PORT OF OAKLAND

June 2, 1995

Jennifer Eberle
Department of Environmental Health
Alameda County Health
Care Services Agency
1131 Harbor Bay Pkwy #250
Alameda, CA 94502-6577

EF 6, 7, 8, 9

SUBJECT: GROUNDWATER SAMPLING REPORT AT THE AMERICAN PRESIDENT LINES TERMINAL, 1395 MIDDLE HARBOR ROAD, OAKLAND, CALIFORNIA

Dear Ms. Eberle:

Enclosed please find the semi-annual groundwater sampling report for the American President Lines Terminal (Berth 60 - 63). This site was the location of an underground storage tank removal and is the County's project #STID 3777.

If you have any questions or need additional information, please contact me at 272-1118.

Sincerely,

Susa Gates
Associate Environmental Scientist

SG\jb

Enclosure

cc: Neil Werner
John DeGeorge (Alisto Engineering)

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GROUNDWATER MONITORING AND SAMPLING REPORT

Port of Oakland
American President Lines Terminal
1395 Middle Harbor Road
Oakland, California

Project No. 10-256-01-001

Prepared for:

Port of Oakland
530 Water Street
Oakland, California

Prepared by:

Alisto Engineering Group
1777 Oakland Boulevard, Suite 200
Walnut Creek, California

May 16, 1995

John DeGeorge
Geologist

Al Sevilla, P.E.
Principal

GROUNDWATER MONITORING AND SAMPLING REPORT

Port of Oakland
American President Lines Terminal
1395 Middle Harbor Road
Oakland, California

Project No. 10-256-01-001

May 16, 1995

INTRODUCTION

This report presents the results and findings of the March 7, 1995 groundwater monitoring and sampling conducted by Alisto Engineering Group at the Port of Oakland, American President Lines Terminal, 1395 Middle Harbor Road, Oakland, California. A site vicinity map is shown in Figure 1.

FIELD PROCEDURES

Field activities were performed in accordance with the procedures and guidelines of Alameda County Health Care Services Agency and the California Regional Water Quality Control Board, San Francisco Bay Region.

Before purging and sampling, the groundwater level in each well was measured from a permanent mark on top of the casing to the nearest 0.01 foot using an electronic sounder. The depth to groundwater and top of casing elevation data were used to calculate the groundwater elevation in each well in reference to mean lower low water. The survey data and groundwater elevation measurements collected to date are presented in Table 1.

Before sample collection, each well was purged of 3 casing volumes while recording field readings of pH, temperature, and electrical conductivity. Groundwater samples were collected for laboratory analysis by lowering a bottom-fill, disposable bailer to just below the water level in each well. The samples were transferred from the bailer into laboratory-supplied containers. The field procedures for groundwater monitoring well sampling and the water sampling field survey forms are presented in Appendix A.

SAMPLING AND ANALYTICAL RESULTS

Clayton Environmental Consultants, a state-certified laboratory, analyzed the groundwater samples for the following:

- Total petroleum hydrocarbons as gasoline (TPH-G) using EPA Method 8015

- Benzene, toluene, ethylbenzene, and total xylenes using EPA Method 8020
- Total petroleum hydrocarbons as diesel (TPH-D) using EPA Method 8015 (modified)
- Total petroleum hydrocarbons as motor oil (TPH-MO) using EPA Method 8015 (modified)
- Total oil and grease (TOG) using EPA Method 5520
- Halogenated volatile organic compounds using EPA Method 8010
- Total dissolved solids (TDS) using EPA Method 160.1

The results of monitoring and laboratory analysis of the groundwater samples for this and previous events are summarized in Tables 1 and 2. The potentiometric groundwater elevations as interpreted from the results of this monitoring event are shown in Figure 2. Concentrations of petroleum hydrocarbons in groundwater are shown in Figure 3. The field procedures for chain of custody documentation and the laboratory report and chain of custody record are presented in Appendix B.

SUMMARY OF FINDINGS

The findings of the March 7, 1995 groundwater monitoring and sampling event are summarized as follows:

- Free product or sheen was not observed in any of the groundwater monitoring wells.
- Groundwater elevation data indicate a gradient of approximately 0.002 foot per foot in a southwesterly direction across the site.
- TPH-G and TOG were not detected above the reported detection limits in samples collected from Monitoring Wells MW-1, MW-2, and MW-3. However, benzene was detected at concentrations of 0.9 and 1.4 micrograms per liter (ug/l) in samples collected from MW-1 and MW-3.
- TPH-D was detected at concentrations of 420, 310, and 330 ug/l in samples collected from MW-1, MW-2, and MW-3.
- TPH-MO was detected at concentrations of 7200, 7100, and 3200 ug/l in samples collected from MW-1, MW-2, and MW-3.
- 1,1-Dichloroethane was detected at a concentration of 1.5 ug/l in the sample collected from MW-1.
- TDS were detected at concentrations ranging from 9000 to 20000 milligrams per liter.

TABLE 1 - SUMMARY OF GROUNDWATER MONITORING AND PETROLEUM HYDROCARBONS IN GROUNDWATER
PORT OF OAKLAND, AMERICAN PRESIDENT LINES TERMINAL
1395 MIDDLE HARBOR ROAD, OAKLAND, CALIFORNIA

ALISTO PROJECT NUMBER 10-256

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (feet)	DEPTH TO WATER (feet)	GROUNDWATER ELEVATION (b) (feet)	TPH-G (ug/l)	TPH-D (ug/l)	TPH-MO (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	TOG (ug/l)	TDS (mg/l)	LAB
MW-1	02/05/93	10.37	---	---	1800	4700	---	9.2	1.6	8.9	2.7	5000	3000	CEC
MW-1	03/08/93	10.37	3.30	7.07	---	---	---	---	---	---	---	---	---	---
MW-1	05/11/93	10.37	3.29	7.08	260	4800	---	3.2	2.3	0.7	0.5	7000	---	CEC
MW-1	08/19/93	10.37	4.10	6.27	60	2300	---	9.0	ND	ND	ND	ND	---	CEC
MW-1	11/24/93	10.37	4.48	5.89	50	280	---	8.8	1.5	ND	3.0	ND	---	CEC
MW-1	02/24/94	10.37	3.51	6.86	360	2000	---	12	ND	2	ND	---	---	CEC
MW-1	06/14/94	10.37	3.54	6.83	ND	ND	---	9.4	ND	ND	0.7	ND	---	CEC
MW-1	08/23/94	10.37	3.32	7.05	80	3000	---	13.0	2.4	ND	9.0	ND	---	CEC
MW-1	11/04/94	10.37	3.52	6.85	ND	1600	---	15	2.4	ND	11.2	ND	---	CEC
MW-1	03/07/95	10.37	3.04	7.33	ND<50	420	7200	1.3	0.4	ND<0.3	ND<0.4	ND<5000	9000	CEC
QC-1 (c)	03/07/95	10.37	---	---	ND<50	---	---	0.9	0.3	ND<0.3	ND<0.4	---	---	CEC
MW-2	02/05/93	10.03	---	---	ND	840	---	ND	ND	ND	ND	2000	23000	CEC
MW-2	03/08/93	10.03	3.45	6.58	---	---	---	---	---	---	---	---	---	---
MW-2	05/11/93	10.03	3.24	6.79	ND	3700	---	ND	ND	ND	ND	ND	---	CEC
MW-2	08/19/93	10.03	3.73	6.30	ND	620	---	ND	ND	ND	ND	ND	---	CEC
MW-2	11/24/93	10.03	4.01	6.02	ND	80	---	ND	ND	ND	ND	ND	---	CEC
MW-2	02/24/94	10.03	3.49	6.54	ND	ND	---	ND	ND	ND	ND	---	---	CEC
MW-2	06/14/94	10.03	3.69	6.34	---	ND	---	---	---	---	---	ND	---	CEC
MW-2	08/23/94	10.03	3.51	6.52	---	620	---	---	---	---	---	ND	---	CEC
MW-2	11/04/94	10.03	3.65	6.38	---	1400	---	---	---	---	---	ND	---	CEC
MW-2	03/07/95	10.03	3.01	7.02	ND<50	310	7100	ND<0.4	ND<0.3	ND<0.3	ND<0.4	ND<5000	20000	CEC
MW-3	02/05/93	9.84	---	---	ND	3400	---	2.1	0.9	1.7	3.1	2000	1600	CEC
MW-3	03/08/93	9.84	3.08	6.76	---	---	---	---	---	---	---	---	---	---
MW-3	05/11/93	9.84	2.89	6.95	ND	3300	---	ND	ND	ND	ND	ND	---	CEC
MW-3	08/19/93	9.84	3.50	6.34	ND	840	---	ND	ND	ND	ND	ND	---	CEC
MW-3	11/24/93	9.84	3.79	6.05	ND	100	---	ND	ND	ND	ND	ND	---	CEC
MW-3	02/24/94	9.84	3.08	6.76	ND	890	---	ND	ND	ND	ND	---	---	CEC
MW-3	06/14/94	9.84	3.41	6.43	---	440	---	ND	ND	ND	ND	ND	---	CEC
MW-3	08/23/94	9.84	3.22	6.62	---	ND	---	ND	ND	ND	ND	ND	---	CEC
MW-3	11/04/94	9.84	3.51	6.33	---	630	---	ND	ND	ND	ND	ND	---	CEC
MW-3	03/07/95	9.84	2.69	7.15	ND<50	330	3200	1.4	ND<0.3	ND<0.3	ND<0.4	ND<5000	12000	CEC
QC-2 (d)	03/07/95	---	---	---	ND<50	---	---	ND<0.4	ND<0.3	ND<0.3	ND<0.4	---	---	CEC

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
TPH-D	Total petroleum hydrocarbons as diesel
TPH-MO	Total petroleum hydrocarbons as motor oil
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
TOG	Total oil and grease
TDS	Total dissolved solids
ug/l	Micrograms per liter
mg/l	Milligrams per liter
---	Not analyzed/applicable
ND	Not detected above reported detection limit
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.

