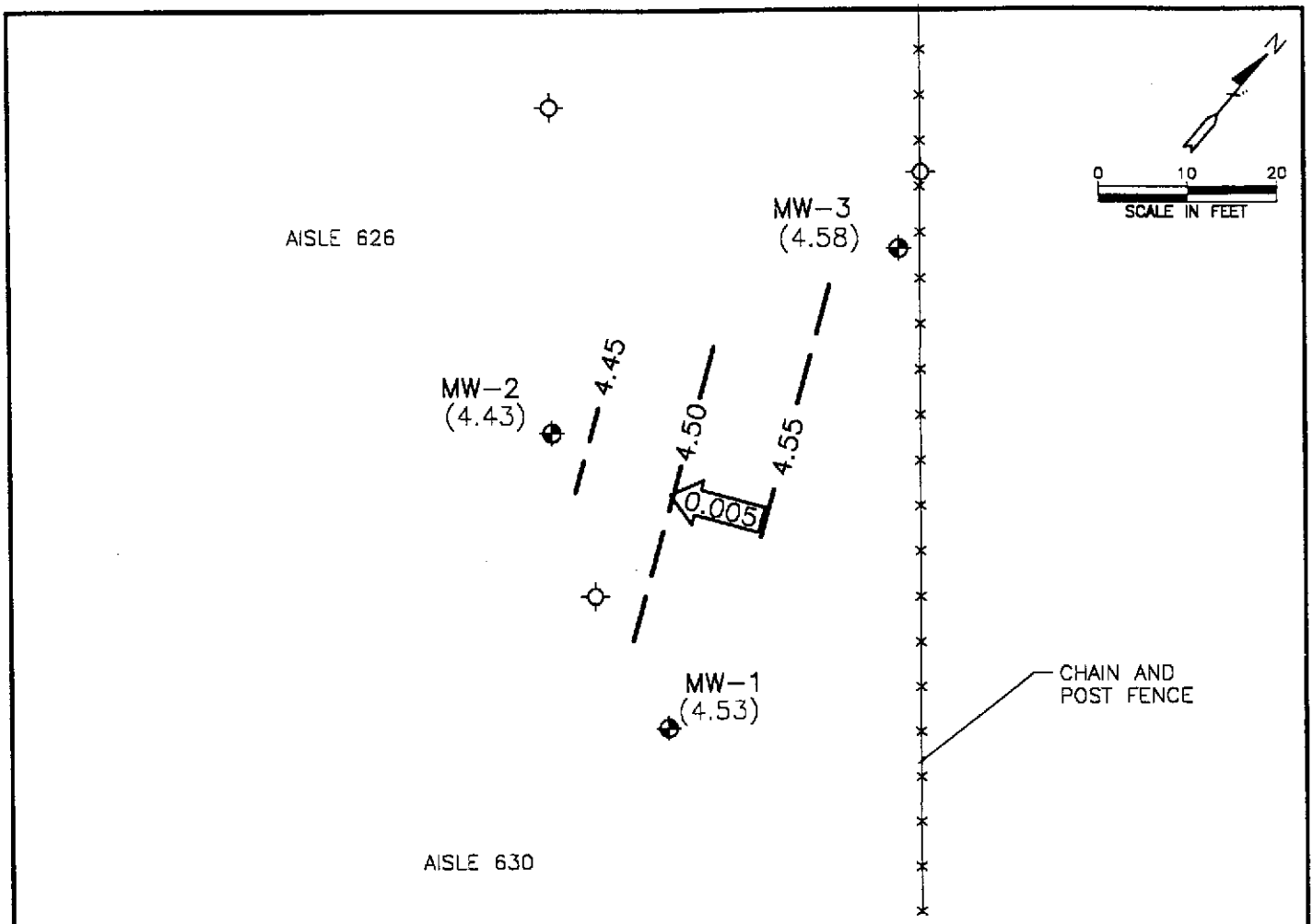
FIGURE 2

SITE PLAN

PORT OF OAKLAND,
OAKLAND INTERNATIONAL AIRPORT
UNITED AIRLINES HANGAR AREA–
ECONOMY PARKING LOT SITE
1100 AIRPORT DRIVE
OAKLAND, CALIFORNIA

PROJECT NO. 10–250

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA



LEGEND

◆	GROUNDWATER MONITORING WELL
☼	AREA LIGHT
(4.43)	GROUNDWATER ELEVATION IN FEET ABOVE MEAN LOWER LOW WATER
4.45	GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN LOWER LOW WATER (CONTOUR INTERVAL–0.05 FOOT)
⇦0.005	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

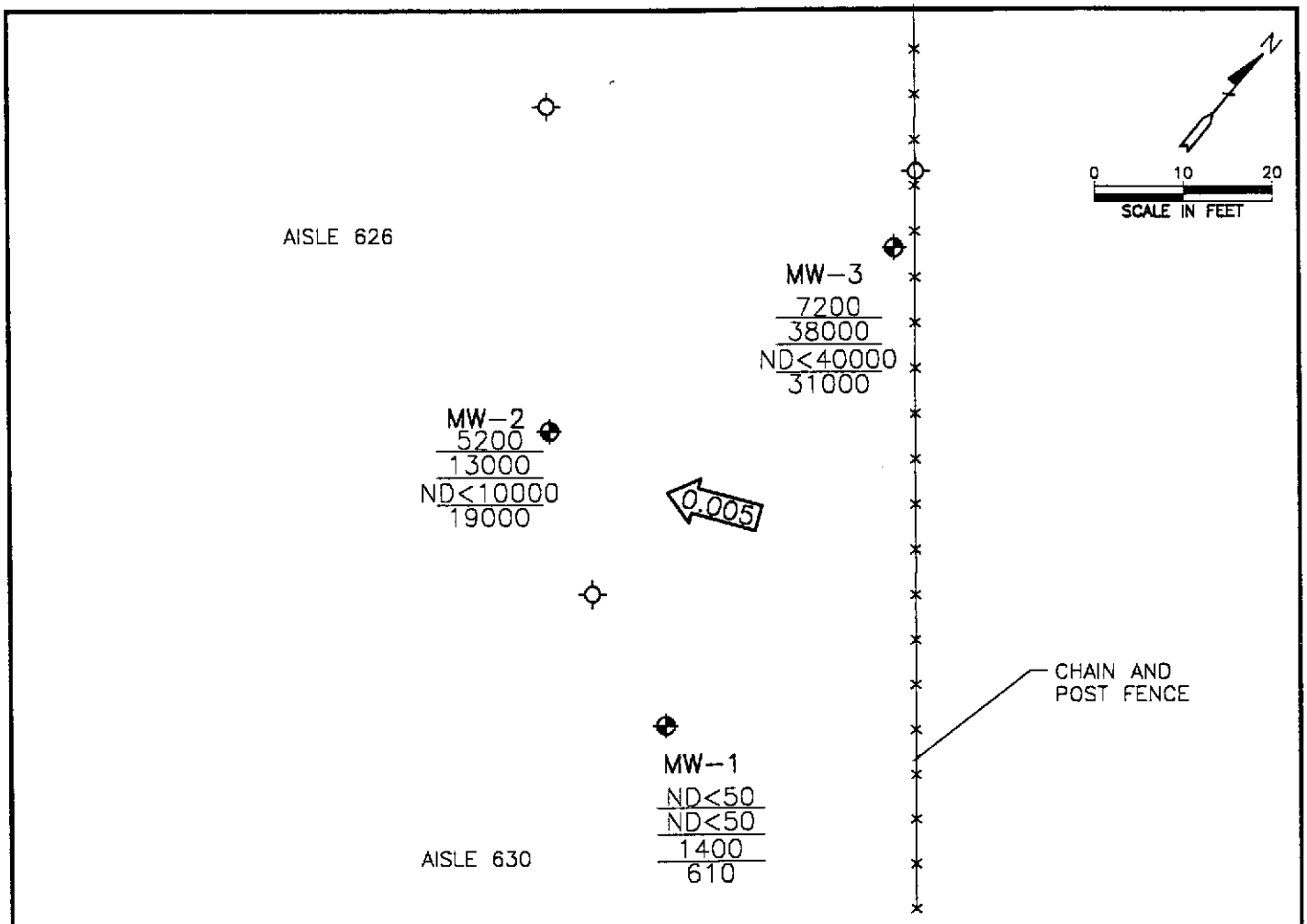
APRIL 25, 1995

PORT OF OAKLAND,
OAKLAND INTERNATIONAL AIRPORT
UNITED AIRLINES HANGAR AREA–
ECONOMY PARKING LOT SITE
1100 AIRPORT DRIVE
OAKLAND, CALIFORNIA

PROJECT NO. 10–250

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10250P-M.DWG 3-24-95 RKW 1-20



LEGEND

⊕	GROUNDWATER MONITORING WELL
⊙	AREA LIGHT
TPH-G / TPH-JF / TPH-D / TPH-MO	CONCENTRATION OF CONSTITUENTS IN MICROGRAMS PER LITER
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-JF	TOTAL PETROLEUM HYDROCARBONS AS JET FUEL
TPH-D	TOTAL PETROLEUM HYDROCARBONS AS DIESEL
TPH-MO	TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
⇦ 0.005	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 4

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

APRIL 25, 1995

PORT OF OAKLAND,
OAKLAND INTERNATIONAL AIRPORT
UNITED AIRLINES HANGAR AREA-
ECONOMY PARKING LOT SITE
1100 AIRPORT DRIVE
OAKLAND, CALIFORNIA

PROJECT NO. 10-250

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10250C-N.DWG 8-29-95 RKW 1-20

APPENDIX A

WELL INSTALLATION PERMIT

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT
Oakland International Airport
Economy Parking Lot

CLIENT
Name Port of Oakland
Address 530 Water St. Voice
City Oakland, CA Zip 94604

APPLICANT
Name Alisto Engineering Group
John DeGeorge Fax 510-295-1823
Address 1777 Oakland Blvd Voice 510-295-1650
City Walnut Creek CA Zip 94596

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	___
Monitoring	X	Well Destruction	___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

DRILLER'S LICENSE NO. 582696

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 15 ft.
Surface Seal Depth 2 ft. Number 2

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft.

ESTIMATED STARTING DATE 4-14-95
ESTIMATED COMPLETION DATE 4-14-95

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] 4-14-95

FOR OFFICE USE

PERMIT NUMBER 95210
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 14 Apr
Wyman Hong

0+C

APPENDIX B

FIELD PROCEDURES FOR DRILLING, SOIL SAMPLING, AND GROUNDWATER MONITORING WELL INSTALLATION

FIELD PROCEDURES
FOR
DRILLING, SOIL SAMPLING,
AND GROUNDWATER MONITORING WELL INSTALLATION

Drilling Procedures

The soil borings were drilled using 8-inch-diameter, continuous-flight, hollow-stem augers. To avoid cross-contamination, drilling equipment in contact with potentially contaminated material was decontaminated by steam cleaning before and after each use. Decontamination fluids were placed into DOT-approved drums for disposal.

Soil Sampling Procedures

During drilling, samples were collected at 2, 7, and 10 feet below grade. Before and after each use, the sampler was washed using a phosphate-free detergent followed by tap water and deionized water rinses. Soil sampling was accomplished using a California-modified split-spoon sampler lined with brass tubes. A 140-pound slide hammer falling 30 inches was used to advance the sampler 18 inches ahead of the hollow-stem augers into undisturbed soil, and blow counts were recorded for every 6 inches of penetration to evaluate the consistency of the soil.

After retrieval from the augers, the sampler was split, the sample tubes removed, and a soil sample was selected for possible chemical analysis. The sample was retained within the brass tube, and both ends were immediately covered with Teflon sheeting and polyurethane caps. The caps were sealed with tape and labeled with the following information: Alisto Engineering project number, boring number, sample depth interval, sampler's initials, and date of collection. The soil sample was immediately placed in a waterproof plastic bag and stored in a cooler containing blue or dry ice. Possession of the soil samples was documented from the field to a state-certified analytical laboratory by using a chain of custody form.

Soil samples and, when representative, drill cuttings were described by Alisto personnel using the Unified Soil Classification System, and field estimates of soil type, color, moisture, density, and consistency were noted on the boring logs. The logs were reviewed by a civil engineer registered in the State of California.

Groundwater Monitoring Well Installation

Construction of the groundwater monitoring wells was based on the stratigraphy encountered in the soil borings. The well construction materials were introduced into the boring through the hollow-stem augers to centralize the well casing and minimize the possibility of native material entering the annular space of the well.

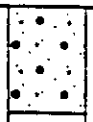
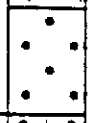
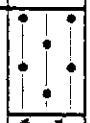
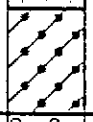
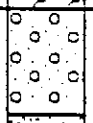
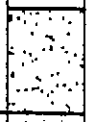
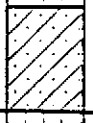
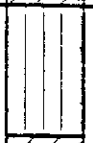
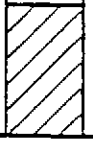
The 2-inch-diameter PVC well casing consisted of 0.010-inch slotted casing from the bottom of the boring to a depth interval above the highest anticipated water level, and solid casing was installed from the top of the slotted casing to approximately 4 inches below grade.

The annular space surrounding the screened portion was backfilled with No. 3 Lonestar sand (filter pack) to approximately 1 foot above the top of the screened section. An approximately 0.5-foot-thick interval of bentonite pellets was added to the annulus above the filter pack and hydrated with approximately 2 gallons of deionized water to minimize intrusion of well seal into the filter pack. A 0.5-foot-thick interval of concrete was placed above the bentonite and a traffic-rated utility box was installed around the top of the well casing. An expanding, watertight well cap and lock were installed on top of the well casing to secure the well from surface fluid and tampering.

APPENDIX C

BORING LOGS AND WELL CONSTRUCTION DETAILS

GEOLOGIC LEGEND

COARSE-GRAINED SOILS	GRAVELS more than 1/2 of coarse fraction > No. 4 Sieve	LITTLE OR NO FINES		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
				GP	Poorly-graded gravels, gravel-sand mixtures
		APPRECIABLE NO FINES		GM	Silty gravels, gravel-sand-silt mixtures
				GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS more than 1/2 of coarse fraction < No. 4 Sieve	LITTLE OR NO FINES		SW	Well-graded sands, gravelly sands, little or no fines
				SP	Poorly-graded sands, gravelly sands, little or no fines
		APPRECIABLE NO FINES		SM	Silty sands, sand-silt mixtures
				SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS	SILTS AND CLAYS Liquid limit < 50			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays

SYMBOL LEGEND:

 Cement

 Sand

 Bentonite Pellets

 Driven Interval of Soil Sample

 Sample preserved for possible analysis

 Stabilized water level

 Groundwater level encountered during drilling

LEGEND TO BORING LOGS

PORT OF OAKLAND,
OAKLAND INTERNATIONAL AIRPORT
UNITED AIRLINES HANGAR AREA–
ECONOMY PARKING LOT SITE
1100 AIRPORT DRIVE
OAKLAND, CALIFORNIA

PROJECT NO. 10–250

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

GEO-LEG DWG 8-30-93 RKW 1-1

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING MW-2

SEE SITE PLAN

ALISTO PROJECT NO: 10-250-02 DATE DRILLED: 04/19/95

CLIENT: Port of Oakland

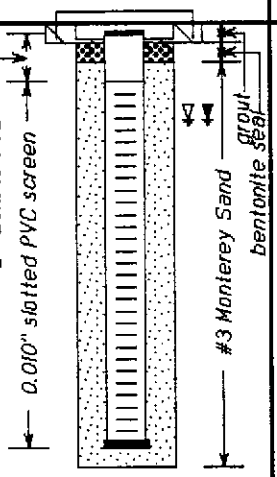
LOCATION: Oakland Intl. Airport - Economy Parking Lot Site

DRILLING METHOD: Hollow-stem Auger (8"); 2" split-spoon sampler

DRILLING COMPANY: Soils Exploration Service CASING ELEVATION: 6.83 'MLLW

LOGGED BY: J.D. APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							3" asphalt.
22,30,38	143					SP	SAND: gray, moist, very dense; fine-grained sand; trace silt; trace shell fragments; moisture change to saturated at 2.5 feet.
			5				
8,10,12	0					CL	CLAY with sand: dark gray to black, saturated, stiff to very stiff; fine-grained sand; lenses of fine-grained sand (SP) up to 1-inch thick.
6,7,8	0		10				
							Stabilized water level measured on April 25, 1995.
			15				
			20				
			25				
			30				



ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING MW-3

SEE SITE PLAN

ALISTO PROJECT NO: 10-250-02 DATE DRILLED: 04/19/95
CLIENT: Port of Oakland
LOCATION: Oakland Intl. Airport – Economy Parking Site
DRILLING METHOD: Hollow-stem Auger (8"); 2" split-spoon sampler
DRILLING COMPANY: Soils Exploration Service CASING ELEVATION: 7.36 'MLLW
LOGGED BY: J.D. APPROVED BY: Al Sevilla

BLOWS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							3" asphalt.
18,24,30	319	2" Sch.40 PVC; 0.010" slotted PVC screen; #3 Monterey Sand; grout seal; bentonite seal	5			SP	SAND: gray, moist, dense; fine-grained sand; trace silt; trace shell fragments; moisture change to saturated at 2.5 feet.
7,8,9	0						Same: light brown; consistency change to medium dense.
5,7,5	0		10			CL	CLAY with sand: dark gray to black, saturated, stiff; fine-grained sand; lenses of fine-grained sand (SP) up to 1-inch thick; some shell fragments in sandy layer.
			15				Stabilized water level measured on April 25, 1995.
			20				
			25				
			30				

APPENDIX D

FIELD PROCEDURES FOR GROUNDWATER MONITORING WELL DEVELOPMENT AND SAMPLING

FIELD PROCEDURES
FOR
GROUNDWATER MONITORING WELL DEVELOPMENT AND SAMPLING

Groundwater Monitoring Well Development

The groundwater monitoring wells were developed to consolidate and stabilize the filter pack to optimize well production and reduce the turbidity of subsequent groundwater samples. Monitoring wells were developed by alternately using a surge block and pump to evacuate the water and sediment. Development continued until the groundwater was relatively free of sediment. Well development fluids were placed into DOT-approved drums for disposal.