TABLE 2 - SUMMARY OF HALOGENATED VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER
PORT OF OAKLAND, AMERICAN PRESIDENT LINES TERMINAL
1395 MIDDLE HARBOR ROAD, OAKLAND, CALIFORNIA

ALISTO PROJECT NUMBER 10-256

WELL ID	DATE OF SAMPLING	1,1-DCA (ug/l)	1,2-DCA (ug/l)	1,1-DCE (ug/l)	1,2-DCE (ug/l)	Cis-1,2-DCE (ug/l)	1,2-DCB (ug/l)	1,4-DCB (ug/l)	VC (ug/l)	LAB
MW-1	02/05/93	0.8	ND	ND	ND	ND	ND	ND	ND	CEC
MW-1	05/11/93	0.6	ND	ND	ND	ND	ND	ND	ND	CEC
MW-1	08/19/93	2.0	ND	2.0	ND	ND	ND	ND	ND	CEC
MW-1	11/24/93	0.7	ND	ND	ND	ND	ND	ND	ND	CEC
MW-1	02/24/94	2.0	ND	ND	ND	ND	ND	ND	ND	CEC
MW-1	06/14/94	1.0	ND	ND	ND	ND	ND	ND	ND	CEC
MW-1	08/23/94	2.3	0.3	ND	0.4	ND	ND	ND	1.1	CEC
MW-1	11/04/94	2.2	0.8	ND	ND	ND	ND	ND	0.7	CEC
MW-1	03/07/95	1.5	ND	ND	ND	ND	ND	ND	ND	CEC
MW-2	02/05/93	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-2	05/11/93	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-2	08/19/93	ND	ND	ND	ND	ND	1.0	3.0	ND	CEC
MW-2	11/24/93	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-2	02/24/94	ND	ND	ND	ND	ND	ND	1.0	ND	CEC
MW-2	06/14/94	ND	ND	ND	ND	ND	ND	0.8	ND	CEC
MW-2	08/23/94	ND	ND	ND	0.4	ND	ND	1.3	ND	CEC
MW-2	11/04/94	ND	ND	ND	2.2	ND	ND	0.9	ND	CEC
MW-2	03/07/95	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-3	02/05/93	ND	ND	ND	ND	0.4	ND	ND	ND	CEC
MW-3	05/11/93	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-3	08/19/93	ND	ND	ND	ND	ND	ND	1.0	ND	CEC
MW-3	11/24/93	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-3	02/24/94	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-3	06/14/94	ND	ND	ND	ND	ND	ND	0.6	ND	CEC
MW-3	08/23/94	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-3	11/04/94	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-3	03/07/95	ND	ND	ND	ND	ND	ND	ND	ND	CEC

ABBREVIATIONS:

1,1-DCA	1,1-Dichloroethane
1,2-DCA	1,2-Dichloroethane
1,1-DCE	1,1-Dichloroethene
1,2-DCE	1,2-Dichloroethene
Cis-1,2-DCE	Cis-1,2-Dichloroethene
1,2-DCB	1,2-Dichlorobenzene
1,4-DCB	1,4-Dichlorobenzene
VC	Vinyl Chloride
ND	Not detected above reported detection limit
ug/l	Micrograms per liter
CEC	Clayton Environmental Consultants

NOTES:

Method of analysis:	EPA Method 8010
Various detection limits:	See laboratory reports

SOURCE:
USGS MAP, OAKLAND WEST QUADRANGLE,
7.5 MINUTE SERIES. 1959.
PHOTOREVISED 1980.

N

0 1000' 2000'

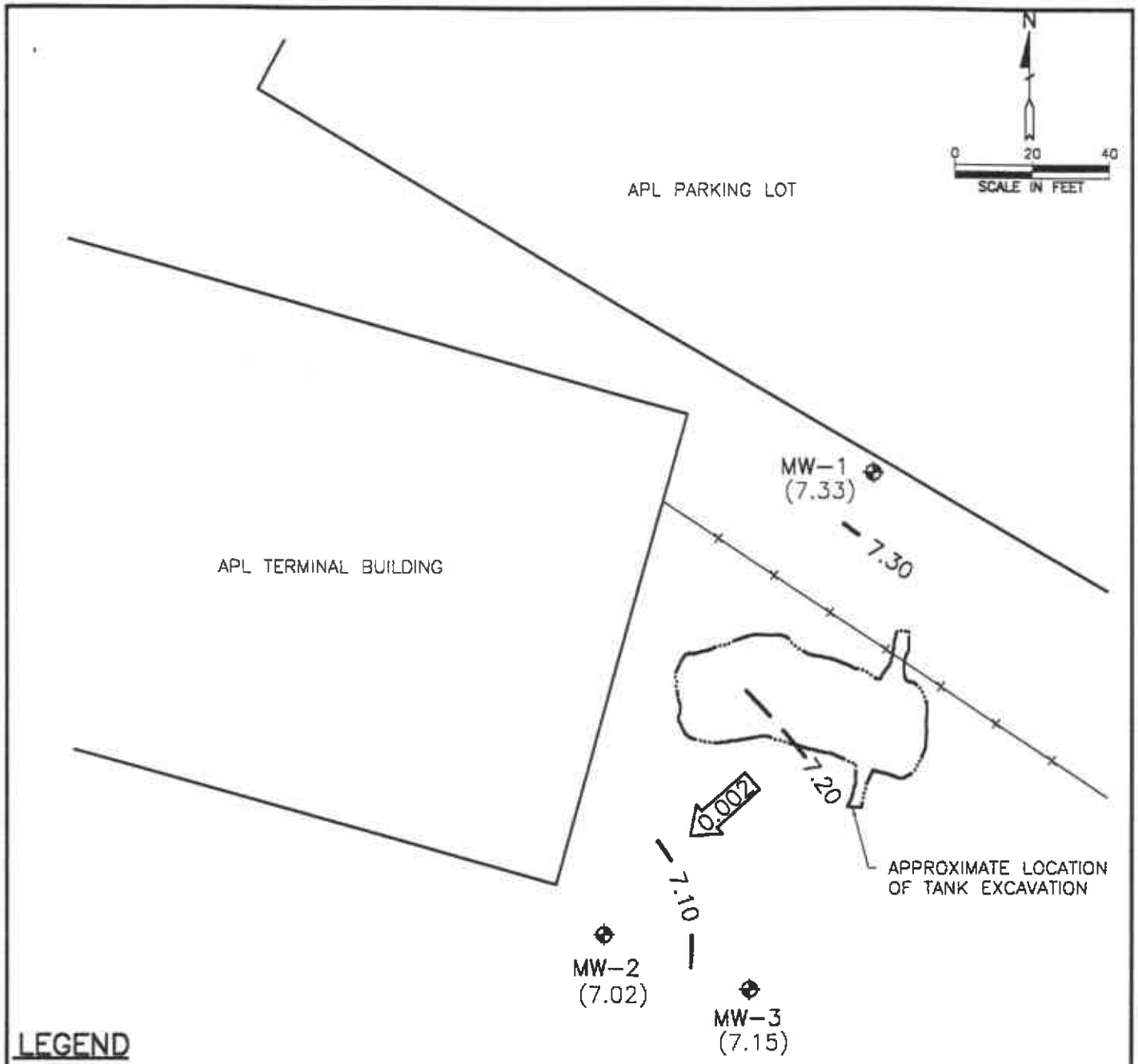
FIGURE 1

SITE VICINITY MAP

PORT OF OAKLAND
AMERICAN PRESIDENT LINES TERMINAL
1395 MIDDLE HARBOR ROAD
OAKLAND, CALIFORNIA

PROJECT NO. 10-256

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA



LEGEND

- ◆ GROUNDWATER MONITORING WELL
- (7.15) GROUNDWATER ELEVATION IN FEET ABOVE MEAN LOWER LOW WATER
- 7.10 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN LOWER LOW WATER (CONTOUR INTERVAL–0.10 FOOT)
- 0.002 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

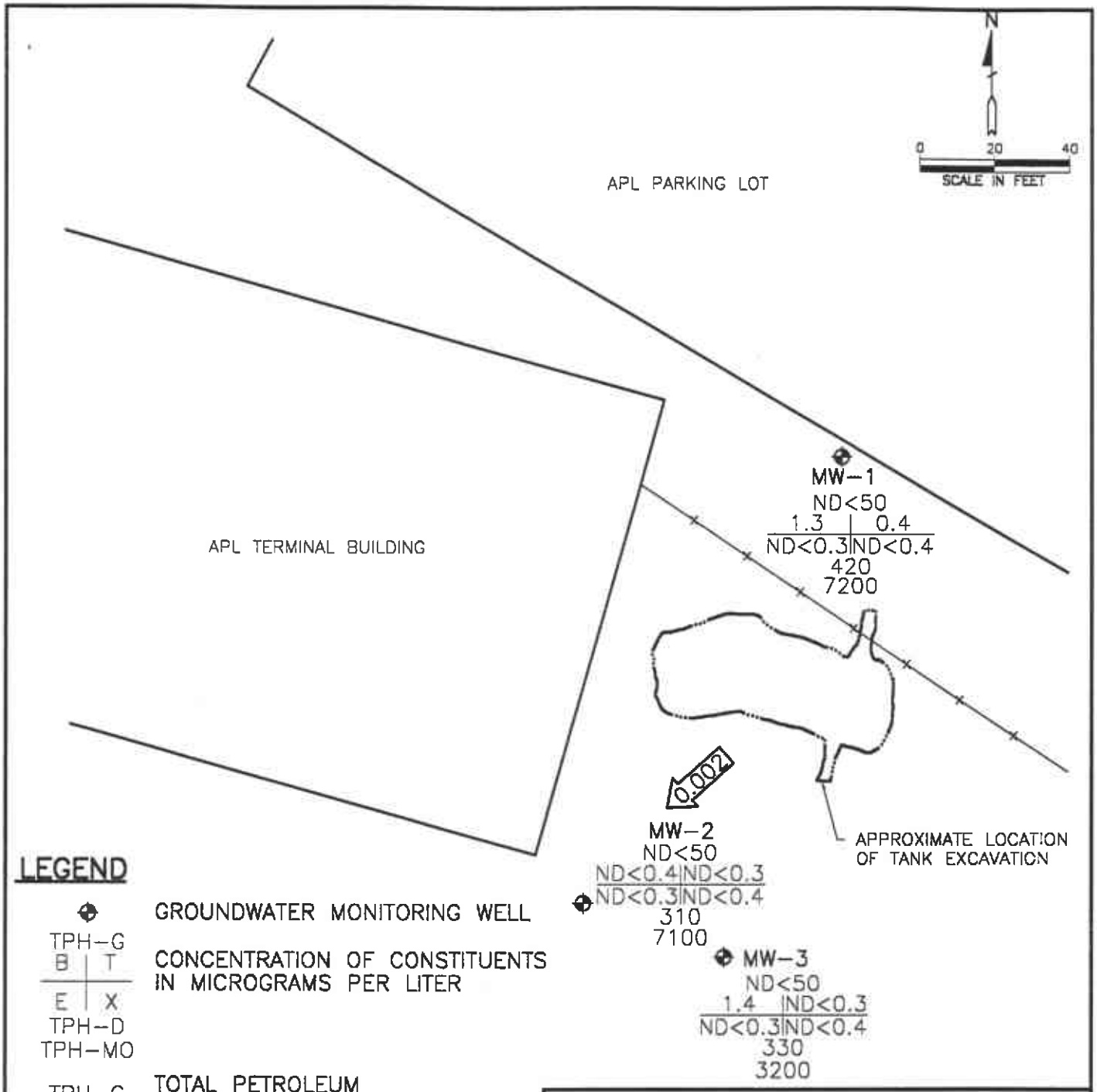
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

MARCH 7, 1995

PORT OF OAKLAND
AMERICAN PRESIDENT LINES TERMINAL
1395 MIDDLE HARBOR ROAD
OAKLAND, CALIFORNIA

PROJECT NO. 10–256

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA



LEGEND

◆	GROUNDWATER MONITORING WELL
TPH-G B | T E | X TPH-D TPH-MO	CONCENTRATION OF CONSTITUENTS IN MICROGRAMS PER LITER
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
TPH-D	TOTAL PETROLEUM HYDROCARBONS AS DIESEL
TPH-MO	TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
0.002	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

MARCH 7, 1995

PORT OF OAKLAND
AMERICAN PRESIDENT LINES TERMINAL
1395 MIDDLE HARBOR ROAD
OAKLAND, CALIFORNIA

PROJECT NO. 10-256

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

APPENDIX A

FIELD PROCEDURES FOR GROUNDWATER MONITORING WELL SAMPLING AND WATER SAMPLING FIELD SURVEY FORMS

FIELD PROCEDURES
FOR
GROUNDWATER MONITORING WELL SAMPLING

Groundwater Level Measurement

Before commencing groundwater sampling, the groundwater level in each well was measured from a marked 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 samples were representative of the aquifer, the wells were purged of 3 well casing volumes before sample collection. This purging was accomplished using a clean bailer or pump.

The groundwater samples were collected using a disposable bailer, and then transferred into laboratory-supplied containers. Care was taken to avoid turbulence when transferring the water samples, and all volatile analysis vials were filled so that no air bubbles were trapped. The sampling technician wore nitrile gloves at all times during purging and well sampling. The samples were labeled with the well number, site identification, date and time of sample collection, and sampler's initials, and transported in an iced cooler maintained at 4 degrees Centigrade to Clayton Environmental Consultants, a state-certified laboratory, following preservation and chain of custody protocol.

ALISTO ENGINEERING GROUP

Field Report / Sampling Data Sheet

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

O Groundwater Sampling

Barometric pres. NA

Date: 3/7/95 Project No. 10-256-01-001
Day: M (T) W Th F Facility No.
Temp. 64°F Address 1395 Middle Harbor Rd
SAMPLER: DC Oakland CA

Well ID	SAMPLE #	WATER, time	Well ID	SAMPLE #	WATER/ time	Well ID	SAMPLE	WATER / time
MW-2	—	3.01 / 1327						
MW-3	—	2.69 / 1331						
MW-1	—	3.04 / 1335						

FIELD INSTRUMENT CALIBRATION DATA

Ph METER Hydac 4.00 ✓ 7.00 ✓ 10.00 ____ TIME 1345 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-2	3.01	2"	replace	Φ	Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
9.65 - 3.01 = 6.64 x .16 = 1.06 x 3 = 3.19

Purge Method: OSurface Pump ODisp.Tube OWinch XDisp. Bailer(s) 1 OSys Port
Comments: Dry @ ≅ 2.5 gallons ; wait for 80% recovery

Gal.	Time	Temp *F	pH	E.C.	D.O.
1	1350	63.2	7.74	720 *	
2	1355	62.8	7.18	720	
3.25	Dry	—	—	—	

O EPA 601 ____
O TPH-G/BTEX ____
O TPH Diesel ____
O TOG 5520 ____
Time/Sample 1405

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence
MW-3	2.69	2"	replaced	Φ	Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
9.57 - 2.69 = 6.88 x .16 = 1.10 x 3 = 3.30

Purge Method: OSurface Pump ODisp.Tube OWinch XDisp. Bailer(s) 1 OSys Port
Comments: Dry @ ≅ 2.75 gallons ; wait for 80% recovery

Gal.	Time	Temp *F	pH	E.C.	D.O.
1	1429	62.3	7.61	10.01	
2	1433	61.9	7.27	15.18	
3.5	Dry	—	—	—	

O EPA 601 ____
O TPH-G/BTEX ____
O TPH Diesel ____
O TOG 5520 ____
Time/ Sample 1450

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence
MW-1	3.04	2"	OK	Φ	Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
9.64 - 3.04 = 6.60 x .16 = 1.06 x 3 = 3.19

Purge Method: OSurface Pump ODisp.Tube OWinch XDisp. Bailer(s) 1 OSys Port
Comments: QC-1 from this well ; dry @ ≅ 2.75 gallons ; wait for 80% recovery

Gal.	Time	Temp *F	pH	E.C.	D.O.
1	1505	63.2	7.41	9.80	
2	1510	62.7	7.39	14.33	
3.25	—	—	—	—	
2.75	gallons	; wait	for 80%	recovery	

O EPA 601 ____
O TPH-G/BTEX ____
O TPH Diesel ____
O TOG 5520 ____
Time /Sample 1535

* Conductivity units are MS/cm x 1000

* MW-2 & MW-3 need new well box lids (MW-2 is cracked) while MW-3 is broken. 12 is 7" diameter AY McDonald