Groundwater Level Measurement

Before groundwater sampling, the groundwater level in each well was measured from the permanent survey reference point at the top of the well casing. Groundwater in each well was monitored for free-floating product or sheen. The depth to groundwater was measured to an accuracy of 0.01 foot from the top of the PVC well casing using an electronic sounder.

Groundwater Monitoring Well Sampling

To ensure that the groundwater sample was representative of the aquifer, the wells were purged of 3 casing volumes, using a bailer, while monitoring stabilization of pH, electrical conductivity, and temperature.

The groundwater samples were collected using a disposable bailer, and were carefully transferred into laboratory-supplied containers. The samples were labeled with well number, site identification, date of collection, and sampler's initials, and transported in an iced cooler to a state-certified laboratory following preservation and chain of custody protocol. The sampling technician wore nitrile gloves during purging and well sampling.

APPENDIX E

GROUNDWATER MONITORING WELL DEVELOPMENT AND SAMPLING FIELD SURVEY FORMS

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: Port of Oakland
Alisto Project No: 10-250-02-003
Service Station No: N/A

Date: 4/19/95
Field Personnel: DS
Address: Oakland Airport (economy parking lot)

Well ID: MW-2 Field Activity: ✓ Well Development ___ Well Sampling ___ Product Bailing

Casing Diameter:

✓ 2 Inch (0.16 Gal/foot)
___ 3 Inch (0.37 Gal/foot)
___ 4 Inch (0.65 Gal/Foot)
___ 4.5 Inch (0.83 Gal/foot)
___ 6 Inch (1.47 Gal/foot)

Purge Method:

___ Pump (dispos. Poly Tubing)
✓ Disposable Bailers
___ Other
___ 1.66 PVC Standard Bailer
___ 3.50 PVC Standard Bailer

Well Data:

Φ Depth to Product
Φ Product Thickness
___ Depth to Water

Sampling Method:

___ Disposable Bailer
___ Pump

Decontamination Method:

✓ Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

Total Depth of Well	-	Depth to Water	=	Water Column	ft X	Conversion Factor	Gal/Ft =	Casing Vol	Gal X	Vols to Purge	=	Total Volume
20	-	22.00	=	8	ft X	.16	Gal/Ft =	1.28	Gal X	10	=	12.80

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv.
0902	—	—	—	5	Lots of grey sand, lots of grains in bucket	TPH-G/BTEX	VOA	HCL
0908	—	—	—	10	dry @ ≈ 10 gal 10ft of sand in Hole	TPH-Diesel	Amber Liter	Solvent Rinsed
0917	—	—	—	15	lots of grey sand still	EPA 601	VOA	
						TOG 5520BF	Amber Liter	H_2SO_4

— MW-2 went dry @ ≈ 10 gal ; let recharge & finished development • Not a very good producer like existing wells

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: Port of Oakland
Alisto Project No: 10-250-02-003
Service Station No: N/A

Date: 4/19/95
Field Personnel: DC
Address: Oakland Airport (economy parking lot)

Well ID: MW-3 Field Activity: ✓ Well Development ___ Well Sampling ___ Product Bailing

Casing Diameter:

✓ 2 Inch (0.16 Gal/foot)
___ 3 Inch (0.37 Gal/foot)
___ 4 Inch (0.65 Gal/Foot)
___ 4.5 Inch (0.83 Gal/foot)
___ 6 Inch (1.47 Gal/foot)

Purge Method:

___ Pump (dispos. Poly Tubing)
✓ Disposable Bailers
___ Other
___ 1.66 PVC Standard Bailer
___ 3.50 PVC Standard Bailer

Well Data:

Φ Depth to Product
Φ Product Thickness
___ Depth to Water

Sampling Method:

___ Disposable Bailer
___ Pump

Decontamination Method:

✓ Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

Total Depth of Well	- Depth to Water	= Water Column	ft X Conversion Factor	Gal/Ft = Casing Vol	Gal X Vols to Purge	= Total Volume
21.0	13.5	8	.16	1.28	~~12~~ 10	12.80

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv.
1030	—	—	—	5	Lots of sand (grey) lots of sand in bucket	TPH-G/BTEX	VOA	HCL
1040	—	—	—	10	" "	TPH-Diesel	Amber Liter	Solvent Rinsed
1050	—	—	—	15	" "	EPA 601	VOA	
						TOG 5520BF	Amber Liter	H_2SO_4

- well baled dry @ ≈ 7 gallons, kept taking water out but is it produced - poor producer

FORM: FS3/121592

ALISTO

ENGINEERING GROUP
1777 OAKLAND BLVD, STE 200
WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

Field Report / Sampling Data Sheet

(X) Groundwater Sampling

Date: 4/25/95 Project No. 10-250-02-003
Day: M (T) W Th F Facility No. Economy Parking Lot
Temp. 58°F Address 1100 Airport Drive, Oakland CA
Barometric pres. NA
SAMPLER: DC

Well ID	SAMPLE #	WATER	time	Well ID	SAMPLE #	WATER/	time	Well ID	SAMPLE	WATER / time
MW-1	—	2.38	1741							
MW-2	—	2.20	1743							
MW-3	—	2.78	1745							

FIELD INSTRUMENT CALIBRATION DATA

Ph METER Hydac 4.00 ✓ 7.00 ✓ 10.00 _____ TIME 0645 TEMPERATURE COMPENSATED (Y) N
TURBIDI METER _____ 5.0 NTU STANDARD _____ OTHER _____
CONDUCTIVITY METER Hydac 10,000 ✓ OTHER _____

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence
MW-1	2.38	2"	OK	Ø	Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
11.90 − 2.38 = 9.42 x .16 = 1.51 x 3 = 4.52

Purge Method: (X) Surface Pump ODisp.Tube OWinch ODisp. Bailer(s) ___ OSye Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
1.5	759	61.3	7.04	1.07	
3	803	61.4	7.45	1.69	
4.75	807	61.2	7.91	1.73	

O EPA 601 _____ * Various Analysis See COC
O TPH-G/BTEX ___
O TPH Diesel ___
O TOG 5520 ___
Time/Sample 1300

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence
MW-2	2.20	2"	OK	Ø	Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
6.27 − 2.20 = 4.07 x .16 = 0.65 x 3 = 1.95

Purge Method: (X) Surface Pump ODisp.Tube OWinch ODisp. Bailer(s) ___ OSye Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
1	812	59.3	7.33	1.04	
2	814	61.9	7.18	0.92	
3	816	62.3	7.08	0.90	

O EPA 601 _____ * Various Analysis See COC
O TPH-G/BTEX ___
O TPH Diesel ___
O TOG 5520 ___
Time/ Sample 1325

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence
MW-3	2.78	2"	replaced	Ø	Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
10.90 − 2.78 = 8.12 x .16 = 1.3 x 3 = 3.89

Purge Method: (X) Surface Pump ODisp.Tube OWinch ODisp. Bailer(s) ___ OSye Port

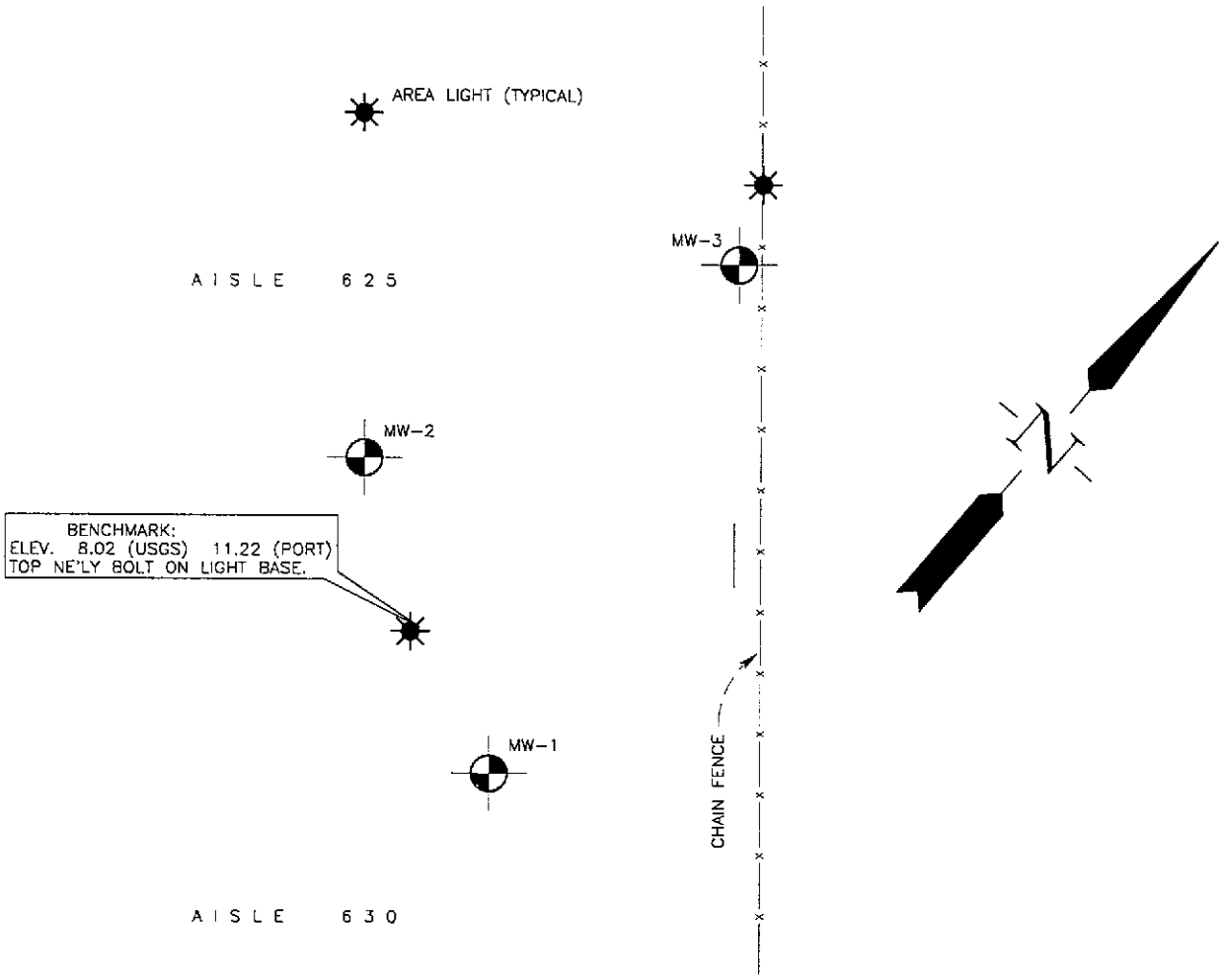
Comments: QC-1 from this well

Gal.	Time	Temp °F	pH	E.C.	D.O.
1.5	820	59.2	7.72	1.00	
3	824	61.0	7.71	1.00	
4	926	59.6	7.86	1.00	

O EPA 601 _____ * Various Analysis See COC
O TPH-G/BTEX ___
O TPH Diesel ___
O TOG 5520 ___
Time /Sample 1350

APPENDIX F

WELL ELEVATION SURVEY MAP



DESCRIPTION	NORTHING	EASTING	USGS MSL DATUM		PORT OF OAKLAND DATUM	
			ELEV (GROUND)	ELEV (PVC)	ELEV (GROUND)	ELEV (PVC)
MW-1	2088031.4	6066545.0	4.1	3.71	7.3	6.91
MW-2	2088048.2	6066513.6	3.7	3.43	6.9	6.63
MW-3	2088089.2	6066530.3	4.4	4.16	7.6	7.36

HORIZONTAL COORDINATES ARE REFERENCED TO THE CALIFORNIA COORDINATE SYSTEM, ZONE III, AS DERIVED FROM PORT OF OAKLAND MONUMENTS A081 (SAM C) AND A082 (SAM D).

0 10 20 40 60

SCALE IN FEET

LICENSED LAND SURVEYOR
JAMES H. FRAME III
No. 5435
STATE OF CALIFORNIA

LICENSE EXPIRES
SEPTEMBER 30, 1996

FRAME SURVEYING & MAPPING
2038 East 8th Street Davis, CA 95616
(916) 756-8584 (TEL) (916) 756-8201 (FAX)

MONITORING WELL EXHIBIT

OAKLAND INTERNATIONAL AIRPORT, OAKLAND, CA
UNITED AIRLINES HANGAR AREA ECONOMY PARKING LOT SITE
ALISTO ENGINEERING GROUP APRIL, 1995 SCALE: 1"= 20'

APPENDIX G

FIELD PROCEDURES FOR CHAIN OF CUSTODY DOCUMENTATION, LABORATORY REPORTS, AND CHAIN OF CUSTODY RECORDS

FIELD PROCEDURES
FOR
CHAIN OF CUSTODY DOCUMENTATION

Samples were handled in accordance with the California Department of Health Services guidelines. Each sample was labeled in the field and immediately stored in a cooler and preserved with blue or dry ice for transport to a state-certified laboratory for analysis.

A chain of custody record accompanied the samples and included the site and sample identification, date of collection, analysis requested, and the name and signature of the sampling technician. When transferring possession of the samples, the transferee signed and dated the chain of custody record.

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

May 5, 1995

Mr. John DeGeorge
ALISTO ENGINEERING GROUP
1777 Oakland Blvd. #200
Walnut Creek, CA 94596

Client Ref.: 10-250
Clayton Project No.: 95042.71

Dear Mr. DeGeorge:

Attached is our analytical laboratory report for the samples received on April 20, 1995. For EPA Method 8270 Laboratory Control sample recoveries are high for Phenol and 2,4-Dinitrotoluene. The matrix spikes are within quality control limits for all analytes except Pentachlorophenol, which had a high RPD due to matrix interferences. Also enclosed is a copy of the Chain-of-Custody record acknowledging receipt of these samples.

Please note that any unused portion of the samples will be discarded after June 4, 1995, unless you have requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Michael Lynch for

Harriotte A. Hurley, CIH
Director, Laboratory Services
San Francisco Regional Office

HAH/caa

Attachments

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	MW-2 2-2.5	Date Sampled:	04/19/95
Lab Number:	9504271-01A	Date Received:	04/20/95
Sample Matrix/Media:	SOIL	Date Prepared:	05/02/95
Preparation Method:	EPA 5030	Date Analyzed:	05/02/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Purgeable Organics			
Acetone	67-64-1	ND	2
Benzene	71-43-2	ND	0.5
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	0.5
2-Butanone	78-93-3	ND	2
Carbon disulfide	75-15-0	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	0.5
2-Chloroethylvinyl ether	110-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
1,1-Dichloroethane	75-34-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
cis-1,2-Dichloroethene	156-59-2	ND	0.5
trans-1,2-Dichloroethene	156-60-5	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Freon 113	76-13-1	ND	0.5
2-Hexanone	591-78-6	ND	2
Methylene chloride	75-09-2	ND	0.5
4-Methyl-2-pentanone	108-10-1	ND	2

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for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	MW-2 2-2.5	Date Sampled:	04/19/95
Lab Number:	9504271-01A	Date Received:	04/20/95
Sample Matrix/Media:	SOIL	Date Prepared:	05/02/95
Preparation Method:	EPA 5030	Date Analyzed:	05/02/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Purgeable Organics (Continued)			
Styrene	100-42-5	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
Toluene	108-88-3	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	ND	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
Vinyl acetate	108-05-4	ND	1
Vinyl chloride	75-01-4	ND	0.5
o-Xylene	95-47-6	ND	0.5
p,m-Xylenes	--	ND	0.5
Surrogates		Recovery (%)	QC Limits (%)
Bromofluorobenzene	460-00-4	103	74 - 121
1,2-Dichloroethane-d4	17060-07-0	107	70 - 121
Toluene-d8	2037-26-5	99	81 - 117

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.
Note: Detection limits increased due to matrix interference.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	MW-2 7-7.5	Date Sampled:	04/19/95
Lab Number:	9504271-02A	Date Received:	04/20/95
Sample Matrix/Media:	SOIL	Date Prepared:	05/02/95
Preparation Method:	EPA 5030	Date Analyzed:	05/02/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Purgeable Organics			
Acetone	67-64-1	ND	0.02
Benzene	71-43-2	ND	0.005
Bromodichloromethane	75-27-4	ND	0.005
Bromoform	75-25-2	ND	0.005
Bromomethane	74-83-9	ND	0.005
2-Butanone	78-93-3	ND	0.02
Carbon disulfide	75-15-0	ND	0.005
Carbon tetrachloride	56-23-5	ND	0.005
Chlorobenzene	108-90-7	ND	0.005
Chloroethane	75-00-3	ND	0.005
2-Chloroethylvinyl ether	110-75-8	ND	0.005
Chloroform	67-66-3	ND	0.005
Chloromethane	74-87-3	ND	0.005
Dibromochloromethane	124-48-1	ND	0.005
1,2-Dichlorobenzene	95-50-1	ND	0.005
1,3-Dichlorobenzene	541-73-1	ND	0.005
1,4-Dichlorobenzene	106-46-7	ND	0.005
1,1-Dichloroethane	75-34-3	ND	0.005
1,2-Dichloroethane	107-06-2	ND	0.005
1,1-Dichloroethene	75-35-4	ND	0.005
cis-1,2-Dichloroethene	156-59-2	ND	0.005
trans-1,2-Dichloroethene	156-60-5	ND	0.005
1,2-Dichloropropane	78-87-5	ND	0.005
cis-1,3-Dichloropropene	10061-01-5	ND	0.005
trans-1,3-Dichloropropene	10061-02-6	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Freon 113	76-13-1	ND	0.005
2-Hexanone	591-78-6	ND	0.02
Methylene chloride	75-09-2	ND	0.005
4-Methyl-2-pentanone	108-10-1	ND	0.02