APPENDIX B

FIELD PROCEDURES FOR CHAIN OF CUSTODY DOCUMENTATION, LABORATORY REPORT, AND CHAIN OF CUSTODY RECORD

FIELD PROCEDURES
FOR
CHAIN OF CUSTODY DOCUMENTATION

All samples were handled in accordance with the California Department of Health Services guidelines. Samples were labeled in the field and immediately stored in coolers and preserved with blue 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 and time 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

March 22, 1995

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

Client Ref.: 10-256-01-001
Clayton Project No.: 95031.28

Dear Mr. De George:

Attached is our analytical laboratory report for the samples received on March 8, 1995. 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 April 21, 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/caa

Attachments

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	MW-2	Date Sampled:	03/07/95
Lab Number:	9503128-01E	Date Received:	03/08/95
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Halocarbons			
Bromodichloromethane	75-27-4	ND	0.7
Bromoform	75-25-2	ND	0.7
Bromomethane	74-83-9	ND	0.7
Carbon tetrachloride	56-23-5	ND	0.6
Chlorobenzene	108-90-7	ND	0.7
Chloroethane	75-00-3	ND	0.5
2-Chloroethylvinyl ether	110-75-8	ND	1
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.6
Dibromochloromethane	124-48-1	ND	0.6
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
Dichlorodifluoromethane	75-71-8	ND	1
1,1-Dichloroethane	75-34-3	ND	0.4
1,2-Dichloroethane	107-06-2	ND	0.3
1,1-Dichloroethene	75-35-4	ND	0.2
cis-1,2-Dichloroethene	156-59-2	ND	0.4
trans-1,2-Dichloroethene	156-60-5	ND	0.4
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	0.6
Freon 113	76-13-1	ND	0.6
Methylene chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trichloroethene	79-01-6	ND	0.3
Trichlorofluoromethane	75-69-4	ND	0.4

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	MW-2	Date Sampled:	03/07/95
Lab Number:	9503128-01E	Date Received:	03/08/95
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Halocarbons (Continued)			
Vinyl chloride	75-01-4	ND	0.5
Surrogates		Recovery (%)	QC Limits (%)
1-Chloro-2-methylpropene	513-37-1	76	70 - 130

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

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	MW-3	Date Sampled:	03/07/95
Lab Number:	9503128-02E	Date Received:	03/08/95
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Halocarbons			
Bromodichloromethane	75-27-4	ND	0.7
Bromoform	75-25-2	ND	0.7
Bromomethane	74-83-9	ND	0.7
Carbon tetrachloride	56-23-5	ND	0.6
Chlorobenzene	108-90-7	ND	0.7
Chloroethane	75-00-3	ND	0.5
2-Chloroethylvinyl ether	110-75-8	ND	1
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.6
Dibromochloromethane	124-48-1	ND	0.6
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
Dichlorodifluoromethane	75-71-8	ND	1
1,1-Dichloroethane	75-34-3	ND	0.4
1,2-Dichloroethane	107-06-2	ND	0.3
1,1-Dichloroethene	75-35-4	ND	0.2
cis-1,2-Dichloroethene	156-59-2	ND	0.4
trans-1,2-Dichloroethene	156-60-5	ND	0.4
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	0.6
Freon 113	76-13-1	ND	0.6
Methylene chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trichloroethene	79-01-6	ND	0.3
Trichlorofluoromethane	75-69-4	ND	0.4

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	MW-3	Date Sampled:	03/07/95
Lab Number:	9503128-02E	Date Received:	03/08/95
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Halocarbons (Continued)			
Vinyl chloride	75-01-4	ND	0.5
Surrogates		Recovery (%)	QC Limits (%)
1-Chloro-2-methylpropene	513-37-1	85	70 - 130

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

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	MW-1	Date Sampled:	03/07/95
Lab Number:	9503128-03E	Date Received:	03/08/95
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Halocarbons			
Bromodichloromethane	75-27-4	ND	0.7
Bromoform	75-25-2	ND	0.7
Bromomethane	74-83-9	ND	0.7
Carbon tetrachloride	56-23-5	ND	0.6
Chlorobenzene	108-90-7	ND	0.7
Chloroethane	75-00-3	ND	0.5
2-Chloroethylvinyl ether	110-75-8	ND	1
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.6
Dibromochloromethane	124-48-1	ND	0.6
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
Dichlorodifluoromethane	75-71-8	ND	1
1,1-Dichloroethane	75-34-3	1.5	0.4
1,2-Dichloroethane	107-06-2	ND	0.3
1,1-Dichloroethene	75-35-4	ND	0.2
cis-1,2-Dichloroethene	156-59-2	ND	0.4
trans-1,2-Dichloroethene	156-60-5	ND	0.4
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	0.6
Freon 113	76-13-1	ND	0.6
Methylene chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trichloroethene	79-01-6	ND	0.3
Trichlorofluoromethane	75-69-4	ND	0.4

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	MW-1	Date Sampled:	03/07/95
Lab Number:	9503128-03E	Date Received:	03/08/95
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Halocarbons (Continued)			
Vinyl chloride	75-01-4	ND	0.5
Surrogates		Recovery (%)	QC Limits (%)
1-Chloro-2-methylpropene	513-37-1	85	70 - 130

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

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9503128-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Halocarbons			
Bromodichloromethane	75-27-4	ND	0.7
Bromoform	75-25-2	ND	0.7
Bromomethane	74-83-9	ND	0.7
Carbon tetrachloride	56-23-5	ND	0.6
Chlorobenzene	108-90-7	ND	0.7
Chloroethane	75-00-3	ND	0.5
2-Chloroethylvinyl ether	110-75-8	ND	1
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.6
Dibromochloromethane	124-48-1	ND	0.6
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
Dichlorodifluoromethane	75-71-8	ND	1
1,1-Dichloroethane	75-34-3	ND	0.4
1,2-Dichloroethane	107-06-2	ND	0.3
1,1-Dichloroethene	75-35-4	ND	0.2
cis-1,2-Dichloroethene	156-59-2	ND	0.4
trans-1,2-Dichloroethene	156-60-5	ND	0.4
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	0.6
Freon 113	76-13-1	ND	0.6
Methylene chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trichloroethene	79-01-6	ND	0.3
Trichlorofluoromethane	75-69-4	ND	0.4

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9503128-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
Purgeable Halocarbons (Continued)			
Vinyl chloride	75-01-4	ND	0.5
Surrogates		Recovery (%)	QC Limits (%)
1-Chloro-2-methylpropene	513-37-1	83	70 - 130

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

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	MW-2	Date Sampled:	03/07/95
Lab Number:	9503128-01A	Date Received:	03/08/95
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8015/8020	Analyst:	NAN

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 (%)
1,4-Difluorobenzene	540-36-3	92	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: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	MW-3	Date Sampled:	03/07/95
Lab Number:	9503128-02A	Date Received:	03/08/95
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8015/8020	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	1.4	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 (%)
1,4-Difluorobenzene	540-36-3	90	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: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	MW-1	Date Sampled:	03/07/95
Lab Number:	9503128-03A	Date Received:	03/08/95
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8015/8020	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	1.3	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	0.4	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
Surrogates		Recovery (%)	QC Limits (%)
1,4-Difluorobenzene	540-36-3	90	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: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	QC-1	Date Sampled:	03/07/95
Lab Number:	9503128-04A	Date Received:	03/08/95
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8015/8020	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	0.9	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	0.3	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
Surrogates		Recovery (%)	QC Limits (%)
1,4-Difluorobenzene	540-36-3	93	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: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	QC-2	Date Sampled:	03/07/95
Lab Number:	9503128-05A	Date Received:	03/08/95
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8015/8020	Analyst:	NAN

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 (%)
1,4-Difluorobenzene	540-36-3	90	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: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9503128-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	03/21/95
Preparation Method:	EPA 5030	Date Analyzed:	03/21/95
Method Reference:	EPA 8015/8020	Analyst:	NAN

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 (%)
1,4-Difluorobenzene	540-36-3	92	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: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification: See Below
Lab Number: 9503128
Sample Matrix/Media: WATER
Extraction Method: SM 5520B
Method Reference: SM 5520F

Date Received: 03/08/95
Date Extracted: 03/14/95
Date Analyzed: 03/17/95

Lab Number	Sample Identification	Date Sampled	Hydrocarbons (mg/L)	Method Detection Limit (mg/L)
-01	MW-2	03/07/95	ND	5
-02	MW-3	03/07/95	ND	5
-03	MW-1	03/07/95	ND	5
-06	METHOD BLANK	--	ND	5

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

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification: See Below
Lab Number: 9503128
Sample Matrix/Media: WATER
Extraction Method: EPA 3510
Method Reference: EPA 8015 (Modified)

Date Received: 03/08/95
Date Extracted: 03/13/95
Date Analyzed: 03/19/95

Lab Number	Sample Identification	Date Sampled	TPH-D (ug/L)		Method Detection Limit (ug/L)
-01	MW-2	03/07/95	2800	a	50
-02	MW-3	03/07/95	1700	a	50
-03	MW-1	03/07/95	2400	a	50
-06	METHOD BLANK	--	ND		50

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

TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.
a Sample does not match the typical diesel pattern.
Sample appears to be oil.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification: See Below
Lab Number: 9503128
Sample Matrix/Media: WATER
Method Reference: EPA 160.1

Date Received: 03/08/95
Date Analyzed: 03/13/95

Lab Number	Sample Identification	Date Sampled	Total Dissolved Solids (mg/L)	Method Detection Limit (mg/L)
-01	MW-2	03/07/95	20000	10
-02	MW-3	03/07/95	12000	10
-03	MW-1	03/07/95	9000	10
-06	METHOD BLANK	--	<10	10

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

Clayton
ENVIRONMENTAL CONSULTANTS

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page 1 of 1
Project No.	
Batch No.	9503128
Ind. Code	W.P.
Date Logged In 3/10/95	By KD

REPORT RESULTS TO
Name: John De George — Title: Project Geologist — Dept.:
Company: Alisto Engineering
Mailing Address: 1777 Oakland Blvd
City, State, Zip: Walnut Creek CA 94596
Telephone No. (510) 295 1650 — Telefax No. (510) 295 1823

Purchase Order No. — Client Job No. 10-256-01-001

SEND INVOICE TO
Name: Susan Gates
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.) "295-1650"

* Explanation of Preservative: P: Hcl

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	Gas BTEX	TPH-Diesel	HVOC by 8010	TOG (5520 FW)	TDS						FOR LAB USE ONLY
MW-2	3/7/95	H2O	4@ 1L, 1250 ml, 4@ 40ml vials	9	X P	X P	X P	X P	X						01A-I
MW-3	↓	↓	↓	9	↓	↓	↓	↓	↓						02
MW-1	↓	↓	↓	9	↓	↓	↓	↓	↓						03
QC-1	↓	↓	2-40 ml glass	2	↓										04 A,B
QC-2	↓	↓	↓	2	↓										05

CHAIN OF CUSTODY
Collected by: David Cronin (print) — Collector's Signature: [signature]
Relinquished by: [signature] — Date/Time 3/8/95 @ 1325 — Received by: [signature] Mitchell — Date/Time 3/8/95 @ 1325
Relinquished by: [signature] Mitchell — Date/Time 3/8/95 @ 1645 — Received at Lab by: Carol Hammerberg — Date/Time 3/8/95 4:45
Method of Shipment: CEC Courier — Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: John De George — Date 3-8-95
(Client Signature Must Accompany Request)

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

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

2/92

Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

May 15, 1995

Mr. John DeGeorge
ALISTO ENGINEERING GROUP
1575 Treat Blvd., Suite 201
Walnut Creek, CA 94588

ADDITIONAL REPORT
Client Ref.: 10-256-01-001
Clayton Project No.: 95031.28

Dear Mr. DeGeorge:

Attached is our additional analytical laboratory report for the samples received on March 8, 1995 and originally reported on March 22, 1995. As requested on April 26, 1995, we have quantitated Samples MW-1, MW-2, and MW-3 as TPH-Diesel and TPH-Oil. The diesel chromatograms for these samples are also attached.

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/caa

Attachments

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-256-01-001
Clayton Project No. 95031.28

Sample Identification: See Below
Lab Number: 9503128
Sample Matrix/Media: WATER
Extraction Method: EPA 3510
Method Reference: EPA 8015 (Modified)

Date Received: 03/08/95
Date Extracted: 03/13/95
Date Analyzed: 03/19/95

Lab Number	Sample Identification	Date Sampled	TPH-D (ug/L)	Method Detection Limit (ug/L)
-01	MW-2	03/07/95	310	50
-02	MW-3	03/07/95	330	50
-03	MW-1	03/07/95	420	50
-06	METHOD BLANK	--	ND	50

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

TPH-D = Extractable petroleum hydrocarbons from C10 to C20 quantitated as diesel.

Analytical Results
for
Alisto Engineering Group
Client Reference: 10-253-01-001
Clayton Project No. 95031.27

Sample Identification: See Below
Lab Number: 9503127
Sample Matrix/Media: WATER
Extraction Method: EPA 3510
Method Reference: EPA 8015 (Modified)

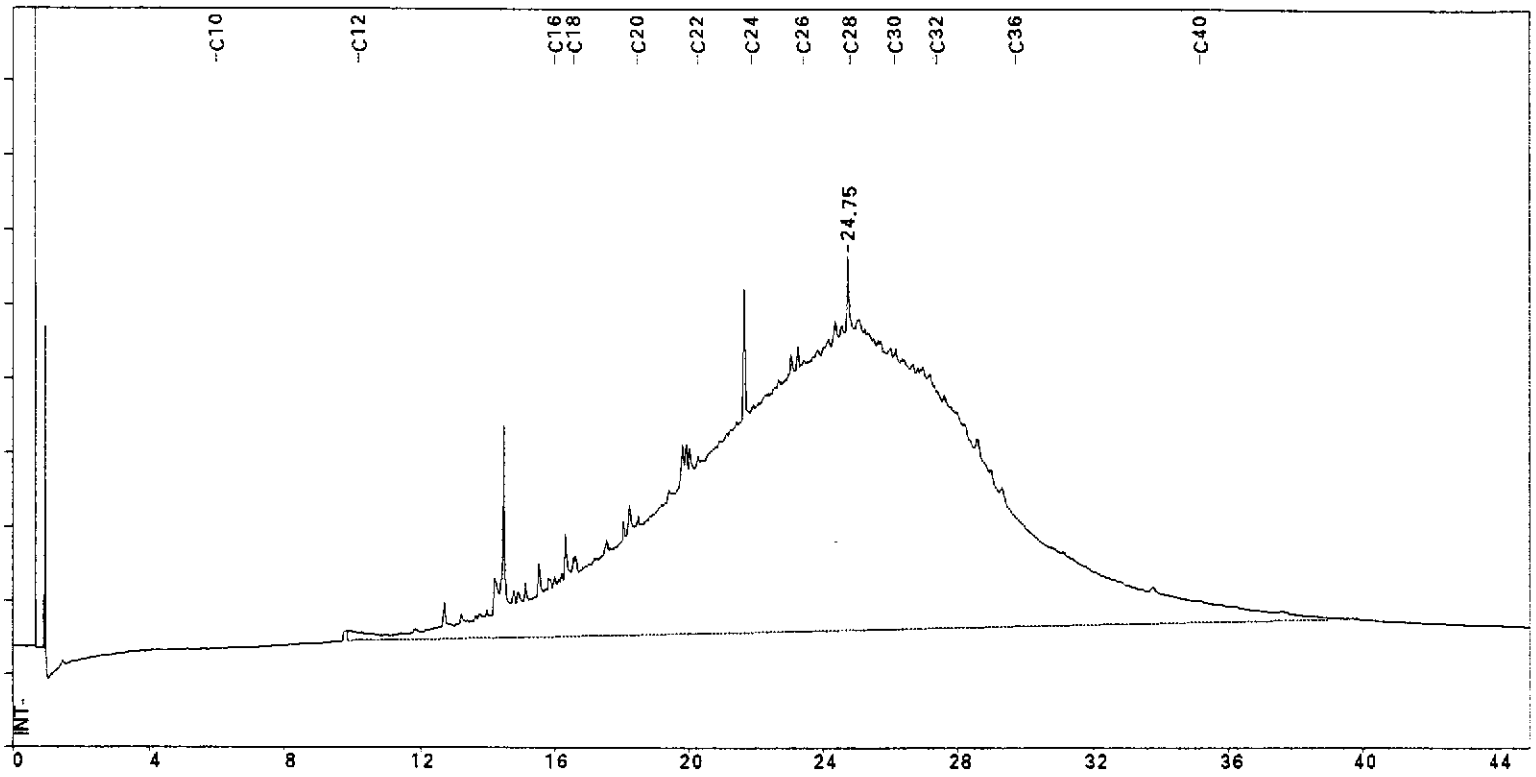
Date Received: 03/08/95
Date Extracted: 03/13/95
Date Analyzed: 03/18/95

Lab Number	Sample Identification	Date Sampled	TPH-O (ug/L)	Method Detection Limit (ug/L)
-01	MW-1	03/07/95	7200	200
-02	MW-2	03/07/95	7100	200
-03	MW-3	03/07/95	3200	200
-06	METHOD BLANK	--	ND	200

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

TPH-O = Extractable petroleum hydrocarbons from C20 to C42 quantitated as motor oil.

File=M:\CP\GC-1\Y17C$.46R Date printed=03-21-1995 Time= 20:30:24
Sample Name=9503128-01C
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: 03-21-1995_20:30:29

Sample Name: **9503128-01C**

Date: 03-19-1995 02:47:20

Dilution Factor: 1
Operator: FK

Sample Weight: 1055

Instrument:02883 FRONT (Y)

Area Rejected: 100
EXTERNAL_STD Calibrated

Data File: **M:\CP\GC-1\Y17C$.46R** Cycle# **46**
Method File: !M:\CP\GC-1\YD2.MET..ver# -2 . 11/25/94 16:50:20
Calibr File: !M:\CP\GC-1\YDIESEL$.CAL..ver# -9 .
Analysis: **TPH EXT TEMP 80C(6') 10C/M 310C(17') 2UL**
Miscl.

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Pk#	Ret time (min)	Peak Name	Amount PPM	Peak Area	Peak Type	Peak Height	Ref Pk	Amount /Area
1	24.752		2.8430	95149816	BB	187849		0.2988E-07

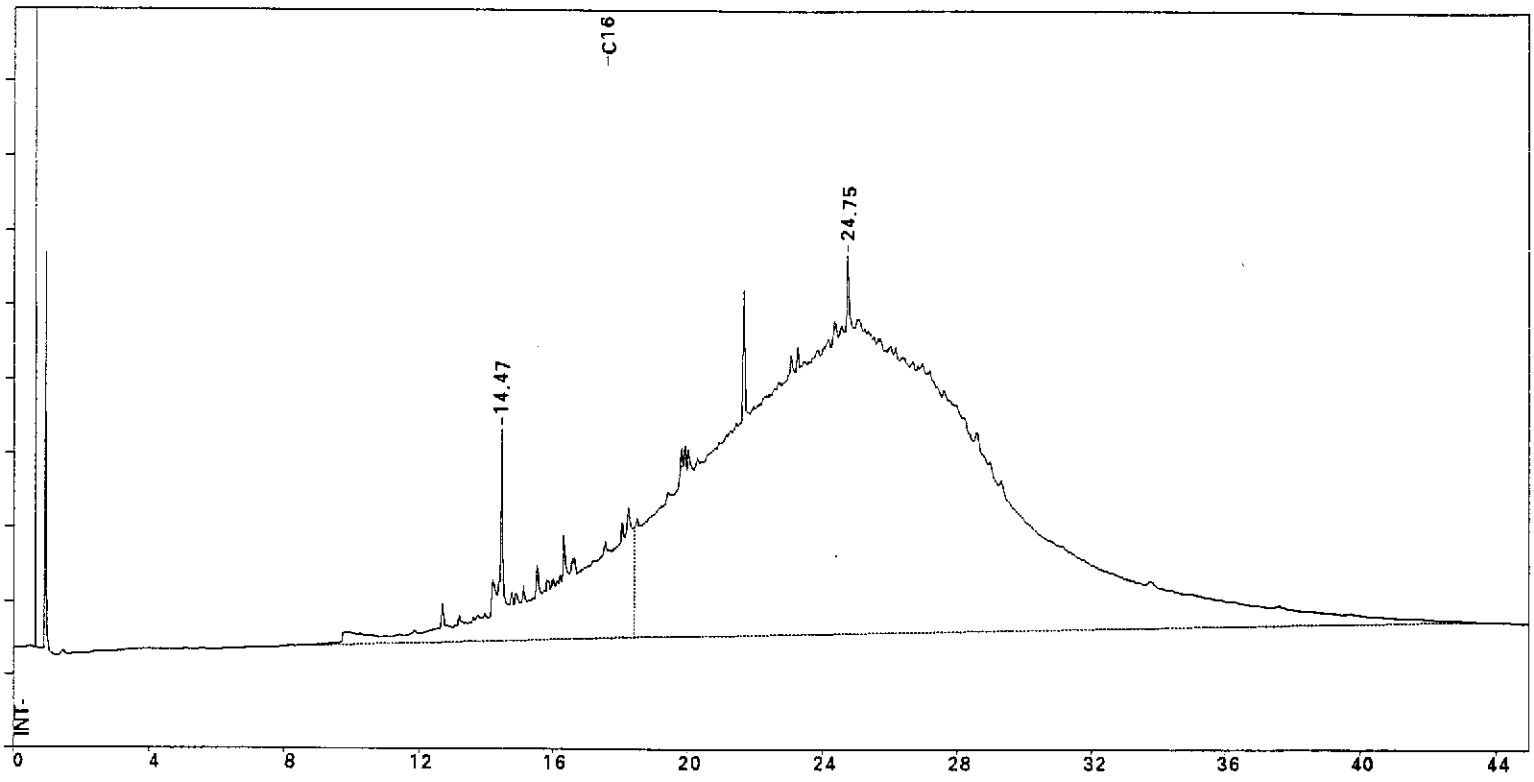
Total Area = 9.514982E+07; Instrument Actual Amount = 2999.316 PPM OK

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS = 2.842953mg/kg (ppm)

OR 2842.953 ug/L (ppb)

File: M:\CP\GC-1\Y17C$.46R

File=M:\CP\GC-1\Y17C$.46R Date printed=05-08-1995 Time= 20:33:28
Sample Name=9503128-01C
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: 05-08-1995_20:33:32

Sample Name: **9503128-01C**

Date: 03-19-1995 02:47:20
Operator: FK

Dilution Factor: 1
Sample Weight: 1055

Instrument:02883 FRONT (Y)
EXTERNAL_STD Calibrated

Area Rejected: 100
Data File: **M:\CP\GC-1\Y17C$.46R** Cycle# **46**
Method File: !M:\CP\GC-1\YD2.MET..ver# -2 . 11/25/94 16:50:20
Calibr File: !M:\CP\GC-1\YDIESEL$.CAL..ver# -39.
Analysis: **TPH EXT TEMP 80C(6') 10C/M 310C(17') 2UL**
Miscl.

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Pk#	Ret time (min)	Peak Name	Amount PPM	Peak Area	Peak Type	Peak Height	Ref Pk	Amount /Area
1	14.465		0.3064	10729145	BB	106706		0.2855E-07
2	24.752		2.5740	90142984	BB	189575		0.2855E-07

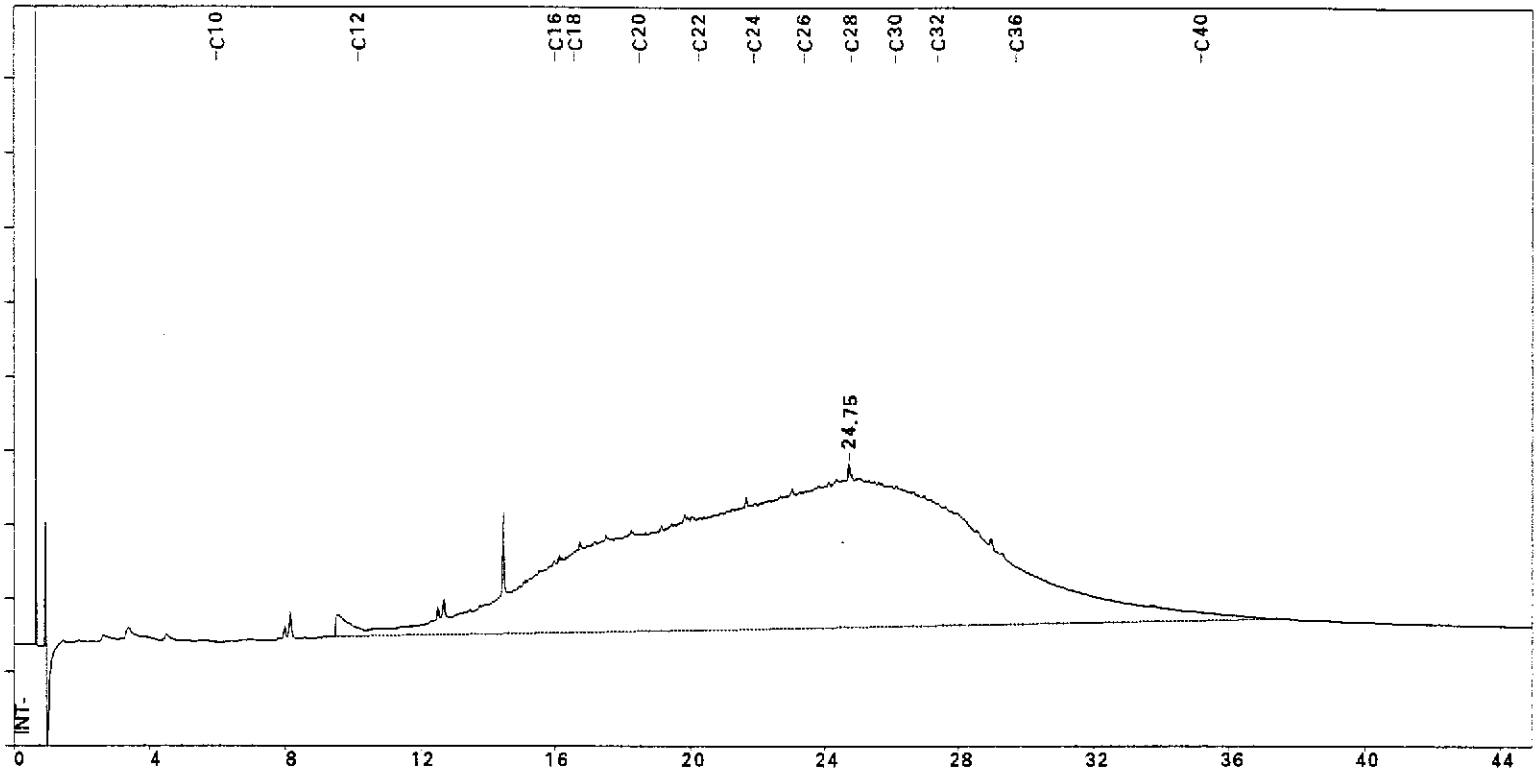
Total Area = 1.008721E+08; Instrument Actual Amount = 3038.79 PPM