Analytical Results
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Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	MW-2 7-7.5	Date Sampled:	04/19/95
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Sample Matrix/Media:	SOIL	Date Prepared:	05/02/95
Preparation Method:	EPA 5030	Date Analyzed:	05/02/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Purgeable Organics (Continued)			
Styrene	100-42-5	ND	0.005
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.005
Tetrachloroethene	127-18-4	ND	0.005
Toluene	108-88-3	ND	0.005
1,1,1-Trichloroethane	71-55-6	ND	0.005
1,1,2-Trichloroethane	79-00-5	ND	0.005
Trichloroethene	79-01-6	ND	0.005
Trichlorofluoromethane	75-69-4	ND	0.005
Vinyl acetate	108-05-4	ND	0.01
Vinyl chloride	75-01-4	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Surrogates		Recovery (%)	QC Limits (%)
Bromofluorobenzene	460-00-4	98	74 - 121
1,2-Dichloroethane-d4	17060-07-0	111	70 - 121
Toluene-d8	2037-26-5	99	81 - 117

ND: Not detected at or above limit of detection
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Results are reported on a wet-weight basis, as received.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	MW-3 2-2.5	Date Sampled:	04/19/95
Lab Number:	9504271-04A	Date Received:	04/20/95
Sample Matrix/Media:	SOIL	Date Prepared:	05/02/95
Preparation Method:	EPA 5030	Date Analyzed:	05/02/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Purgeable Organics			
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	22	5
Freon 113	76-13-1	ND	5
2-Hexanone	591-78-6	ND	20
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20

Analytical Results
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Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	MW-3 2-2.5	Date Sampled:	04/19/95
Lab Number:	9504271-04A	Date Received:	04/20/95
Sample Matrix/Media:	SOIL	Date Prepared:	05/02/95
Preparation Method:	EPA 5030	Date Analyzed:	05/02/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Purgeable Organics (Continued)			
Styrene	100-42-5	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	61	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Trichlorofluoromethane	75-69-4	ND	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	43	5
p,m-Xylenes	--	92	5
Surrogates		Recovery (%)	QC Limits (%)
Bromofluorobenzene	460-00-4	107	74 - 121
1,2-Dichloroethane-d4	17060-07-0	109	70 - 121
Toluene-d8	2037-26-5	99	81 - 117

ND: Not detected at or above limit of detection
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Note: Detection limits increased due to matrix interference.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	MW-3 10-10.5	Date Sampled:	04/19/95
Lab Number:	9504271-06A	Date Received:	04/20/95
Sample Matrix/Media:	SOIL	Date Prepared:	05/01/95
Preparation Method:	EPA 5030	Date Analyzed:	05/01/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Purgeable Organics			
Acetone	67-64-1	ND	0.02
Benzene	71-43-2	ND	0.005
Bromodichloromethane	75-27-4	ND	0.005
Bromoform	75-25-2	ND	0.005
Bromomethane	74-83-9	ND	0.005
2-Butanone	78-93-3	ND	0.02
Carbon disulfide	75-15-0	ND	0.005
Carbon tetrachloride	56-23-5	ND	0.005
Chlorobenzene	108-90-7	ND	0.005
Chloroethane	75-00-3	ND	0.005
2-Chloroethylvinyl ether	110-75-8	ND	0.005
Chloroform	67-66-3	ND	0.005
Chloromethane	74-87-3	ND	0.005
Dibromochloromethane	124-48-1	ND	0.005
1,2-Dichlorobenzene	95-50-1	ND	0.005
1,3-Dichlorobenzene	541-73-1	ND	0.005
1,4-Dichlorobenzene	106-46-7	ND	0.005
1,1-Dichloroethane	75-34-3	ND	0.005
1,2-Dichloroethane	107-06-2	ND	0.005
1,1-Dichloroethene	75-35-4	ND	0.005
cis-1,2-Dichloroethene	156-59-2	ND	0.005
trans-1,2-Dichloroethene	156-60-5	ND	0.005
1,2-Dichloropropane	78-87-5	ND	0.005
cis-1,3-Dichloropropene	10061-01-5	ND	0.005
trans-1,3-Dichloropropene	10061-02-6	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Freon 113	76-13-1	ND	0.005
2-Hexanone	591-78-6	ND	0.02
Methylene chloride	75-09-2	ND	0.005
4-Methyl-2-pentanone	108-10-1	ND	0.02

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	MW-3 10-10.5	Date Sampled:	04/19/95
Lab Number:	9504271-06A	Date Received:	04/20/95
Sample Matrix/Media:	SOIL	Date Prepared:	05/01/95
Preparation Method:	EPA 5030	Date Analyzed:	05/01/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Purgeable Organics (Continued)			
Styrene	100-42-5	ND	0.005
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.005
Tetrachloroethene	127-18-4	ND	0.005
Toluene	108-88-3	ND	0.005
1,1,1-Trichloroethane	71-55-6	ND	0.005
1,1,2-Trichloroethane	79-00-5	ND	0.005
Trichloroethene	79-01-6	ND	0.005
Trichlorofluoromethane	75-69-4	ND	0.005
Vinyl acetate	108-05-4	ND	0.01
Vinyl chloride	75-01-4	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Surrogates		Recovery (%)	QC Limits (%)
Bromofluorobenzene	460-00-4	97	74 - 121
1,2-Dichloroethane-d4	17060-07-0	106	70 - 121
Toluene-d8	2037-26-5	94	81 - 117

ND: Not detected at or above limit of detection
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Results are reported on a wet-weight basis, as received.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9504271-07A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	05/01/95
Preparation Method:	EPA 5030	Date Analyzed:	05/01/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Purgeable Organics			
Acetone	67-64-1	ND	0.02
Benzene	71-43-2	ND	0.005
Bromodichloromethane	75-27-4	ND	0.005
Bromoform	75-25-2	ND	0.005
Bromomethane	74-83-9	ND	0.005
2-Butanone	78-93-3	ND	0.02
Carbon disulfide	75-15-0	ND	0.005
Carbon tetrachloride	56-23-5	ND	0.005
Chlorobenzene	108-90-7	ND	0.005
Chloroethane	75-00-3	ND	0.005
2-Chloroethylvinyl ether	110-75-8	ND	0.005
Chloroform	67-66-3	ND	0.005
Chloromethane	74-87-3	ND	0.005
Dibromochloromethane	124-48-1	ND	0.005
1,2-Dichlorobenzene	95-50-1	ND	0.005
1,3-Dichlorobenzene	541-73-1	ND	0.005
1,4-Dichlorobenzene	106-46-7	ND	0.005
1,1-Dichloroethane	75-34-3	ND	0.005
1,2-Dichloroethane	107-06-2	ND	0.005
1,1-Dichloroethene	75-35-4	ND	0.005
cis-1,2-Dichloroethene	156-59-2	ND	0.005
trans-1,2-Dichloroethene	156-60-5	ND	0.005
1,2-Dichloropropane	78-87-5	ND	0.005
cis-1,3-Dichloropropene	10061-01-5	ND	0.005
trans-1,3-Dichloropropene	10061-02-6	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Freon 113	76-13-1	ND	0.005
2-Hexanone	591-78-6	ND	0.02
Methylene chloride	75-09-2	ND	0.005
4-Methyl-2-pentanone	108-10-1	ND	0.02

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9504271-07A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	05/01/95
Preparation Method:	EPA 5030	Date Analyzed:	05/01/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Purgeable Organics (Continued)			
Styrene	100-42-5	ND	0.005
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.005
Tetrachloroethene	127-18-4	ND	0.005
Toluene	108-88-3	ND	0.005
1,1,1-Trichloroethane	71-55-6	ND	0.005
1,1,2-Trichloroethane	79-00-5	ND	0.005
Trichloroethene	79-01-6	ND	0.005
Trichlorofluoromethane	75-69-4	ND	0.005
Vinyl acetate	108-05-4	ND	0.01
Vinyl chloride	75-01-4	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Surrogates		Recovery (%)	QC Limits (%)
Bromofluorobenzene	460-00-4	97	74 - 121
1,2-Dichloroethane-d4	17060-07-0	103	70 - 121
Toluene-d8	2037-26-5	98	81 - 117

ND: Not detected at or above limit of detection
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Results are reported on a wet-weight basis, as received.

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for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	MW-2 7-7.5	Date Sampled:	04/19/95
Lab Number:	9504271-02A	Date Received:	04/20/95
Sample Matrix/Media:	SOIL	Date Extracted:	04/28/95
Extraction Method:	EPA 3550	Date Analyzed:	05/02/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Acid Extractables			
4-Chloro-3-methylphenol	59-50-7	ND	0.2
2-Chlorophenol	95-57-8	ND	0.2
2,4-Dichlorophenol	120-83-2	ND	0.2
2,4-Dimethylphenol	105-67-9	ND	0.2
2,4-Dinitrophenol	51-28-5	ND	1
2-Methyl-4,6-dinitrophenol	534-52-1	ND	1
2-Methylphenol	95-48-7	ND	0.2
4-Methylphenol	106-44-5	ND	0.2
2-Nitrophenol	88-75-5	ND	0.2
4-Nitrophenol	100-02-7	ND	1
Pentachlorophenol	87-86-5	ND	1
Phenol	108-95-2	ND	0.2
2,4,5-Trichlorophenol	95-95-4	ND	0.2
2,4,6-Trichlorophenol	88-06-2	ND	0.2
Base/Neutral Extractables			
Acenaphthene	83-32-9	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Benzidine	92-87-5	ND	5
Benzoic acid	65-85-0	ND	0.8
Benzo(a)anthracene	56-55-3	ND	0.2
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
Benzyl butyl phthalate	85-68-7	ND	0.2
Bis(2-chloroethoxy)methane	111-91-1	ND	0.2

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Clayton Project No. 95042.71

Sample Identification:	MW-2 7-7.5	Date Sampled:	04/19/95
Lab Number:	9504271-02A	Date Received:	04/20/95
Sample Matrix/Media:	SOIL	Date Extracted:	04/28/95
Extraction Method:	EPA 3550	Date Analyzed:	05/02/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Base/Neutral Extractables (Continued)			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
Bis(2-chloroisopropyl)ether	108-60-1	ND	0.2
Bis(2-ethylhexyl)phthalate	117-81-7	ND	2
4-Bromophenyl phenyl ether	101-55-3	ND	0.2
4-Chloroaniline	106-47-8	ND	1
2-Chloronaphthalene	91-58-7	ND	0.2
4-Chlorophenyl phenyl ether	7005-72-3	ND	0.2
Chrysene	218-01-9	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Dibenzofuran	132-64-9	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.2
1,3-Dichlorobenzene	541-73-1	ND	0.2
1,4-Dichlorobenzene	106-46-7	ND	0.2
3,3'-Dichlorobenzidine	91-94-1	ND	5
Diethylphthalate	84-66-2	ND	0.2
Dimethylphthalate	131-11-3	ND	0.2
2,4-Dinitrotoluene	121-14-2	ND	0.2
2,6-Dinitrotoluene	606-20-2	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2
Fluoranthene	206-44-0	ND	0.2
Fluorene	86-73-7	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
Hexachlorocyclopentadiene	77-47-4	ND	2
Hexachloroethane	67-72-1	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Isophorone	78-59-1	ND	0.2
2-Methyl naphthalene	91-57-6	ND	0.2
Naphthalene	91-20-3	ND	0.2

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	MW-2 7-7.5	Date Sampled:	04/19/95
Lab Number:	9504271-02A	Date Received:	04/20/95
Sample Matrix/Media:	SOIL	Date Extracted:	04/28/95
Extraction Method:	EPA 3550	Date Analyzed:	05/02/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Base/Neutral Extractables (Continued)			
2-Nitroaniline	88-74-4	ND	1
3-Nitroaniline	99-09-2	ND	1
4-Nitroaniline	100-01-6	ND	1
Nitrobenzene	98-95-3	ND	0.2
N-Nitrosodiphenylamine	86-30-6	ND	0.2
N-Nitrosodi-n-propylamine	621-64-7	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Pyrene	129-00-0	ND	0.2
1,2,4-Trichlorobenzene	120-82-1	ND	0.2
Surrogates		Recovery (%)	QC Limits (%)
2-Fluorobiphenyl	321-60-8	87	30 - 115
2-Fluorophenol	367-12-4	83	25 - 121
Nitrobenzene-d5	4165-60-0	81	23 - 120
Phenol-d5	13127-88-3	85	24 - 113
Terphenyl-d14	98904-43-9	84	18 - 137
2,4,6-Tribromophenol	118-79-6	89	19 - 122

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	MW-3 10-10.5	Date Sampled:	04/19/95
Lab Number:	9504271-06A	Date Received:	04/20/95
Sample Matrix/Media:	SOIL	Date Extracted:	04/28/95
Extraction Method:	EPA 3550	Date Analyzed:	05/02/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Acid Extractables			
4-Chloro-3-methylphenol	59-50-7	ND	0.2
2-Chlorophenol	95-57-8	ND	0.2
2,4-Dichlorophenol	120-83-2	ND	0.2
2,4-Dimethylphenol	105-67-9	ND	0.2
2,4-Dinitrophenol	51-28-5	ND	1
2-Methyl-4,6-dinitrophenol	534-52-1	ND	1
2-Methylphenol	95-48-7	ND	0.2
4-Methylphenol	106-44-5	ND	0.2
2-Nitrophenol	88-75-5	ND	0.2
4-Nitrophenol	100-02-7	ND	1
Pentachlorophenol	87-86-5	ND	1
Phenol	108-95-2	ND	0.2
2,4,5-Trichlorophenol	95-95-4	ND	0.2
2,4,6-Trichlorophenol	88-06-2	ND	0.2
Base/Neutral Extractables			
Acenaphthene	83-32-9	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Benzidine	92-87-5	ND	5
Benzoic acid	65-85-0	ND	0.8
Benzo(a)anthracene	56-55-3	ND	0.2
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
Benzyl butyl phthalate	85-68-7	ND	0.2
Bis(2-chloroethoxy)methane	111-91-1	ND	0.2

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	MW-3 10-10.5	Date Sampled:	04/19/95
Lab Number:	9504271-06A	Date Received:	04/20/95
Sample Matrix/Media:	SOIL	Date Extracted:	04/28/95
Extraction Method:	EPA 3550	Date Analyzed:	05/02/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Base/Neutral Extractables (Continued)			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
Bis(2-chloroisopropyl)ether	108-60-1	ND	0.2
Bis(2-ethylhexyl)phthalate	117-81-7	ND	2
4-Bromophenyl phenyl ether	101-55-3	ND	0.2
4-Chloroaniline	106-47-8	ND	1
2-Chloronaphthalene	91-58-7	ND	0.2
4-Chlorophenyl phenyl ether	7005-72-3	ND	0.2
Chrysene	218-01-9	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Dibenzofuran	132-64-9	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.2
1,3-Dichlorobenzene	541-73-1	ND	0.2
1,4-Dichlorobenzene	106-46-7	ND	0.2
3,3'-Dichlorobenzidine	91-94-1	ND	5
Diethylphthalate	84-66-2	ND	0.2
Dimethylphthalate	131-11-3	ND	0.2
2,4-Dinitrotoluene	121-14-2	ND	0.2
2,6-Dinitrotoluene	606-20-2	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2
Fluoranthene	206-44-0	ND	0.2
Fluorene	86-73-7	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
Hexachlorocyclopentadiene	77-47-4	ND	2
Hexachloroethane	67-72-1	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Isophorone	78-59-1	ND	0.2
2-Methyl naphthalene	91-57-6	ND	0.2
Naphthalene	91-20-3	ND	0.2

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	MW-3 10-10.5	Date Sampled:	04/19/95
Lab Number:	9504271-06A	Date Received:	04/20/95
Sample Matrix/Media:	SOIL	Date Extracted:	04/28/95
Extraction Method:	EPA 3550	Date Analyzed:	05/02/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Base/Neutral Extractables (Continued)			
2-Nitroaniline	88-74-4	ND	1
3-Nitroaniline	99-09-2	ND	1
4-Nitroaniline	100-01-6	ND	1
Nitrobenzene	98-95-3	ND	0.2
N-Nitrosodiphenylamine	86-30-6	ND	0.2
N-Nitrosodi-n-propylamine	621-64-7	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Pyrene	129-00-0	ND	0.2
1,2,4-Trichlorobenzene	120-82-1	ND	0.2
Surrogates		Recovery (%)	QC Limits (%)
2-Fluorobiphenyl	321-60-8	90	30 - 115
2-Fluorophenol	367-12-4	83	25 - 121
Nitrobenzene-d5	4165-60-0	86	23 - 120
Phenol-d5	13127-88-3	92	24 - 113
Terphenyl-d14	98904-43-9	90	18 - 137
2,4,6-Tribromophenol	118-79-6	88	19 - 122

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9504271-07A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	04/28/95
Extraction Method:	EPA 3550	Date Analyzed:	05/02/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Acid Extractables			
4-Chloro-3-methylphenol	59-50-7	ND	0.2
2-Chlorophenol	95-57-8	ND	0.2
2,4-Dichlorophenol	120-83-2	ND	0.2
2,4-Dimethylphenol	105-67-9	ND	0.2
2,4-Dinitrophenol	51-28-5	ND	1
2-Methyl-4,6-dinitrophenol	534-52-1	ND	1
2-Methylphenol	95-48-7	ND	0.2
4-Methylphenol	106-44-5	ND	0.2
2-Nitrophenol	88-75-5	ND	0.2
4-Nitrophenol	100-02-7	ND	1
Pentachlorophenol	87-86-5	ND	1
Phenol	108-95-2	ND	0.2
2,4,5-Trichlorophenol	95-95-4	ND	0.2
2,4,6-Trichlorophenol	88-06-2	ND	0.2
Base/Neutral Extractables			
Acenaphthene	83-32-9	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Benzidine	92-87-5	ND	5
Benzoic acid	65-85-0	ND	0.8
Benzo(a)anthracene	56-55-3	ND	0.2
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
Benzyl butyl phthalate	85-68-7	ND	0.2
Bis(2-chloroethoxy)methane	111-91-1	ND	0.2

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9504271-07A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	04/28/95
Extraction Method:	EPA 3550	Date Analyzed:	05/02/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Base/Neutral Extractables (Continued)			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
Bis(2-chloroisopropyl)ether	108-60-1	ND	0.2
Bis(2-ethylhexyl)phthalate	117-81-7	ND	2
4-Bromophenyl phenyl ether	101-55-3	ND	0.2
4-Chloroaniline	106-47-8	ND	1
2-Chloronaphthalene	91-58-7	ND	0.2
4-Chlorophenyl phenyl ether	7005-72-3	ND	0.2
Chrysene	218-01-9	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Dibenzofuran	132-64-9	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.2
1,3-Dichlorobenzene	541-73-1	ND	0.2
1,4-Dichlorobenzene	106-46-7	ND	0.2
3,3'-Dichlorobenzidine	91-94-1	ND	5
Diethylphthalate	84-66-2	ND	0.2
Dimethylphthalate	131-11-3	ND	0.2
2,4-Dinitrotoluene	121-14-2	ND	0.2
2,6-Dinitrotoluene	606-20-2	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2
Fluoranthene	206-44-0	ND	0.2
Fluorene	86-73-7	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
Hexachlorocyclopentadiene	77-47-4	ND	2
Hexachloroethane	67-72-1	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Isophorone	78-59-1	ND	0.2
2-Methyl naphthalene	91-57-6	ND	0.2
Naphthalene	91-20-3	ND	0.2

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9504271-07A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	04/28/95
Extraction Method:	EPA 3550	Date Analyzed:	05/02/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
Base/Neutral Extractables (Continued)			
2-Nitroaniline	88-74-4	ND	1
3-Nitroaniline	99-09-2	ND	1
4-Nitroaniline	100-01-6	ND	1
Nitrobenzene	98-95-3	ND	0.2
N-Nitrosodiphenylamine	86-30-6	ND	0.2
N-Nitrosodi-n-propylamine	621-64-7	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Pyrene	129-00-0	ND	0.2
1,2,4-Trichlorobenzene	120-82-1	ND	0.2
Surrogates		Recovery (%)	QC Limits (%)
2-Fluorobiphenyl	321-60-8	96	30 - 115
2-Fluorophenol	367-12-4	93	25 - 121
Nitrobenzene-d5	4165-60-0	91	23 - 120
Phenol-d5	13127-88-3	91	24 - 113
Terphenyl-d14	98904-43-9	87	18 - 137
2,4,6-Tribromophenol	118-79-6	83	19 - 122

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification: See Below
Lab Number: 9504271
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Method Reference: EPA 8015 (Modified)

Date Received: 04/20/95
Date Extracted: 04/24/95
Date Analyzed: 04/29/95

Lab Number	Sample Identification	Date Sampled	Jet Fuel (mg/kg)	Method Detection Limit (mg/kg)
-01	MW-2 2-2.5	04/19/95	ND	1
-04	MW-3 2-2.5	04/19/95	11000	1
-07	METHOD BLANK	--	ND	1

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Jet Fuel = Extractable petroleum hydrocarbons in the range of C8 to C16 matching the typical Jet Fuel pattern.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification: See Below
Lab Number: 9504271
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Method Reference: EPA 8015 (Modified)

Date Received: 04/20/95
Date Extracted: 04/24/95
Date Analyzed: 04/29/95

Lab Number	Sample Identification	Date Sampled	TPH-D (mg/kg)		Method Detection Limit (mg/kg)	
-01	MW-2 2-2.5	04/19/95	13	a	1	
-04	MW-3 2-2.5	04/19/95	ND		5000	b
-07	METHOD BLANK	--	ND		1	

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.
TPH-D = Extractable petroleum hydrocarbons from C10 to C26 quantitated as diesel.
a Unidentified hydrocarbons present in diesel range; quantitation based on diesel.
b Detection limits increased due to matrix interference.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification: See Below
Lab Number: 9504271
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Method Reference: EPA 8015 (Modified)

Date Received: 04/20/95
Date Extracted: 04/24/95
Date Analyzed: 04/29/95

Lab Number	Sample Identification	Date Sampled	TPH-O (mg/kg)		Method Detection Limit (mg/kg)
-01	MW-2 2-2.5	04/19/95	ND		4
-04	MW-3 2-2.5	04/19/95	1600	a	4
-07	METHOD BLANK	--	ND		4

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.
TPH-O = Extractable petroleum hydrocarbons from C20 to C42 quantitated as motor oil.
a Unidentified hydrocarbons present in oil range; quantitation based on motor oil.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250
Clayton Project No. 95042.71

Sample Identification: See Below
Lab Number: 9504271
Sample Matrix/Media: SOIL
Preparation Method: EPA 5030
Method Reference: EPA 8015 (Modified)

Date Received: 04/20/95
Date Prepared: 04/26/95
Date Analyzed: 04/27/95

Lab Number	Sample Identification	Date Sampled	TPH-G (mg/kg)		Method Detection Limit (mg/kg)
-01	MW-2 2-2.5	04/19/95	4.9	a	0.3
-04	MW-3 2-2.5	04/19/95	6300	a	0.3
-07	METHOD BLANK	--	ND		0.3

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.
TPH-G = Volatile petroleum hydrocarbons from C6 to C10 quantitated as gasoline.
a Purgeable hydrocarbons quantitated as gasoline may be due to heavier petroleum product.

Clayton ENVIRONMENTAL CONSULTANTS

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page 1 of 1
Project No.	
Batch No.	9504271
Ind. Code	W.P.
Date Logged In 4/21	By SB

REPORT RESULTS TO

Name: John DeGeorge — Title: Geologist
Company: Alisto Engineering Group — Dept.:
Mailing Address: 1777 Oakland Blvd. Ste 200
City, State, Zip: Walnut Creek, CA 94596
Telephone No.: 510-295-1650 — Telefax No.: -1823

Purchase Order No.: 028691 — Client Job No.: ~~028691~~ 10-250

SEND INVOICE TO

Name: Patricia Murphy — Dept.:
Company: Port of Oakland
Address: 530 Water Street
City, State, Zip: Oakland, CA 94604

Date Results Req.: Normal TAT
Rush Charges Authorized? ☐ Yes ☐ No
Phone / Fax Results ☐ ☒

Special Instructions: (method, limit of detection, etc.)
*Quantify TPH as diesel and jet fuel and motor oil

* Explanation of Preservative:

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	8015 (gasoline)	*8015 (diesel, jet fuel, motor oil)	8240	8270				Hold	FOR LAB USE ONLY
MW-2 2-2.5	4-19-95	Soil	2x6ssc	1	X	X		X					~~1A-B~~ 01A
MW-2 7-7.5				1				X	X				2A 02
MW-2 10-10.5				1								X	~~3A~~ 03
MW-3 2-2.5			2x6 BC	1	X	X		X					~~4A-B~~ 04
MW-3 7-7.5				1								X	~~5A~~ 05
MW-3 10-10.5				1				X	X				06

CHAIN OF CUSTODY

Collected by: John DeGeorge (print) — Collector's Signature: John DeGeorge
Relinquished by: John DeGeorge — Date/Time 4/20/95 @ 11:00Am
Received by: Jim Mitchell — Date/Time 4/20/95 @ 11:00Am
Relinquished by: Jim Mitchell — Date/Time 4/20/95 @ 1425
Received at Lab by: [signature] — Date/Time 4/21/95
Method of Shipment: CEC Courier
Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: [signature] Date 4/19/95
(Client Signature Must Accompany Request)

Port of Oakland, Economy Parking Site

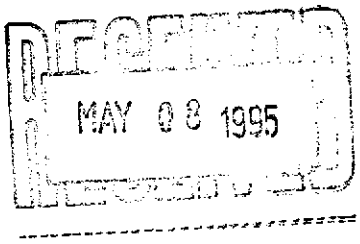
Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

Clayton
ENVIRONMENTAL
CONSULTANTS



Quality Assurance Results Summary

Matrix Spike/Matrix Spike Duplicate Results

for

Clayton Project No. 95042.71

Quality Assurance Results Summary
for
Clayton Project No. 95042.71

Clayton Lab Number:	9504366-01a	Analytical Method:	EPA8240
Ext./Prep. Method:	EPA5030	Instrument ID:	02831
Date:	05/01/95	Date:	05/01/95
Analyst:	JP	Time:	16:12
Std. Source:	M950206-02W	Analyst:	JP
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,1-DICHLOROETHENE	ND	0.0500	0.0330	66	0.0390	78	72	59	172	17	22
BENZENE	ND	0.0500	0.0540	108	0.0550	110	109	66	142	1.8	21
CHLOROBENZENE	ND	0.0500	0.0560	112	0.0580	116	114	60	133	3.5	21
TOLUENE	ND	0.0500	0.0550	110	0.0530	106	108	59	139	3.7	21
TRICHLOROETHENE	ND	0.0500	0.0570	114	0.0550	110	112	62	137	3.6	24

LCS = Laboratory Control Sample
LCL = Lower Control Limit
UCL = Upper Control Limit
ND = Not detected at or above limit of detection
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 95042.71

Clayton Lab Number: 9504271-01A
Ext./Prep. Method: EPA5030
Date: 05/02/95
Analyst: JP
Std. Source: M950206-02W
Sample Matrix/Media: SOIL

Analytical Method: EPA8240
Instrument ID: 02831
Date: 05/02/95
Time: 17:14
Analyst: JP
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,1-DICHLOROETHENE	ND	5.00	2.80	56	3.40	68	62	59	172	19	22
BENZENE	ND	5.00	5.10	102	5.50	110	106	66	142	7.5	21
CHLOROBENZENE	ND	5.00	5.50	110	5.90	118	114	60	133	7.0	21
TOLUENE	ND	5.00	5.20	104	5.60	112	108	59	139	7.4	21
TRICHLOROETHENE	ND	5.00	5.00	100	5.50	110	105	62	137	9.5	24

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 95042.71

Clayton Lab Number:	9504271-LCS	Analytical Method:	EPA8015
Ext./Prep. Method:	EPA3550	Instrument ID:	02883
Date:	04/24/95	Date:	04/28/95
Analyst:	MBN	Time:	09:53
Std. Source:	E950330-01W	Analyst:	GUD
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	ND	20.0	18.5	93	18.5	93	93	51	147	0.0	30

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 95042.71

Clayton Lab Number:	9504240-03A	Analytical Method:	EPA8015
Ext./Prep. Method:	EPA3550	Instrument ID:	02883
Date:	04/24/95	Date:	04/29/95
Analyst:	MBN	Time:	22:45
Std. Source:	E950330-01W	Analyst:	GUD
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	10,200	20.0	13,300	SOR	12,400	SOR	SOR	51	147	6.7	30

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 95042.71

Clayton Lab Number:	9504236-02A	Analytical Method:	EPA8015_8020
Ext./Prep. Method:	EPA 5030	Instrument ID:	05587
Date:	04/26/95	Date:	04/27/95
Analyst:	WAS	Time:	12:23
Std. Source:	V950313-01W	Analyst:	WAS
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID)	ND	0.0410	0.0449	110	0.0448	109	109	53	140	0.2	28
ETHYLBENZENE	(PID)	ND	0.0327	0.0373	114	0.0397	121	118	56	134	6.2	25
GASOLINE	(FID)	ND	2.50	3.00	120	3.00	120	120	41	164	0.0	37
TOLUENE	(PID)	ND	0.141	0.162	115	0.167	118	117	60	139	3.0	22
TOTAL XYLENE	(PID)	ND	0.200	0.227	114	0.243	122	118	61	129	6.8	26

LCS = Laboratory Control Sample
LCL = Lower Control Limit
UCL = Upper Control Limit
ND = Not detected at or above limit of detection
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 95042.71

Clayton Lab Number: 9504271-LCS
Ext./Prep. Method: EPA 3550
Date: 04/28/95
Analyst: GTL
Std. Source: E950406-01W
Sample Matrix/Media: SOIL

Analytical Method: EPA8270
Instrument ID: 07477
Date: 05/02/95
Time: 13:03
Analyst: ASC
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
(A) Phenol	ND	3.33	3.25	98	3.28	98	98*	26	90	0.9	35
(B) 2-Chlorophenol	ND	3.33	3.24	97	3.11	93	95	25	102	4.1	50
(C) 1,4-Dichlorobenzene	ND	3.33	3.12	94	2.97	89	91	28	104	4.9	27
(D) N-Nitrosodipropylamine	ND	3.33	3.35	101	3.29	99	100	41	126	1.8	38
(E) 1,2,4-Trichlorobenzene	ND	3.33	3.19	96	3.09	93	94	38	107	3.2	23
(F) 4-Chloro-m-cresol	ND	3.33	3.28	98	3.37	101	100	26	103	2.7	33
(G) Acenaphthene	ND	3.33	3.82	115	3.81	114	115	31	137	0.3	19
(H) 4-Nitrophenol	ND	3.33	2.92	88	2.96	89	88	11	114	1.4	50
(I) 2,4-Dinitrotoluene	ND	3.33	3.50	105	3.51	105	105*	28	89	0.3	47
(J) Pentachlorophenol	ND	3.33	2.49	75	2.45	74	74	17	109	1.6	47
(K) Pyrene	ND	3.33	3.63	109	3.58	108	108	35	142	1.4	36

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 95042.71

Clayton Lab Number: 9504271-02A
Ext./Prep. Method: EPA 3550
Date: 04/28/95
Analyst: GTL
Std. Source: E950406-01W
Sample Matrix/Media: SOIL

Analytical Method: EPA8270
Instrument ID: 07477
Date: 05/02/95
Time: 16:07
Analyst: ASC
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
(A) Phenol	ND	3.33	2.70	81	3.31	99	90	26	90	20	35
(B) 2-Chlorophenol	ND	3.33	2.43	73	3.00	90	82	25	102	21	50
(C) 1,4-Dichlorobenzene	ND	3.33	2.14	64	2.64	79	72	28	104	21	27
(D) N-Nitrosodipropylamine	ND	3.33	2.50	75	3.04	91	83	41	126	20	38
(E) 1,2,4-Trichlorobenzene	ND	3.33	2.38	71	2.81	84	78	38	107	17	23
(F) 4-Chloro-m-cresol	ND	3.33	2.90	87	3.36	101	94	26	103	15	33
(G) Acenaphthene	ND	3.33	2.94	88	3.44	103	96	31	137	16	19
(H) 4-Nitrophenol	ND	3.33	2.75	83	3.35	101	92	11	114	20	50
(I) 2,4-Dinitrotoluene	ND	3.33	2.75	83	3.17	95	89	28	89	14	47
(J) Pentachlorophenol	ND	3.33	1.32	40	2.26	68	54	17	109	53*	47
(K) Pyrene	ND	3.33	3.01	90	3.66	110	100	35	142	20	36

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

May 17, 1995

Mr. Brady Nagle
ALISTO ENGINEERING GROUP
1575 Treat Blvd., Suite 201
Walnut Creek, CA 94588

Client Ref.: 10-250-02-003
Clayton Project No.: 95043.59

Dear Mr. Nagle:

Attached is our analytical laboratory report for the samples received on April 27, 1995. The Laboratory Control Sample for EPA Method 8270 showed high recovery for 2,4-Dinitrotoluene. Surrogates and calibration checks for this method are within quality control limits. Also enclosed is a copy of the Chain-of-Custody record acknowledging receipt of these samples.

Please note that any unused portion of the samples will be discarded after June 16, 1995, unless you have requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Harriotte A. Hurley, CIH
Director, Laboratory Services
San Francisco Regional Office

HAH/tjb

Attachments

RECEIVED
MAY 22 1995

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	MW-1 (1300)	Date Sampled:	04/25/95
Lab Number:	9504359-01C	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Prepared:	05/06/95
Preparation Method:	EPA 5030	Date Analyzed:	05/06/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Organics			
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
Freon 113	76-13-1	ND	5
2-Hexanone	591-78-6	ND	20
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	MW-1 (1300)	Date Sampled:	04/25/95
Lab Number:	9504359-01C	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Prepared:	05/06/95
Preparation Method:	EPA 5030	Date Analyzed:	05/06/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Organics (Continued)			
Styrene	100-42-5	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Trichlorofluoromethane	75-69-4	ND	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5
Surrogates		Recovery (%)	QC Limits (%)
Bromofluorobenzene	460-00-4	96	86 - 115
1,2-Dichloroethane-d4	17060-07-0	103	76 - 114
Toluene-d8	2037-26-5	96	88 - 110

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	MW-2 (1325)	Date Sampled:	04/25/95
Lab Number:	9504359-02C	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Prepared:	05/05/95
Preparation Method:	EPA 5030	Date Analyzed:	05/05/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Organics			
Acetone	67-64-1	ND	200
Benzene	71-43-2	340	50
Bromodichloromethane	75-27-4	ND	50
Bromoform	75-25-2	ND	50
Bromomethane	74-83-9	ND	50
2-Butanone	78-93-3	200	200
Carbon disulfide	75-15-0	ND	50
Carbon tetrachloride	56-23-5	ND	50
Chlorobenzene	108-90-7	ND	50
Chloroethane	75-00-3	ND	50
2-Chloroethylvinyl ether	110-75-8	ND	50
Chloroform	67-66-3	ND	50
Chloromethane	74-87-3	ND	50
Dibromochloromethane	124-48-1	ND	50
1,2-Dichlorobenzene	95-50-1	ND	50
1,3-Dichlorobenzene	541-73-1	ND	50
1,4-Dichlorobenzene	106-46-7	ND	50
1,1-Dichloroethane	75-34-3	50	50
1,2-Dichloroethane	107-06-2	ND	50
1,1-Dichloroethene	75-35-4	ND	50
cis-1,2-Dichloroethene	156-59-2	ND	50
trans-1,2-Dichloroethene	156-60-5	ND	50
1,2-Dichloropropane	78-87-5	ND	50
cis-1,3-Dichloropropene	10061-01-5	ND	50
trans-1,3-Dichloropropene	10061-02-6	ND	50
Ethylbenzene	100-41-4	110	50
Freon 113	76-13-1	ND	50
2-Hexanone	591-78-6	ND	200
Methylene chloride	75-09-2	ND	50
4-Methyl-2-pentanone	108-10-1	ND	200