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS = 2.880369mg/kg (ppm)

OR 2880.369 ug/L (ppb)

File: M:\CP\GC-1\Y17C$.46R

File=M:\CP\GC-1\Y17C$.47R Date printed=03-21-1995 Time= 20:30:34
Sample Name=9503128-02C
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: 03-21-1995_20:30:38

Sample Name: **9503128-02C**

Date: 03-19-1995 03:37:19

Dilution Factor: 1
Sample Weight: 1052

Operator: FK

Instrument:02883 FRONT (Y)
EXTERNAL_STD Calibrated

Area Rejected: 100
Data File: **M:\CP\GC-1\Y17C$.47R** Cycle# **47**
Method File: !M:\CP\GC-1\YD2.MET..ver# -2 . 11/25/94 16:50:20
Calibr File: !M:\CP\GC-1\YDIESEL$.CAL..ver# -9 .
Analysis: **TPH EXT TEMP 80C(6') 10C/M 310C(17') 2UL**
Miscl.

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Pk#	Ret time (min)	Peak Name	Amount PPM	Peak Area	Peak Type	Peak Height	Ref Pk	Amount /Area
1	24.755		1.7007	56756788	BB	82343		0.2996E-07

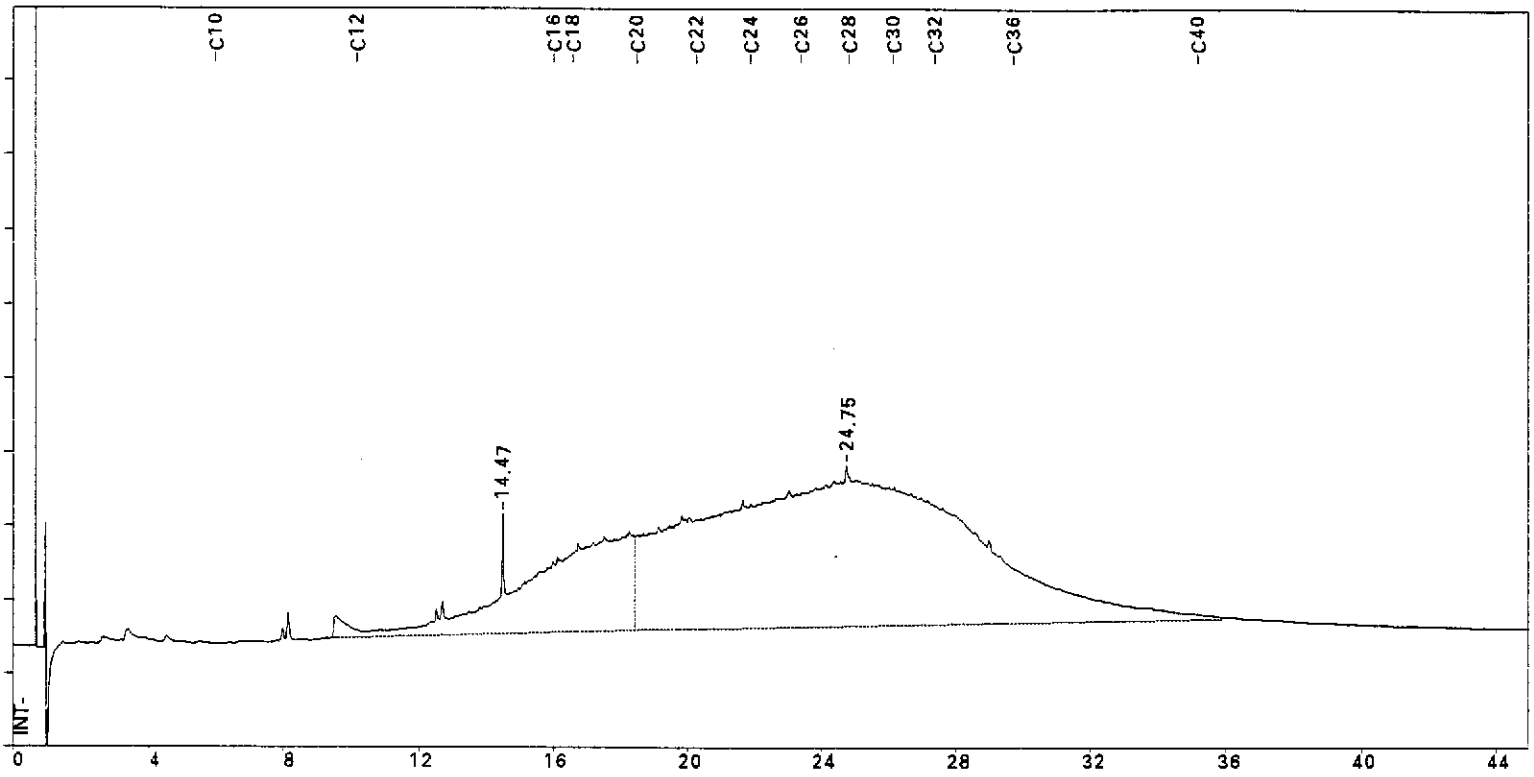
Total Area = 5.675679E+07; Instrument Actual Amount = 1789.09 PPM ok

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS = 1.700655mg/kg (ppm)

OR 1700.656 ug/L (ppb)

File: M:\CP\GC-1\Y17C$.47R

File=M:\CP\GC-1\Y17C$.47R Date printed=05-08-1995 Time= 20:33:37
Sample Name=9503128-02C
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: 05-08-1995_20:33:42

Sample Name: **9503128-02C**

Date: 03-19-1995 03:37:19

Dilution Factor: 1
Operator: FK
Sample Weight: 1052

Instrument:02883 FRONT (Y)
Area Rejected: 100
EXTERNAL_STD Calibrated
Data File: **M:\CP\GC-1\Y17C$.47R** Cycle# **47**
Method File: !!M:\CP\GC-1\YD2.MET..ver# -2 . 11/25/94 16:50:20
Calibr File: !!M:\CP\GC-1\YDIESEL$.CAL..ver# -9 .
Analysis: **TPH EXT TEMP 80C(6') 10C/M 310C(17') 2UL**
Miscl.

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Pk#	Ret time (min)	Peak Name	Amount PPM	Peak Area	Peak Type	Peak Height	Ref Pk	Amount /Area
1	14.466		0.3278	10939673	BB	60381		0.2996E-07
2	24.755		1.3092	43691700	BB	80836		0.2996E-07

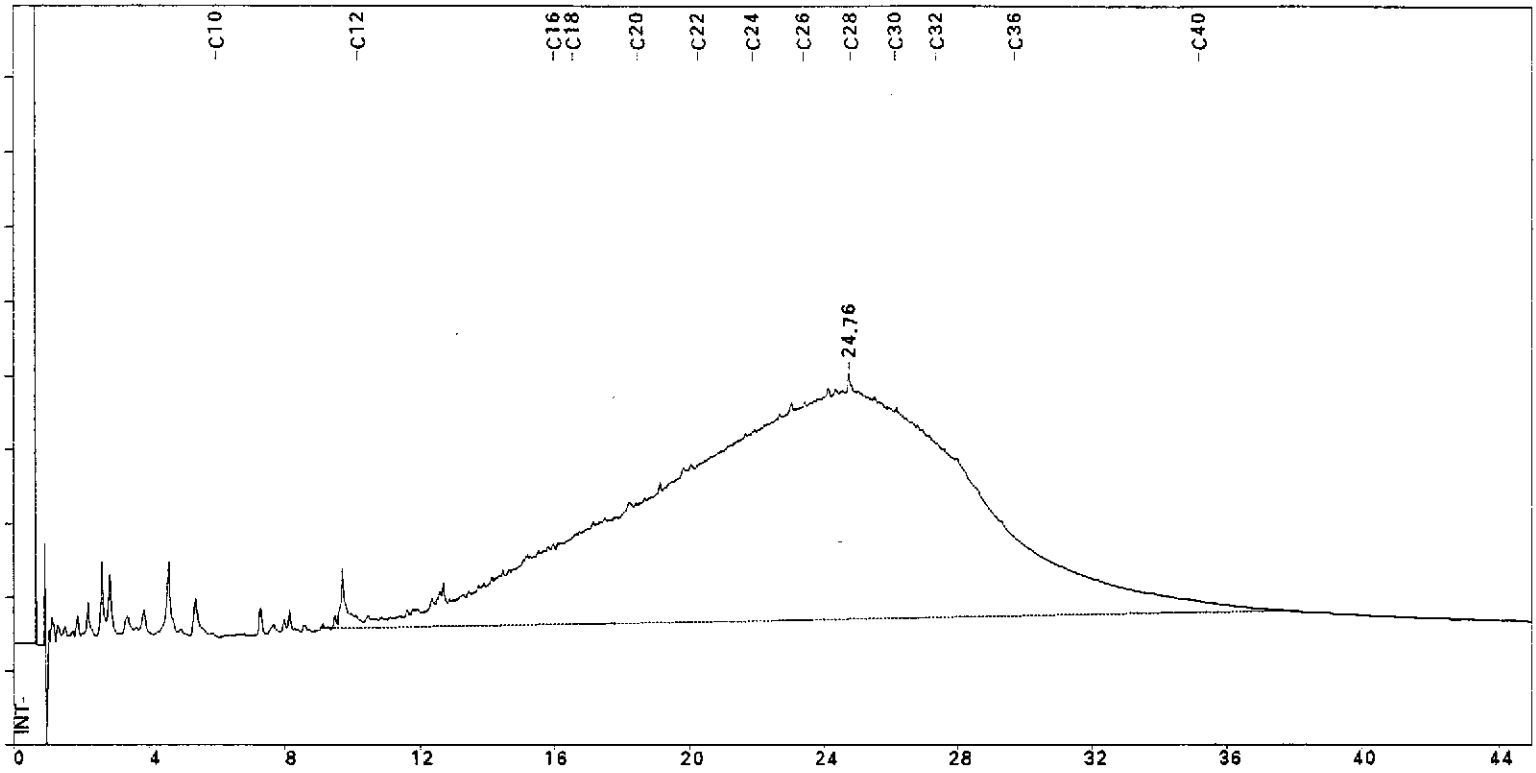
Total Area = 5.463137E+07; Instrument Actual Amount = 1722.092 PPM

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS = 1.63697mg/kg (ppm)

OR 1636.97 ug/L (ppb)

File: M:\CP\GC-1\Y17C$.47R

File=M:\CP\GC-1\Y17C$.48R Date printed=03-21-1995 Time= 20:30:43
Sample Name=9503128-03C
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: 03-21-1995_20:30:47

Sample Name: **9503128-03C**

Date: 03-19-1995 04:31:02

Dilution Factor: 1
Sample Weight: 1052

Operator: FK

Instrument:02883 FRONT (Y)
EXTERNAL_STD Calibrated

Area Rejected: 100
Data File: **M:\CP\GC-1\Y17C$.48R** Cycle# **48**
Method File: !M:\CP\GC-1\YD2.MET..ver# -2 . 11/25/94 16:50:20
Calibr File: !M:\CP\GC-1\YDIESEL$.CAL..ver# -9 .
Analysis: **TPH EXT TEMP 80C(6') 10C/M 310C(17') 2UL**
Miscl.

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Pk#	Ret time (min)	Peak Name	Amount PPM	Peak Area	Peak Type	Peak Height	Ref Pk	Amount /Area
1	24.756		2.3791	79399808	BB	123793		0.2996E-07

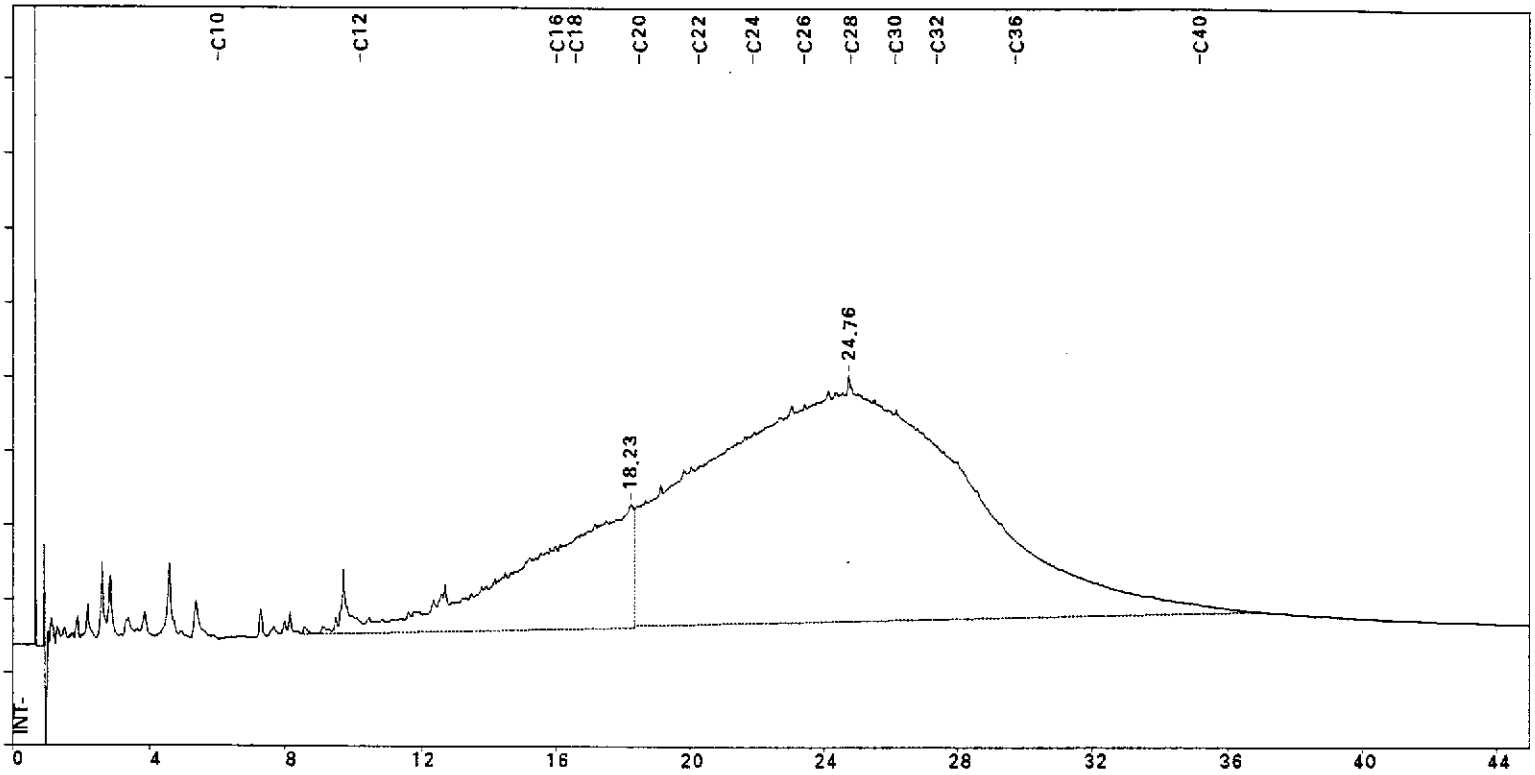
Total Area = 7.939981E+07; Instrument Actual Amount = 2502.844 PPM ok

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS = 2.379129mg/kg (ppm)

OR 2379.129 ug/L (ppb)

File: M:\CP\GC-1\Y17C$.48R

File=M:\CP\GC-1\Y17C$.48R Date printed=05-08-1995 Time= 20:33:47
Sample Name=9503128-03C
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: 05-08-1995_20:33:51

Sample Name: **9503128-03C**

Date: 03-19-1995 04:31:02

Dilution Factor: 1
Operator: FK

Sample Weight: 1052

Instrument:02883 FRONT (Y)

Area Rejected: 100
EXTERNAL_STD Calibrated

Data File: **M:\CP\GC-1\Y17C$.48R** Cycle# **48**
Method File: !!M:\CP\GC-1\YD2.MET..ver# -2 . 11/25/94 16:50:20
Calibr File: !!M:\CP\GC-1\YDIESEL$.CAL..ver# -9 .
Analysis: **TPH EXT TEMP 80C(6') 10C/M 310C(17') 2UL**
Miscl.

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Pk#	Ret time (min)	Peak Name	Amount PPM	Peak Area	Peak Type	Peak Height	Ref Pk	Amount /Area
1	18.235		0.4203	14028060	BB	62265		0.2996E-07
2	24.756		1.9621	65481584	BB	123445		0.2996E-07

Total Area = 7.950965E+07; Instrument Actual Amount = 2506.306 PPM

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS = 2.38242mg/kg (ppm)

OR 2382.42 ug/L (ppb)

File: M:\CP\GC-1\Y17C$.48R