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	MW-2 (1325)	Date Sampled:	04/25/95
Lab Number:	9504359-02C	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Prepared:	05/05/95
Preparation Method:	EPA 5030	Date Analyzed:	05/05/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Organics (Continued)			
Styrene	100-42-5	ND	50
1,1,2,2-Tetrachloroethane	79-34-5	ND	50
Tetrachloroethene	127-18-4	ND	50
Toluene	108-88-3	570	50
1,1,1-Trichloroethane	71-55-6	ND	50
1,1,2-Trichloroethane	79-00-5	ND	50
Trichloroethene	79-01-6	ND	50
Trichlorofluoromethane	75-69-4	ND	50
Vinyl acetate	108-05-4	ND	100
Vinyl chloride	75-01-4	ND	50
o-Xylene	95-47-6	220	50
p,m-Xylenes	--	360	50
Surrogates		Recovery (%)	QC Limits (%)
Bromofluorobenzene	460-00-4	104	86 - 115
1,2-Dichloroethane-d4	17060-07-0	107	76 - 114
Toluene-d8	2037-26-5	100	88 - 110

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Note: Detection limits increased due to matrix interference.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	MW-3 (1350)	Date Sampled:	04/25/95
Lab Number:	9504359-03C	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Prepared:	05/15/95
Preparation Method:	EPA 5030	Date Analyzed:	05/15/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Organics			
Acetone	67-64-1	300	100
Benzene	71-43-2	150	30
Bromodichloromethane	75-27-4	ND	30
Bromoform	75-25-2	ND	30
Bromomethane	74-83-9	ND	30
2-Butanone	78-93-3	300	100
Carbon disulfide	75-15-0	ND	30
Carbon tetrachloride	56-23-5	ND	30
Chlorobenzene	108-90-7	ND	30
Chloroethane	75-00-3	ND	30
2-Chloroethylvinyl ether	110-75-8	ND	30
Chloroform	67-66-3	ND	30
Chloromethane	74-87-3	ND	30
Dibromochloromethane	124-48-1	ND	30
1,2-Dichlorobenzene	95-50-1	ND	30
1,3-Dichlorobenzene	541-73-1	ND	30
1,4-Dichlorobenzene	106-46-7	ND	30
1,1-Dichloroethane	75-34-3	30	30
1,2-Dichloroethane	107-06-2	ND	30
1,1-Dichloroethene	75-35-4	ND	30
cis-1,2-Dichloroethene	156-59-2	ND	30
trans-1,2-Dichloroethene	156-60-5	ND	30
1,2-Dichloropropane	78-87-5	ND	30
cis-1,3-Dichloropropene	10061-01-5	ND	30
trans-1,3-Dichloropropene	10061-02-6	ND	30
Ethylbenzene	100-41-4	100	30
Freon 113	76-13-1	ND	30
2-Hexanone	591-78-6	ND	100
Methylene chloride	75-09-2	ND	30
4-Methyl-2-pentanone	108-10-1	200	100

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	MW-3 (1350)	Date Sampled:	04/25/95
Lab Number:	9504359-03C	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Prepared:	05/15/95
Preparation Method:	EPA 5030	Date Analyzed:	05/15/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Organics (Continued)			
Styrene	100-42-5	ND	30
1,1,2,2-Tetrachloroethane	79-34-5	ND	30
Tetrachloroethene	127-18-4	ND	30
Toluene	108-88-3	600	30
1,1,1-Trichloroethane	71-55-6	ND	30
1,1,2-Trichloroethane	79-00-5	ND	30
Trichloroethene	79-01-6	ND	30
Trichlorofluoromethane	75-69-4	ND	30
Vinyl acetate	108-05-4	ND	50
Vinyl chloride	75-01-4	ND	30
o-Xylene	95-47-6	220	30
p,m-Xylenes	--	360	30
Surrogates		Recovery (%)	QC Limits (%)
Bromofluorobenzene	460-00-4	101	86 - 115
1,2-Dichloroethane-d4	17060-07-0	100	76 - 114
Toluene-d8	2037-26-5	102	88 - 110

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Note: Detection limits increased due to matrix interference.
Sample analyzed past recommended holding times for this analysis.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9504359-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	05/05/95
Preparation Method:	EPA 5030	Date Analyzed:	05/05/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Organics			
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
2-Chloroethylvinyl ether	110-75-8	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
Freon 113	76-13-1	ND	5
2-Hexanone	591-78-6	ND	20
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9504359-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	05/05/95
Preparation Method:	EPA 5030	Date Analyzed:	05/05/95
Method Reference:	EPA 8240	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Organics (Continued)			
Styrene	100-42-5	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Trichlorofluoromethane	75-69-4	ND	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5
Surrogates		Recovery (%)	QC Limits (%)
Bromofluorobenzene	460-00-4	100	86 - 115
1,2-Dichloroethane-d4	17060-07-0	103	76 - 114
Toluene-d8	2037-26-5	99	88 - 110

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	MW-1 (1300)	Date Sampled:	04/25/95
Lab Number:	9504359-01G	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Extracted:	05/02/95
Extraction Method:	EPA 3510	Date Analyzed:	05/06/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Acid Extractables			
4-Chloro-3-methylphenol	59-50-7	ND	5
2-Chlorophenol	95-57-8	ND	5
2,4-Dichlorophenol	120-83-2	ND	5
2,4-Dimethylphenol	105-67-9	ND	5
2,4-Dinitrophenol	51-28-5	ND	20
2-Methyl-4,6-dinitrophenol	534-52-1	ND	20
2-Methylphenol	95-48-7	ND	5
4-Methylphenol	106-44-5	ND	5
2-Nitrophenol	88-75-5	ND	5
4-Nitrophenol	100-02-7	ND	20
Pentachlorophenol	87-86-5	ND	20
Phenol	108-95-2	ND	5
2,4,5-Trichlorophenol	95-95-4	ND	5
2,4,6-Trichlorophenol	88-06-2	ND	5
Base/Neutral Extractables			
Acenaphthene	83-32-9	ND	5
Acenaphthylene	208-96-8	ND	5
Anthracene	120-12-7	ND	5
Benzidine	92-87-5	ND	30
Benzo(a)anthracene	56-55-3	ND	5
Benzo(a)pyrene	50-32-8	ND	5
Benzo(b)fluoranthene	205-99-2	ND	5
Benzo(ghi)perylene	191-24-2	ND	5
Benzoic acid	65-85-0	ND	20
Benzo(k)fluoranthene	207-08-9	ND	5
Benzyl alcohol	100-51-6	ND	10
Benzyl butyl phthalate	85-68-7	ND	5
Bis(2-chloroethoxy)methane	111-91-1	ND	5

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	MW-1 (1300)	Date Sampled:	04/25/95
Lab Number:	9504359-01G	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Extracted:	05/02/95
Extraction Method:	EPA 3510	Date Analyzed:	05/06/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Base/Neutral Extractables (Continued)			
Bis(2-chloroethyl)ether	111-44-4	ND	5
Bis(2-chloroisopropyl)ether	108-60-1	ND	5
Bis(2-ethylhexyl)phthalate	117-81-7	ND	10
4-Bromophenyl phenyl ether	101-55-3	ND	5
4-Chloroaniline	106-47-8	ND	20
2-Chloronaphthalene	91-58-7	ND	5
4-Chlorophenyl phenyl ether	7005-72-3	ND	5
Chrysene	218-01-9	ND	5
Dibenzo(a,h)anthracene	53-70-3	ND	5
Dibenzofuran	132-64-9	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
3,3'-Dichlorobenzidine	91-94-1	ND	40
Diethylphthalate	84-66-2	ND	5
Dimethylphthalate	131-11-3	ND	10
Di-n-butylphthalate	84-74-2	ND	5
2,4-Dinitrotoluene	121-14-2	ND	5
2,6-Dinitrotoluene	606-20-2	ND	5
Di-n-octylphthalate	117-84-0	ND	5
Fluoranthene	206-44-0	ND	5
Fluorene	86-73-7	ND	5
Hexachlorobenzene	118-74-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
Hexachlorocyclopentadiene	77-47-4	ND	5
Hexachloroethane	67-72-1	ND	5
Indeno(1,2,3-cd)pyrene	193-39-5	ND	5
Isophorone	78-59-1	ND	5
2-Methyl naphthalene	91-57-6	ND	5
Naphthalene	91-20-3	ND	5

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	MW-1 (1300)	Date Sampled:	04/25/95
Lab Number:	9504359-01G	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Extracted:	05/02/95
Extraction Method:	EPA 3510	Date Analyzed:	05/06/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Base/Neutral Extractables (Continued)			
2-Nitroaniline	88-74-4	ND	20
3-Nitroaniline	99-09-2	ND	20
4-Nitroaniline	100-01-6	ND	20
Nitrobenzene	98-95-3	ND	5
N-Nitrosodi-n-propylamine	621-64-7	ND	5
N-Nitrosodiphenylamine	86-30-6	ND	5
Phenanthrene	85-01-8	ND	5
Pyrene	129-00-0	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
Surrogates		Recovery (%)	QC Limits (%)
2-Fluorobiphenyl	321-60-8	77	43 - 116
2-Fluorophenol	367-12-4	38	21 - 100
Nitrobenzene-d5	4165-60-0	75	35 - 114
Phenol-d5	13127-88-3	37	10 - 94
Terphenyl-d14	98904-43-9	78	33 - 141
2,4,6-Tribromophenol	118-79-6	60	10 - 123

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	MW-2 (1325)	Date Sampled:	04/25/95
Lab Number:	9504359-02G	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Extracted:	05/02/95
Extraction Method:	EPA 3510	Date Analyzed:	05/06/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Acid Extractables			
4-Chloro-3-methylphenol	59-50-7	ND	30
2-Chlorophenol	95-57-8	ND	30
2,4-Dichlorophenol	120-83-2	ND	30
2,4-Dimethylphenol	105-67-9	60	30
2,4-Dinitrophenol	51-28-5	ND	100
2-Methyl-4,6-dinitrophenol	534-52-1	ND	100
2-Methylphenol	95-48-7	40	30
4-Methylphenol	106-44-5	60	30
2-Nitrophenol	88-75-5	ND	30
4-Nitrophenol	100-02-7	ND	100
Pentachlorophenol	87-86-5	ND	100
Phenol	108-95-2	ND	30
2,4,5-Trichlorophenol	95-95-4	ND	30
2,4,6-Trichlorophenol	88-06-2	ND	30
Base/Neutral Extractables			
Acenaphthene	83-32-9	ND	30
Acenaphthylene	208-96-8	ND	30
Anthracene	120-12-7	ND	30
Benzidine	92-87-5	ND	200
Benzo(a)anthracene	56-55-3	ND	30
Benzo(a)pyrene	50-32-8	ND	30
Benzo(b)fluoranthene	205-99-2	ND	30
Benzo(ghi)perylene	191-24-2	ND	30
Benzoic acid	65-85-0	ND	100
Benzo(k)fluoranthene	207-08-9	ND	30
Benzyl alcohol	100-51-6	ND	50
Benzyl butyl phthalate	85-68-7	ND	30
Bis(2-chloroethoxy)methane	111-91-1	ND	30

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	MW-2 (1325)	Date Sampled:	04/25/95
Lab Number:	9504359-02G	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Extracted:	05/02/95
Extraction Method:	EPA 3510	Date Analyzed:	05/06/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Base/Neutral Extractables (Continued)			
Bis(2-chloroethyl)ether	111-44-4	ND	30
Bis(2-chloroisopropyl)ether	108-60-1	ND	30
Bis(2-ethylhexyl)phthalate	117-81-7	ND	50
4-Bromophenyl phenyl ether	101-55-3	ND	30
4-Chloroaniline	106-47-8	ND	100
2-Chloronaphthalene	91-58-7	ND	30
4-Chlorophenyl phenyl ether	7005-72-3	ND	30
Chrysene	218-01-9	ND	30
Dibenzo(a,h)anthracene	53-70-3	ND	30
Dibenzofuran	132-64-9	ND	30
1,2-Dichlorobenzene	95-50-1	ND	30
1,3-Dichlorobenzene	541-73-1	ND	30
1,4-Dichlorobenzene	106-46-7	ND	30
3,3'-Dichlorobenzidine	91-94-1	ND	200
Diethylphthalate	84-66-2	ND	30
Dimethylphthalate	131-11-3	ND	50
Di-n-butylphthalate	84-74-2	ND	30
2,4-Dinitrotoluene	121-14-2	ND	30
2,6-Dinitrotoluene	606-20-2	ND	30
Di-n-octylphthalate	117-84-0	ND	30
Fluoranthene	206-44-0	ND	30
Fluorene	86-73-7	ND	30
Hexachlorobenzene	118-74-1	ND	30
Hexachlorobutadiene	87-68-3	ND	30
Hexachlorocyclopentadiene	77-47-4	ND	30
Hexachloroethane	67-72-1	ND	30
Indeno(1,2,3-cd)pyrene	193-39-5	ND	30
Isophorone	78-59-1	ND	30
2-Methyl naphthalene	91-57-6	50	30
Naphthalene	91-20-3	100	30

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	MW-2 (1325)	Date Sampled:	04/25/95
Lab Number:	9504359-02G	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Extracted:	05/02/95
Extraction Method:	EPA 3510	Date Analyzed:	05/06/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Base/Neutral Extractables (Continued)			
2-Nitroaniline	88-74-4	ND	100
3-Nitroaniline	99-09-2	ND	100
4-Nitroaniline	100-01-6	ND	100
Nitrobenzene	98-95-3	ND	30
N-Nitrosodi-n-propylamine	621-64-7	ND	30
N-Nitrosodiphenylamine	86-30-6	ND	30
Phenanthrene	85-01-8	ND	30
Pyrene	129-00-0	ND	30
1,2,4-Trichlorobenzene	120-82-1	ND	30
Surrogates		Recovery (%)	QC Limits (%)
2-Fluorobiphenyl	321-60-8	105	43 - 116
2-Fluorophenol	367-12-4	81	21 - 100
Nitrobenzene-d5	4165-60-0	102	35 - 114
Phenol-d5	13127-88-3	60	10 - 94
Terphenyl-d14	98904-43-9	100	33 - 141
2,4,6-Tribromophenol	118-79-6	91	10 - 123

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Note: Detection limits increased due to matrix interference.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9504359-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Extracted:	05/02/95
Extraction Method:	EPA 3510	Date Analyzed:	05/03/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Acid Extractables			
4-Chloro-3-methylphenol	59-50-7	ND	5
2-Chlorophenol	95-57-8	ND	5
2,4-Dichlorophenol	120-83-2	ND	5
2,4-Dimethylphenol	105-67-9	ND	5
2,4-Dinitrophenol	51-28-5	ND	20
2-Methyl-4,6-dinitrophenol	534-52-1	ND	20
2-Methylphenol	95-48-7	ND	5
4-Methylphenol	106-44-5	ND	5
2-Nitrophenol	88-75-5	ND	5
4-Nitrophenol	100-02-7	ND	20
Pentachlorophenol	87-86-5	ND	20
Phenol	108-95-2	ND	5
2,4,5-Trichlorophenol	95-95-4	ND	5
2,4,6-Trichlorophenol	88-06-2	ND	5
Base/Neutral Extractables			
Acenaphthene	83-32-9	ND	5
Acenaphthylene	208-96-8	ND	5
Anthracene	120-12-7	ND	5
Benzidine	92-87-5	ND	30
Benzo(a)anthracene	56-55-3	ND	5
Benzo(a)pyrene	50-32-8	ND	5
Benzo(b)fluoranthene	205-99-2	ND	5
Benzo(ghi)perylene	191-24-2	ND	5
Benzoic acid	65-85-0	ND	20
Benzo(k)fluoranthene	207-08-9	ND	5
Benzyl alcohol	100-51-6	ND	10
Benzyl butyl phthalate	85-68-7	ND	5
Bis(2-chloroethoxy)methane	111-91-1	ND	5

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9504359-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Extracted:	05/02/95
Extraction Method:	EPA 3510	Date Analyzed:	05/03/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Base/Neutral Extractables (Continued)			
Bis(2-chloroethyl)ether	111-44-4	ND	5
Bis(2-chloroisopropyl)ether	108-60-1	ND	5
Bis(2-ethylhexyl)phthalate	117-81-7	ND	10
4-Bromophenyl phenyl ether	101-55-3	ND	5
4-Chloroaniline	106-47-8	ND	20
2-Chloronaphthalene	91-58-7	ND	5
4-Chlorophenyl phenyl ether	7005-72-3	ND	5
Chrysene	218-01-9	ND	5
Dibenzo(a,h)anthracene	53-70-3	ND	5
Dibenzofuran	132-64-9	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
3,3'-Dichlorobenzidine	91-94-1	ND	40
Diethylphthalate	84-66-2	ND	5
Dimethylphthalate	131-11-3	ND	10
Di-n-butylphthalate	84-74-2	ND	5
2,4-Dinitrotoluene	121-14-2	ND	5
2,6-Dinitrotoluene	606-20-2	ND	5
Di-n-octylphthalate	117-84-0	ND	5
Fluoranthene	206-44-0	ND	5
Fluorene	86-73-7	ND	5
Hexachlorobenzene	118-74-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
Hexachlorocyclopentadiene	77-47-4	ND	5
Hexachloroethane	67-72-1	ND	5
Indeno(1,2,3-cd)pyrene	193-39-5	ND	5
Isophorone	78-59-1	ND	5
2-Methyl naphthalene	91-57-6	ND	5
Naphthalene	91-20-3	ND	5

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9504359-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Extracted:	05/02/95
Extraction Method:	EPA 3510	Date Analyzed:	05/03/95
Method Reference:	EPA 8270	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Base/Neutral Extractables (Continued)			
2-Nitroaniline	88-74-4	ND	20
3-Nitroaniline	99-09-2	ND	20
4-Nitroaniline	100-01-6	ND	20
Nitrobenzene	98-95-3	ND	5
N-Nitrosodi-n-propylamine	621-64-7	ND	5
N-Nitrosodiphenylamine	86-30-6	ND	5
Phenanthrene	85-01-8	ND	5
Pyrene	129-00-0	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
Surrogates		Recovery (%)	QC Limits (%)
2-Fluorobiphenyl	321-60-8	87	43 - 116
2-Fluorophenol	367-12-4	65	21 - 100
Nitrobenzene-d5	4165-60-0	89	35 - 114
Phenol-d5	13127-88-3	50	10 - 94
Terphenyl-d14	98904-43-9	97	33 - 141
2,4,6-Tribromophenol	118-79-6	89	10 - 123

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification: MW-1 (1300)
Lab Number: 9504359-01
Sample Matrix/Media: WATER

Date Sampled: 04/25/95
Date Received: 04/27/95

Analyte	Concentration	Method Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Method Reference
Cadmium	<0.005	0.005	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
Chromium	<0.01	0.01	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
Jet Fuel	ND	50	ug/L	05/01/95	05/05/95	EPA 3510	EPA 8015*
Lead	<0.05	0.05	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
Nickel	<0.02	0.02	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
TPH-D	1400 a	50	ug/L	05/01/95	05/05/95	EPA 3510	EPA 8015*
TPH-G	ND	50	ug/L	05/05/95	05/05/95	EPA 5030	EPA 8015*
TPH-O	610	200	ug/L	05/01/95	05/05/95	EPA 3510	EPA 8015*
Total Dissolved Solids	4000	10	mg/L	--	05/01/95	--	EPA 160.1
Zinc	0.02	0.01	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Jet Fuel = Extractable petroleum hydrocarbons in the range of C8 to C16 matching the typical Jet Fuel pattern.
TPH-D = Extractable petroleum hydrocarbons from C10 to C26 quantitated as diesel.
* = Modified
TPH-G = Volatile petroleum hydrocarbons from C6 to C10 quantitated as gasoline.
TPH-O = Extractable petroleum hydrocarbons from C20 to C42 quantitated as motor oil.
a Unidentified hydrocarbons and unidentified peaks present in diesel range; quantitation based on diesel.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification: MW-2 (1325)
Lab Number: 9504359-02
Sample Matrix/Media: WATER

Date Sampled: 04/25/95
Date Received: 04/27/95

Analyte	Concentration	Method Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Method Reference
Cadmium	<0.005	0.005	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
Chromium	0.02	0.01	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
Jet Fuel	13000 b	50	ug/L	05/01/95	05/09/95	EPA 3510	EPA 8015*
Lead	<0.05	0.05	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
Nickel	0.04	0.02	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
TPH-D	ND	10000 a	ug/L	05/01/95	05/09/95	EPA 3510	EPA 8015*
TPH-G	5200	50	ug/L	05/08/95	05/08/95	EPA 5030	EPA 8015*
TPH-O	19000	200	ug/L	05/01/95	05/09/95	EPA 3510	EPA 8015*
Total Dissolved Solids	1700	10	mg/L	--	05/01/95	--	EPA 160.1
Zinc	0.01	0.01	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Jet Fuel = Extractable petroleum hydrocarbons in the range of C8 to C16 matching the typical Jet Fuel pattern.
TPH-D = Extractable petroleum hydrocarbons from C10 to C26 quantitated as diesel.
* = Modified
TPH-G = Volatile petroleum hydrocarbons from C6 to C10 quantitated as gasoline.
TPH-O = Extractable petroleum hydrocarbons from C20 to C42 quantitated as motor oil.
b Some portion of jet fuel result may be attributed to the presence of some unidentifiable peaks.
a Detection limit increased due to presence of Jet Fuel.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification: MW-3 (1350)
Lab Number: 9504359-03
Sample Matrix/Media: WATER

Date Sampled: 04/25/95
Date Received: 04/27/95

Analyte	Concentration	Method Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Method Reference
Cadmium	0.009	0.005	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
Chromium	0.31	0.01	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
Jet Fuel	38000 b	50	ug/L	05/01/95	05/09/95	EPA 3510	EPA 8015*
Lead	0.08	0.05	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
Nickel	0.51	0.02	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
TPH-D	ND	40000 a	ug/L	05/01/95	05/09/95	EPA 3510	EPA 8015*
TPH-G	7200 c	50	ug/L	05/10/95	05/10/95	EPA 5030	EPA 8015*
TPH-O	31000	200	ug/L	05/01/95	05/09/95	EPA 3510	EPA 8015*
Total Dissolved Solids	5600	10	mg/L	--	05/01/95	--	EPA 160.1
Zinc	0.47	0.01	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Jet Fuel = Extractable petroleum hydrocarbons in the range of C8 to C16 matching the typical Jet Fuel pattern.
TPH-D = Extractable petroleum hydrocarbons from C10 to C26 quantitated as diesel.
* = Modified
TPH-G = Volatile petroleum hydrocarbons from C6 to C10 quantitated as gasoline.
TPH-O = Extractable petroleum hydrocarbons from C20 to C42 quantitated as motor oil.
b Some portion of jet fuel result may be attributed to the presence of some unidentifiable peaks.
a Detection limit increased due to presence of Jet Fuel.
c Sample analyzed past recommended holding times for this analysis due to dilution necessary for quantitation.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification: QC-1
Lab Number: 9504359-04
Sample Matrix/Media: WATER

Date Sampled: 04/25/95
Date Received: 04/27/95

Analyte	Concentration	Method Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Method Reference
TPH-G	5600	50	ug/L	05/10/95	05/10/95	EPA 5030	EPA 8015*

ND: Not detected at or above limit of detection
--: Information not available or not applicable

TPH-G = Volatile petroleum hydrocarbons from C6 to C10 quantitated as gasoline.
* = Modified

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification: QC-2
Lab Number: 9504359-05
Sample Matrix/Media: WATER

Date Sampled: 04/25/95
Date Received: 04/27/95

Analyte	Concentration	Method Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Method Reference
TPH-G	ND	50	ug/L	05/05/95	05/05/95	EPA 5030	EPA 8015*

ND: Not detected at or above limit of detection
--: Information not available or not applicable

TPH-G = Volatile petroleum hydrocarbons from C6 to C10 quantitated as gasoline.
* = Modified

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification: METHOD BLANK
Lab Number: 9504359-06
Sample Matrix/Media: WATER

Date Sampled: --
Date Received: --

Analyte	Concentration	Method Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Method Reference
Cadmium	<0.005	0.005	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
Chromium	<0.01	0.01	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
Jet Fuel	ND	50	ug/L	05/01/95	05/05/95	EPA 3510	EPA 8015*
Lead	<0.05	0.05	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
Nickel	<0.02	0.02	mg/L	05/03/95	05/04/95	EPA 200.7	EPA 200.7
TPH-D	ND	50	ug/L	05/01/95	05/05/95	EPA 3510	EPA 8015*
TPH-G	ND	50	ug/L	05/05/95	05/05/95	EPA 5030	EPA 8015*
TPH-O	ND	200	ug/L	05/01/95	05/05/95	EPA 3510	EPA 8015*
Total Dissolved Solids	<10	10	mg/L	--	05/01/95	--	EPA 160.1

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Jet Fuel = Extractable petroleum hydrocarbons in the range of C8 to C16 matching the typical Jet Fuel pattern.
TPH-D = Extractable petroleum hydrocarbons from C10 to C26 quantitated as diesel.
* = Modified
TPH-G = Volatile petroleum hydrocarbons from C6 to C10 quantitated as gasoline.
TPH-O = Extractable petroleum hydrocarbons from C20 to C42 quantitated as motor oil.

Clayton ENVIRONMENTAL CONSULTANTS

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page 1 of 1
Project No.	
Batch No.	9504359
Ind. Code	W.P.
Date Logged In 4/28/95	By JM

REPORT RESULTS TO

Name: A John De George | Title: Project Manager
Company: Alisto Engineering | Dept.:
Mailing Address: 1777 Oakland Blvd
City, State, Zip: Walnut Creek CA 94596
Telephone No.: (510) 295 1650 | Telefax No.: (510) 295 1920

SEND INVOICE TO

Purchase Order No.: 029691 | Client Job No.: 10-250-02-003
Name: Patricia Murphy
Company: Port of Oakland | Dept.:
Address: 530 Water St.
City, State, Zip: Oakland CA 94607

Date Results Req.: | Rush Charges Authorized? ☐ Yes ☒ No | Phone / Fax Results ☐ ☒

Special Instructions: (method, limit of detection, etc.)
Quantify D, J, MO, seperately

* Explanation of Preservative:

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	TPH6 (8015)	TPH D, J, MO (8015M)	BTEX (8020)	8270 (Ca, Cr, Ni, Pb, Zn) (6010)	TDS (160.1)	FOR LAB USE ONLY
MW-1 1300	4/25/95	H2O		10	X	X	X	X	X	X	01 A-J
MW-2 1325	↓	↓		10	X	↓	↓	↓	↓	↓	02 ↓
MW-3 1350	4/26			7	X	↓	↓	[redacted]	↓	↓	03 A-H
QC-1 —				2	X			↓			04 A,B
QC-2 —	↓	↓		1	X						05 C

CHAIN OF CUSTODY

Collected by: Dave Cusack Dave Cusack (print) | Collector's Signature: Dave Cusack
Relinquished by: John De George | Date/Time 4/27/95 @ 1705 | Received by: Jim Mitchell | Date/Time 4/27/95 @ 1705
Relinquished by: Jim Mitchell | Date/Time 4/28/95 @ 1800 | Received at Lab by: Carol Hammesberg | Date/Time 4/28/95 6:00
Method of Shipment: CEC Courier | Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: John De George (Client Signature Must Accompany Request) | Date 4/27/95

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive Novi, MI 48375 (810) 344-1770	Raritan Center 160 Fieldcrest Ave. Edison, NJ 08837 (908) 225-6040	400 Chastain Center Blvd., N.W. Suite 490 Kennesaw, GA 30144 (404) 499-7500	1252 Quarry Lane Pleasanton, CA 94566 (510) 426-2657

Economy Parking Lot Site

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

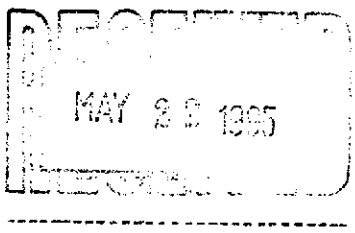
Clayton
ENVIRONMENTAL
CONSULTANTS

Quality Assurance Results Summary

Matrix Spike/Matrix Spike Duplicate Results

for

Clayton Project No. 95043.59



Quality Assurance Results Summary
for
Clayton Project No. 95043.59

Clayton Lab Number: 9505008-01A
Ext./Prep. Method: EPA5030
Date: 05/05/95
Analyst:
Std. Source: M950206-02W
Sample Matrix/Media: WATER

Analytical Method: EPA624_8240
Instrument ID: 02831
Date: 05/05/95
Time: 16:46
Analyst: JP
Units: UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,1-DICHLOROETHENE	ND	50.0	48.0	96	44.0	88	92	61	145	8.7	14
BENZENE	ND	50.0	54.0	108	54.0	108	108	76	127	0.0	11
CHLOROBENZENE	ND	50.0	59.0	118	59.0	118	118	75	130	0.0	13
TOLUENE	ND	50.0	57.0	114	55.0	110	112	76	125	3.6	13
TRICHLOROETHENE	ND	50.0	56.0	112	55.0	110	111	71	120	1.8	14

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 95043.59

Clayton Lab Number: 9505074-01A
Ext./Prep. Method: EPA5030
Date: 05/09/95
Analyst: JP
Std. Source: M950206-02W
Sample Matrix/Media: WATER

Analytical Method: EPA624_8240
Instrument ID: 02831
Date: 05/09/95
Time: 16:37
Analyst: JP
Units: UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,1-DICHLOROETHENE	ND	50.0	46.0	92	40.0	80	86	61	145	14	14
BENZENE	ND	50.0	48.0	96	52.0	104	100	76	127	8.0	11
CHLOROBENZENE	ND	50.0	52.0	104	59.0	118	111	75	130	13	13
TOLUENE	ND	50.0	49.0	98	54.0	108	103	76	125	9.7	13
TRICHLOROETHENE	ND	50.0	48.0	96	54.0	108	102	71	120	12	14

LCS = Laboratory Control Sample
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UCL = Upper Control Limit
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Quality Assurance Results Summary
for
Clayton Project No. 95043.59

Clayton Lab Number:	9504304-LCS	Analytical Method:	EPA8015
Ext./Prep. Method:	EPA3510	Instrument ID:	02893
Date:	05/01/95	Date:	05/02/95
Analyst:	HYT	Time:	23:08
Std. Source:	E950330-01W	Analyst:	GUD
Sample Matrix/Media:	WATER	Units:	UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	ND	1,000	1,010	101	974	97	99	56	137	3.6	25

LCS = Laboratory Control Sample
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LCL = Lower Control Limit
UCL = Upper Control Limit
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Quality Assurance Results Summary
for
Clayton Project No. 95043.59

Clayton Lab Number: 9504359-LCS
Ext./Prep. Method: EPA3510
Date: 05/01/95
Analyst: HYT
Std. Source: E940909-01W
Sample Matrix/Media: WATER

Analytical Method: EPA8015
Instrument ID: 02893
Date: 05/05/95
Time: 07:35
Analyst: GUD
Units: UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
JET FUEL	ND	1,000	549	55	549	55	55	40	140	0.0	40

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Quality Assurance Results Summary
for
Clayton Project No. 95043.59

Clayton Lab Number:	9504359-LCS	Analytical Method:	EPA8015
Ext./Prep. Method:	EPA3510	Instrument ID:	02893
Date:	05/01/95	Date:	05/05/95
Analyst:	HYT	Time:	18:02
Std. Source:	E950330-01W	Analyst:	GUD
Sample Matrix/Media:	WATER	Units:	UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	ND	1,000	1,080	108	1,060	106	107	56	137	1.7	25

LCS = Laboratory Control Sample
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Quality Assurance Results Summary
for
Clayton Project No. 95043.59

Clayton Lab Number: 9504379-01K
Ext./Prep. Method: EPA 200.7
Date: 05/03/95
Analyst: KDM
Std. Source: JMEB 41062
Sample Matrix/Media: WATER

Analytical Method: EPA200.7
Instrument ID: 03891
Date: 05/04/95
Time: 13:49
Analyst: RAH
Units: MG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
ANTIMONY	ND	2.00	1.93	97	1.92	96	96	81	115	0.5	20
ARSENIC	ND	2.00	1.92	96	1.96	98	97	89	111	2.1	20
BARIUM	0.115	2.00	2.03	96	2.03	96	96	78	115	0.0	20
BERYLLIUM	ND	2.00	1.90	95	1.91	96	95	82	113	0.5	20
CADMIUM	ND	2.00	1.92	96	1.93	97	96	79	114	0.5	20
CALCIUM	27.1	2.00	28.9	SOR	28.8	SOR	SOR	67	135	0.3	20
CHROMIUM	ND	2.00	1.90	95	1.90	95	95	87	111	0.0	20
COBALT	ND	2.00	1.88	94	1.89	95	94	86	115	0.5	20
COPPER	ND	2.00	1.92	96	1.92	96	96	80	114	0.0	20
LEAD	ND	2.00	1.87	94	1.89	95	94	81	116	1.1	20
MAGNESIUM	34.5	2.00	36.4	SOR	36.2	SOR	SOR	70	127	0.6	20
MOLYBDENUM	ND	2.00	1.91	96	1.92	96	96	82	118	0.5	20
NICKEL	ND	2.00	1.89	95	1.88	94	94	74	117	0.5	20
POTASSIUM	18.0	20.0	37.2	96	37.1	96	96	85	114	0.3	20
SELENIUM	ND	2.00	1.91	96	1.92	96	96	60	130	0.5	20
SILVER	ND	2.00	1.88	94	1.88	94	94	74	123	0.0	20
THALLIUM	ND	2.00	1.88	94	1.90	95	95	65	124	1.1	20
VANADIUM	ND	2.00	1.93	97	1.93	97	97	86	109	0.0	20
ZINC	0.0140	2.00	1.92	95	1.92	95	95	67	127	0.0	20

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Quality Assurance Results Summary
for
Clayton Project No. 95043.59

Clayton Lab Number: 9504380-03A
Ext./Prep. Method: EPA 200.7
Date: 05/03/95
Analyst: KDM
Std. Source: JEMB 41062
Sample Matrix/Media: WATER

Analytical Method: EPA200_7
Instrument ID: 03891
Date: 05/04/95
Time: 13:57
Analyst: RAH
Units: MG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
ANTIMONY	ND	2.00	1.99	100	1.96	98	99	81	115	1.5	20
ARSENIC	ND	2.00	2.01	101	1.93	97	99	89	111	4.1	20
BARIUM	0.333	2.00	2.35	101	2.29	98	99	78	115	2.6	20
BERYLLIUM	ND	2.00	1.98	99	1.93	97	98	82	113	2.6	20
CADMIUM	ND	2.00	1.99	100	1.95	98	99	79	114	2.0	20
CALCIUM	13.2	2.00	15.5	SOR	15.4	SOR	SOR	67	135	0.6	20
CHROMIUM	0.160	2.00	2.15	100	2.09	97	98	87	111	2.8	20
COBALT	ND	2.00	1.98	99	1.93	97	98	86	115	2.6	20
COPPER	0.0590	2.00	2.06	100	2.01	98	99	80	114	2.5	20
LEAD	0.598	2.00	2.60	100	2.55	97	99	81	116	1.9	20
MAGNESIUM	2.92	2.00	4.96	102	4.93	101	101	70	127	0.6	20
MOLYBDENUM	0.0549	2.00	2.05	100	2.00	97	99	82	118	2.5	20
NICKEL	ND	2.00	1.97	99	1.92	96	97	74	117	2.6	20
POTASSIUM	3.11	20.0	22.7	98	22.5	97	97	85	114	0.9	20
SELENIUM	ND	2.00	1.99	100	1.93	97	98	60	130	3.1	20
SILVER	ND	2.00	1.61	81	1.59	80	80	74	123	1.3	20
SODIUM	159	2.00	166	SOR	163	SOR	SOR	60	123	1.8	20
THALLIUM	ND	2.00	1.98	99	1.95	98	98	65	124	1.5	20
VANADIUM	ND	2.00	2.01	101	1.96	98	99	86	109	2.5	20
ZINC	0.760	2.00	2.76	100	2.72	98	99	67	127	1.5	20

LCS = Laboratory Control Sample
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SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 95043.59

Clayton Lab Number: 9505123-03
Ext./Prep. Method: EPA5030
Date: 05/15/95
Analyst: JP
Std. Source: M950510-03W
Sample Matrix/Media: WATER

Analytical Method: EPA624_8240
Instrument ID: 05381
Date: 05/15/95
Time: 13:22
Analyst: JP
Units: UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,1-DICHLOROETHENE	ND	50.0	53.9	108	52.6	105	107	61	145	2.4	14
BENZENE	ND	50.0	55.6	111	53.6	107	109	76	127	3.7	11
CHLOROBENZENE	ND	50.0	54.0	108	51.6	103	106	75	130	4.5	13
TOLUENE	ND	50.2	53.1	106	50.0	100	103	76	125	6.0	13
TRICHLOROETHENE	ND	50.0	52.1	104	49.4	99	102	71	120	5.3	14

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
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Quality Assurance Results Summary
for
Clayton Project No. 95043.59

Clayton Lab Number:	9504359-01A	Analytical Method:	EPA8015_8020
Ext./Prep. Method:	EPA 5030	Instrument ID:	05587
Date:	05/05/95	Date:	05/05/95
Analyst:	WAS	Time:	15:23
Std. Source:	V950301-02W	Analyst:	WAS
Sample Matrix/Media:	WATER	Units:	UG/L

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID)	ND	11.0	11.0	100	10.6	97	99	81	118	3.6	20
ETHYLBENZENE	(PID)	ND	8.81	8.42	96	8.36	95	95	81	114	0.7	20
GASOLINE	(FID)	ND	500	504	101	495	99	100	80	150	1.8	25
TOLUENE	(PID)	ND	46.0	43.1	94	42.5	92	93	84	118	1.4	20
TOTAL XYLENE	(PID)	ND	50.6	47.8	95	47.4	94	94	85	115	0.8	20

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Quality Assurance Results Summary
for
Clayton Project No. 95043.59

Clayton Lab Number: 9504348-06C
Ext./Prep. Method: EPA 5030
Date: 05/08/95
Analyst: WAS
Std. Source: V950301-02W
Sample Matrix/Media: WATER

Analytical Method: EPA8015_8020
Instrument ID: 05587
Date: 05/08/95
Time: 11:31
Analyst: WAS
Units: UG/L

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID)	ND	10.3	10.3	100	10.7	104	102	81	118	3.8	20
ETHYLBENZENE	(PID)	ND	8.03	7.99	100	8.18	102	101	81	114	2.4	20
GASOLINE	(FID)	ND	500	507	101	504	101	101	80	150	0.6	25
TOLUENE	(PID)	ND	42.9	42.7	100	43.5	101	100	84	118	1.9	20
TOTAL XYLENE	(PID)	ND	47.8	47.3	99	48.2	101	100	85	115	1.9	20

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Quality Assurance Results Summary
for
Clayton Project No. 95043.59

Clayton Lab Number:	9504357-02A	Analytical Method:	EPA8015_8020
Ext./Prep. Method:	EPA 5030	Instrument ID:	05587
Date:	05/09/95	Date:	05/09/95
Analyst:	WAS	Time:	01:29
Std. Source:	V950301-02W	Analyst:	WAS
Sample Matrix/Media:	WATER	Units:	UG/L

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID)	ND	9.98	9.63	96	11.4	114	105	81	118	17	20
ETHYLBENZENE	(PID)	ND	7.76	7.71	99	8.93	115	107	81	114	15	20
GASOLINE	(FID)	ND	500	501	100	530	106	103	80	150	5.6	25
TOLUENE	(PID)	ND	41.4	41.9	101	43.6	105	103	84	118	4.0	20
TOTAL XYLENE	(PID)	ND	45.8	45.1	98	51.9	113	106	85	115	14	20

LCS = Laboratory Control Sample
LCL = Lower Control Limit
UCL = Upper Control Limit
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Quality Assurance Results Summary
for
Clayton Project No. 95043.59

Clayton Lab Number: 9504379-01E
Ext./Prep. Method: EPA 5030
Date: 05/09/95
Analyst: WAS
Std. Source: V950301-02W
Sample Matrix/Media: WATER

Analytical Method: EPA8015_8020
Instrument ID: 05587
Date: 05/10/95
Time: 00:59
Analyst: WAS
Units: UG/L

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID)	ND	8.99	10.1	112	9.70	108	110	81	118	3.7	20
ETHYLBENZENE	(PID)	ND	7.25	7.91	109	7.64	105	107	81	114	3.5	20
GASOLINE	(FID)	ND	500	523	105	512	102	104	80	150	2.1	25
TOLUENE	(PID)	ND	37.7	40.2	107	39.5	105	106	84	118	1.8	20
TOTAL XYLENE	(PID)	ND	42.8	45.4	106	44.2	103	105	85	115	2.7	20

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
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UCL = Upper Control Limit
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Quality Assurance Results Summary
for
Clayton Project No. 95043.59

Clayton Lab Number: 9504374-LCS
Ext./Prep. Method: EPA 3510
Date: 05/02/95
Analyst: HYT
Std. Source: E950406-01W
Sample Matrix/Media: WATER

Analytical Method: EPA625_8270
Instrument ID: 07477
Date: 05/04/95
Time: 11:46
Analyst: ASC
Units: UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
(A)Phenol	ND	100	52.2	52	50.7	51	51	12	89	2.9	42
(B)2-Chlorophenol	ND	100	87.5	88	83.4	83	85	27	123	4.8	40
(C)1,4-Dichlorobenzene	ND	100	76.4	76	79.2	79	78	36	97	3.6	28
(D)N-Nitrosodipropylamine	ND	100	94.7	95	91.6	92	93	41	116	3.3	38
(E)1,2,4-Trichlorobenzene	ND	100	79.0	79	83.9	84	81	39	98	6.0	28
(F)4-Chloro-m-cresol	ND	100	90.9	91	90.2	90	91	23	97	0.8	42
(G)Acenaphthene	ND	100	88.9	89	91.7	92	90	46	118	3.1	31
(H)4-Nitrophenol	ND	100	57.3	57	53.7	54	56	10	80	6.5	50
(I)2,4-Dinitrotoluene	ND	100	97.8	98	98.0	98	98*	24	96	0.2	38
(J)Pentachlorophenol	ND	100	98.7	99	92.4	92	96	9	103	6.6	50
(K)Pyrene	ND	100	88.2	88	91.7	92	90	26	127	3.9	31

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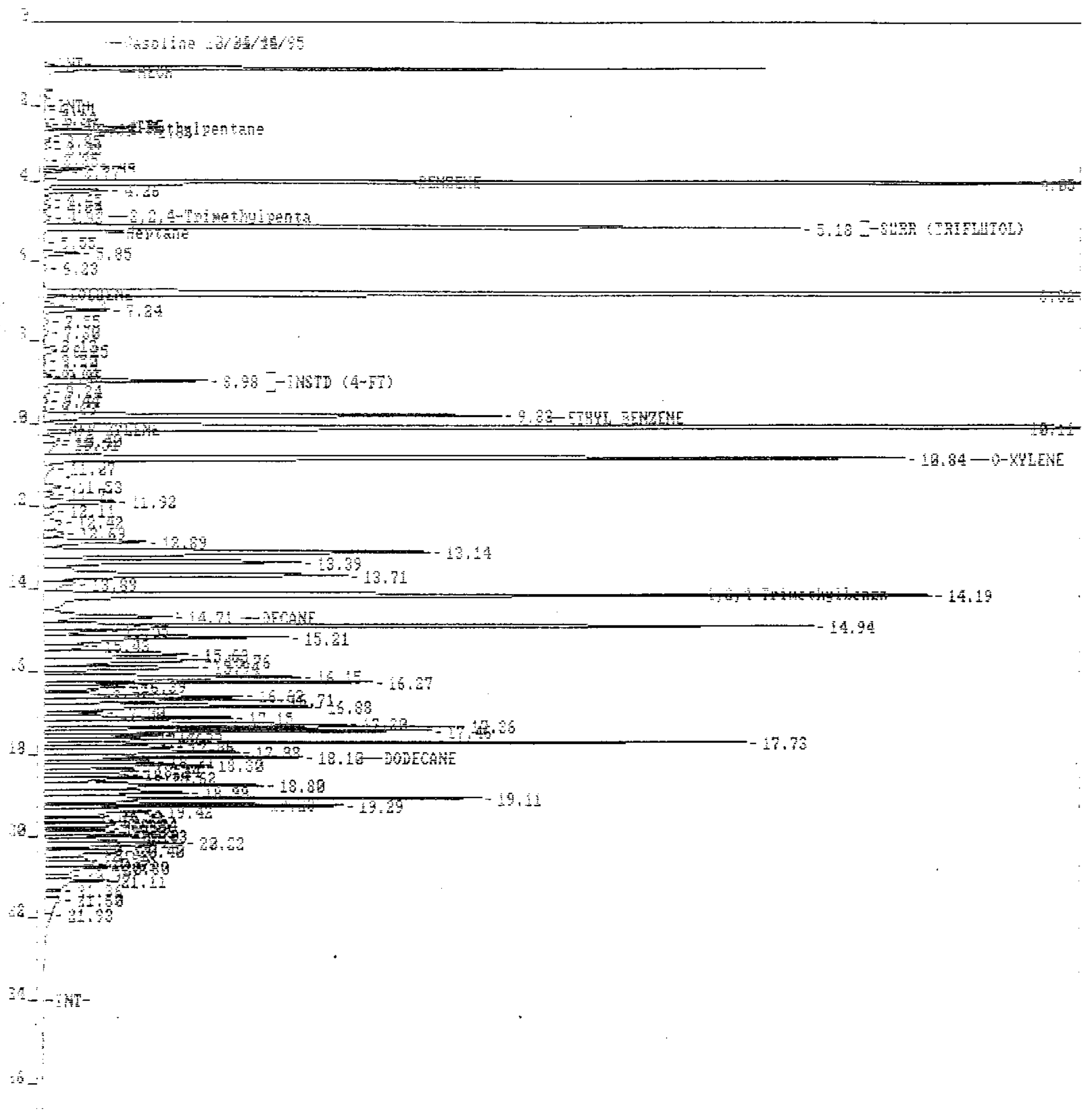
SOR = Spike out of range due to high sample concentration.

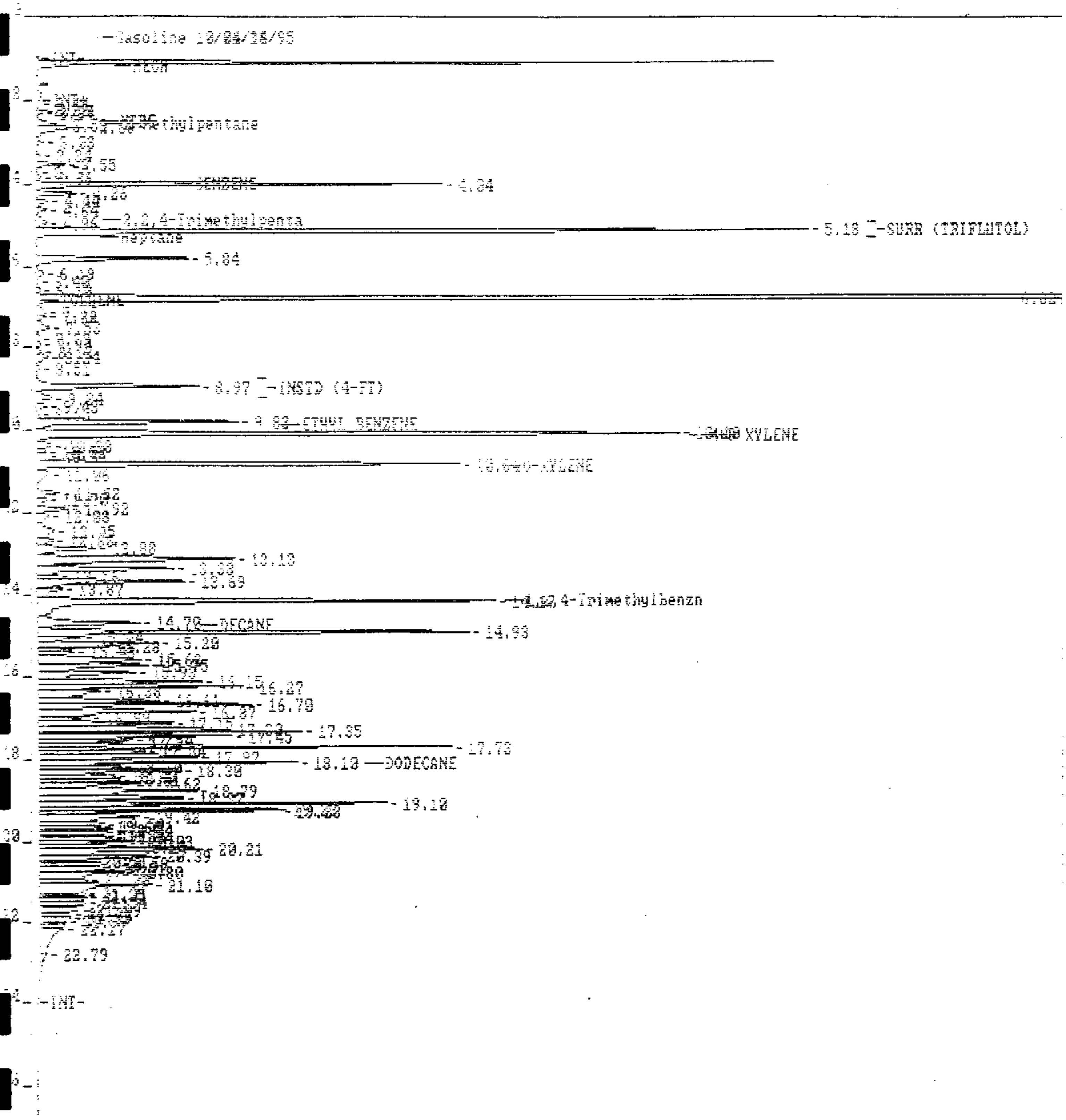
Clayton
ENVIRONMENTAL
CONSULTANTS

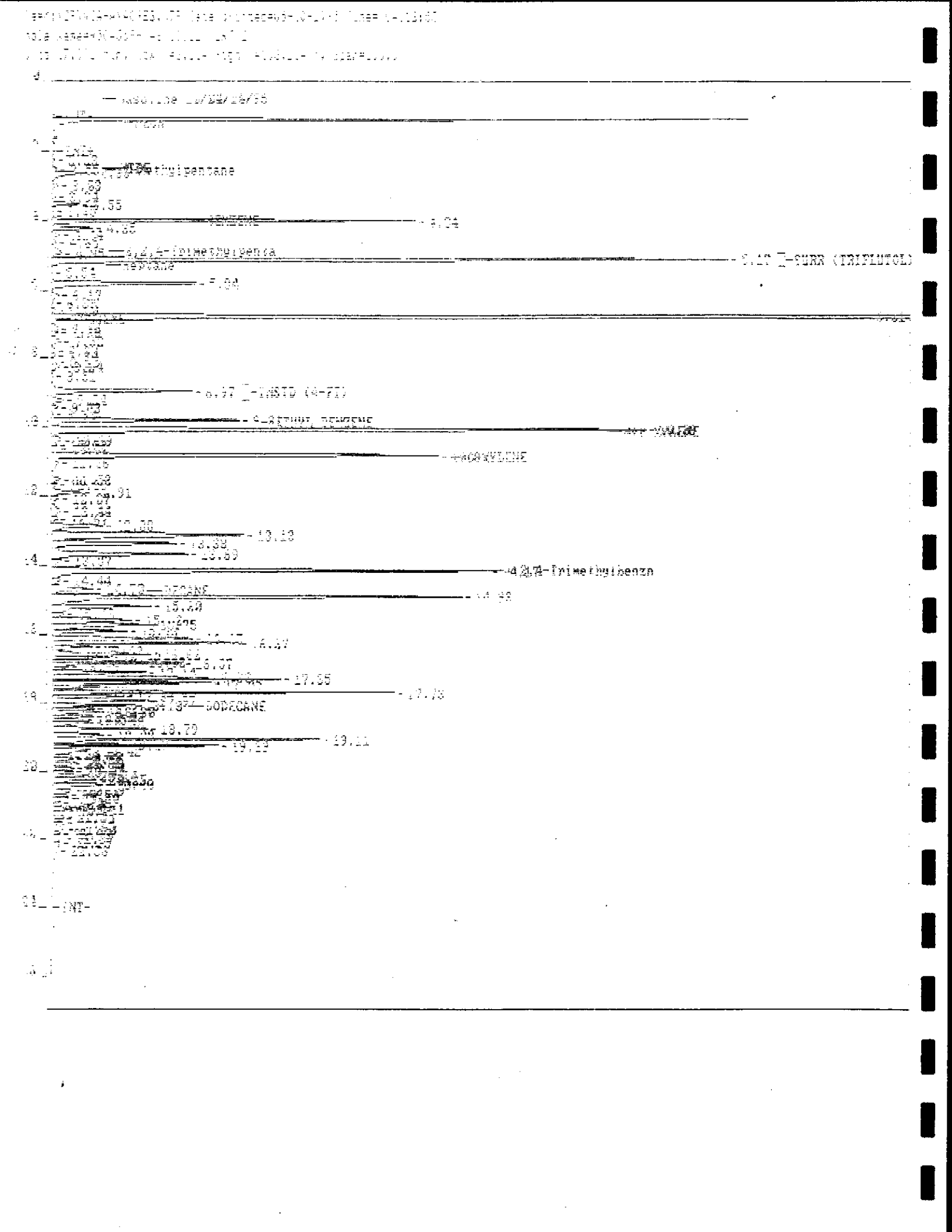
Mass Spectrometry/Chromatograms
for
EPA 8015
Clayton Project No. 95043.59



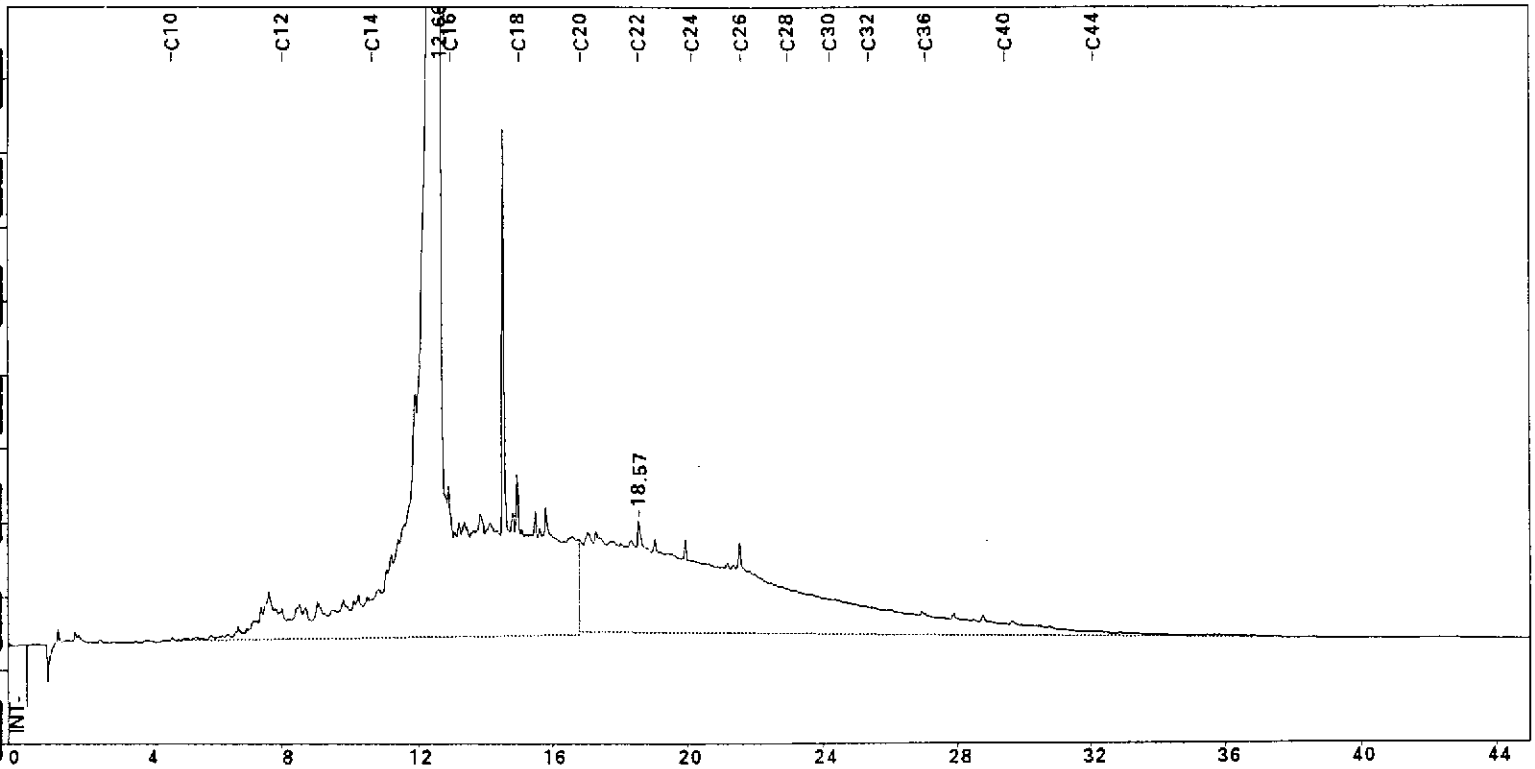
5.18 -SURR (TRIFLUTOL)
8.98 -INSTD (4-FT)
9.82 ETHYL BENZENE
10.84 O-XYLENE
11.92
13.14
13.39
13.71
14.19
14.94
15.21
16.27
17.73
18.18 DODECANE
18.80
19.11
19.29
INT

Date printed=05-1?-1995 Time= ?





File=M:\CP\GC-7\U04E$.11R Date printed=05-09-1995 Time= 18:13:05
Sample Name=9504359-01E
0.0 to 45.0 min. Low Y=-50.0 High Y=320.0 mv Span=370.0



Clayton Environmental Consultants, Pleasanton, California

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Printed: 05-09-1995_18:13:10

Sample Name: **9504359-01E**

Date: 05-05-1995 08:27:37

Dilution Factor: 1
Operator: GUD

Sample Weight: 990.94

Instrument:02893 HP5890(BACK)

Area Rejected: 100
EXTERNAL_STD Calibrated

Data File: **M:\CP\GC-7\U04E$.11R** Cycle# **11**

Method File: !!!M:\CP\GC-7\UD2.MET..ver# -3 . 02/24/95 17:11:58

Calibr File: !!!M:\CP\GC-7\UD2.CAL..ver# -32.

Analysis: **TPH EXT TEMP 50C(3') 10C/M 310C(10') 2UL**

Miscl.

==========

Pk#	Ret time (min)	Peak Name	Amount PPM	Peak Area	Peak Type	Peak Height	Ref Pk	Amount /Area
1	12.658		1.4356	46002372	BB	977015		0.3121E-07
2	18.571		0.6144	19686660	BB	55854		0.3121E-07

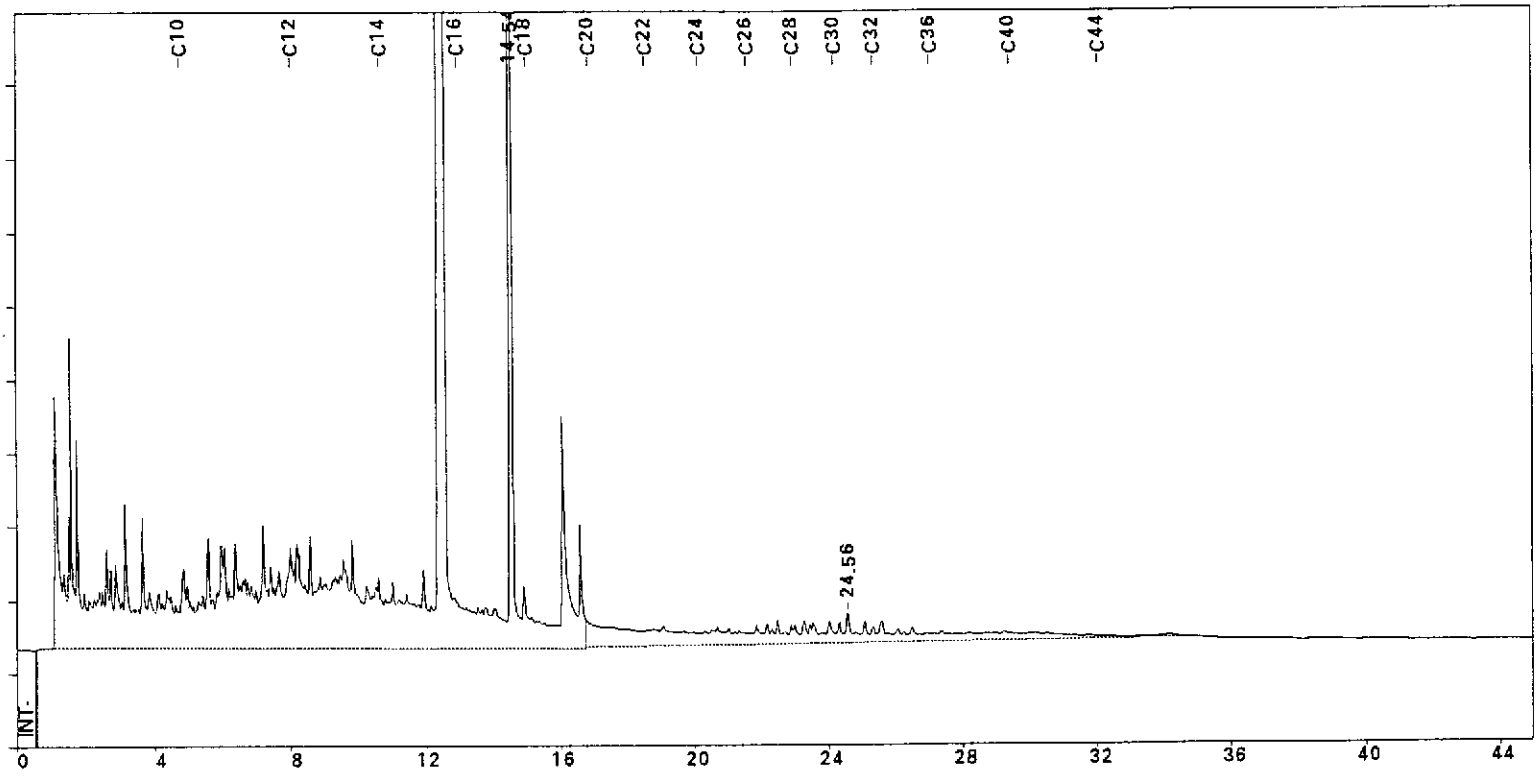
Total Area = 6.568903E+07; Instrument Actual Amount = 2031.379 PPM

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS = 2.049951mg/kg (ppm)

OR 2049.951 ug/L (ppb)

File: M:\CP\GC-7\U04E$.11R

File:M:\CP\GC-7\U08E$.24R Date printed=05-11-1995 Time= 14:56:29
Sample Name=9504359-02E 20X
0.0 to 45.0 min. Low Y=-50.0 High Y=320.0 mv Span=370.0



Clayton Environmental Consultants, Pleasanton, California

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Printed: 05-11-1995_14:56:35

Sample Name: **9504359-02E 20X**

Date: 05-09-1995 18:09:58
Operator: GUD

Dilution Factor: 20
Sample Weight: 937.11

Instrument:02893 HP5890(BACK)
EXTERNAL_STD Calibrated

Area Rejected: 100
Data File: **M:\CP\GC-7\U08E$.24R** Cycle# **24**
Method File: !!!!M:\CP\GC-7\UD2.MET..ver# -3 . 02/24/95 17:11:58
Calibr File: !!!!M:\CP\GC-7\UD2.CAL..ver# -32.
Analysis: **TPH EXT TEMP 50C(3') 10C/M 310C(10') 2UL**
Miscl.
|Mod 05-10-1995 18:49:29

==========

Pk#	Ret time (min)	Peak Name	Amount PPM	Peak Area	Peak Type	Peak Height	Ref Pk	Amount /Area
1	14.544		28.5272	43223748	BB	969831		0.6600E-06
2	24.565		3.5502	5379178	BB	14947		0.6600E-06

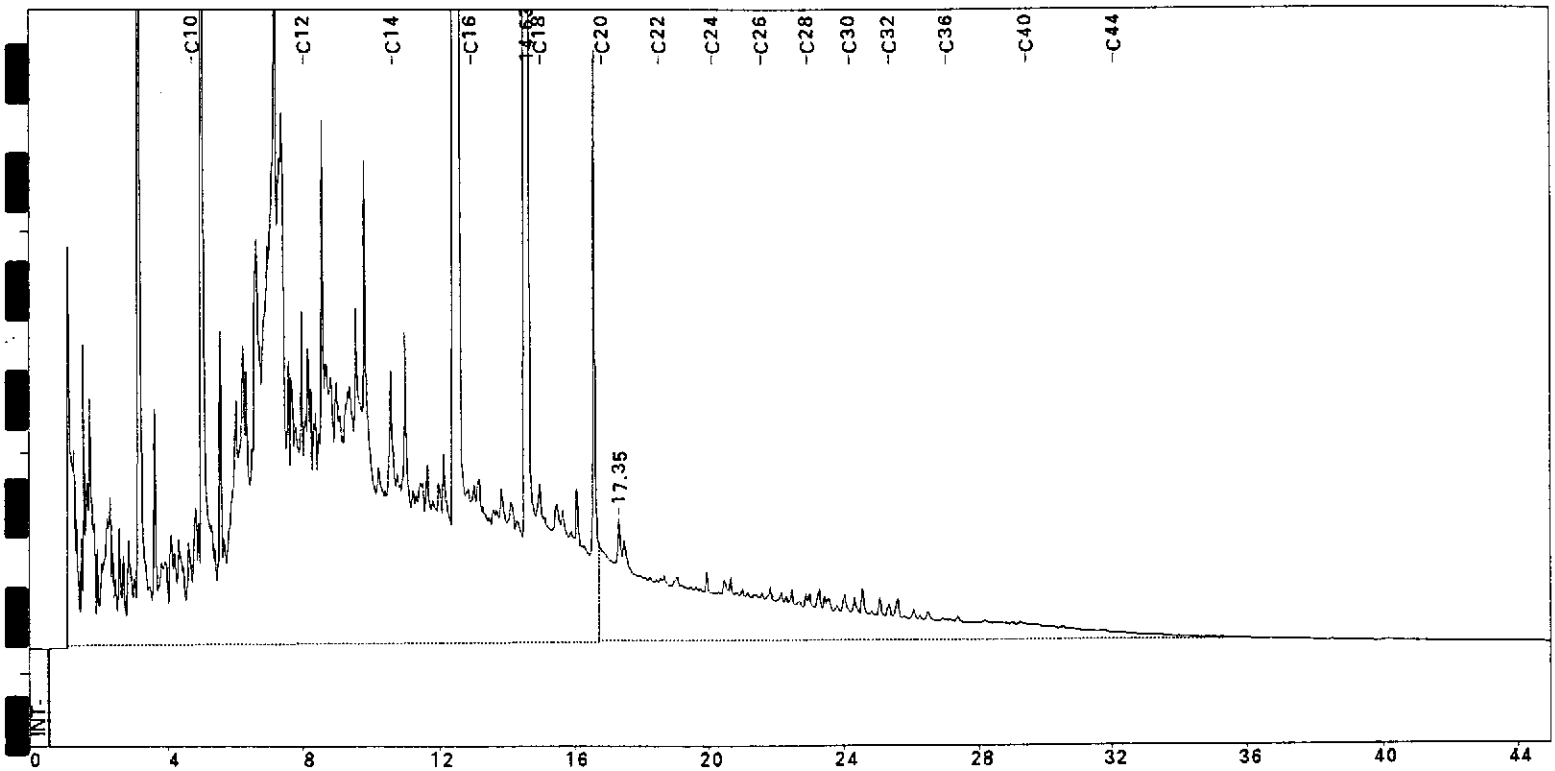
Total Area = 4.860293E+07; Instrument Actual Amount = 1503.005 PPM

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS = 32.07745mg/kg (ppm)

OR 32077.45 ug/L (ppb)

File: M:\CP\GC-7\U08E$.24R

File=M:\CP\GC-7\U08E$.25R Date printed=05-11-1995 Time= 14:56:40
Sample Name=9504359-03E 20X
.0 to 45.0 min. Low Y=-50.0 High Y=320.0 mv Span=370.0



Clayton Environmental Consultants, Pleasanton, California

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Printed: 05-11-1995_14:56:45

Sample Name: **9504359-03E 20X**

Date: 05-09-1995 19:02:38

Dilution Factor: 20

Operator: GUD

Sample Weight: 1035.93

Instrument:02893 HP5890(BACK)

Area Rejected: 100

EXTERNAL_STD Calibrated

Data File: **M:\CP\GC-7\U08E$.25R** Cycle# **25**

Method File: !!!!M:\CP\GC-7\UD2.MET..ver# -3 . 02/24/95 17:11:58

Calibr File: !!!!M:\CP\GC-7\UD2.CAL..ver# -32.

Analysis: **TPH EXT TEMP 50C(3') 10C/M 310C(10') 2UL**

Miscl.

|Mod 05-10-1995 18:49:48

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Pk#	Ret time (min)	Peak Name	Amount PPM	Peak Area	Peak Type	Peak Height	Ref Pk	Amount /Area
1	14.625		59.4097	99508360	BB	957940		0.5970E-06
2	17.354		9.8369	16476404	BB	61051		0.5970E-06

Total Area = 1.159848E+08; Instrument Actual Amount = 3586.732 PPM

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS = 69.2466mg/kg (ppm)

OR 69246.6 ug/L (ppb)

File: M:\CP\GC-7\U08E$.25R

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

June 23, 1995

Mr. Brady Nagle
ALISTO ENGINEERING GROUP
1575 Treat Blvd., Suite 201
Walnut Creek, CA 94588

ADDITIONAL/REVISED REPORT
Client Ref.: 10-250-02-003
Clayton Project No.: 95043.59

Dear Mr. Nagle:

Attached is our additional analytical laboratory report for the samples received on April 27, 1995 and originally reported on May 17, 1995. As requested by Phil Cherry, BTEX results have been provided for Samples QC-1 and QC-2.

Also included in this report is revised report page 21. Please note that no results have been changed, but a footnote has been added concerning the holding times for the TPH Gas analysis. This footnote has also been added to page 2 of this additional report. The original analyses for these samples were performed within holding time; however, because of the multiple dilutions required by these sample concentrations, the final analysis was outside of holding times.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Harriotte A. Hurley, CIH
Director, Laboratory Services
San Francisco Regional Office

HAH/tjb

Attachments

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	QC-1	Date Sampled:	04/25/95
Lab Number:	9504359-04A	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Prepared:	05/10/95
Preparation Method:	EPA 5030	Date Analyzed:	05/10/95
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	120	0.4
Ethylbenzene	100-41-4	78	0.3
Toluene	108-88-3	630	0.3
o-Xylene	95-47-6	160	0.4
p,m-Xylenes	--	290	0.4
Gasoline	--	5600	50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	113	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Sample analyzed past recommended holding times for this analysis due to dilution necessary for quantitation.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	QC-2	Date Sampled:	04/25/95
Lab Number:	9504359-05A	Date Received:	04/27/95
Sample Matrix/Media:	WATER	Date Prepared:	05/05/95
Preparation Method:	EPA 5030	Date Analyzed:	05/05/95
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	104	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-250-02-003
Clayton Project No. 95043.59

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9504359-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	05/05/95
Preparation Method:	EPA 5030	Date Analyzed:	05/05/95
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	110	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable