



# PORT OF OAKLAND

January 3, 1996

Mr. Dale Klettke  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway  
Alameda, CA 94502

SUBJECT: STID #~~3277~~<sup>2485</sup> - GROUNDWATER SAMPLING REPORT, AMERICAN  
PRESIDENT LINES TERMINAL, 1395 MIDDLE HARBOR ROAD,  
OAKLAND, CALIFORNIA

Dear Mr. Klettke:

Enclosed please find the enclosed report titled, Groundwater Monitoring And Sampling Report, American President Line Terminal, 1395 Middle Harbor Road, Oakland, California, dated November 2, 1995. This report addresses the fourth quarter 1995 monitoring event at the location of four underground storage tanks that have the Port of Oakland designation of EF-06, EF-07, EF-08, and EF-09.

If you have any questions regarding the report or need additional information, please contact the undersigned at 272-1373.

Sincerely,

John Prall, R.G.

Associate Environmental Scientist

Enclosure

cc: Neil Werner  
Dave Adams

ENVIRONMENTAL  
PROFESSIONAL  
SC JAN -5 PM 1996

**GROUNDWATER MONITORING AND SAMPLING REPORT**

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

**Project No. 10-256-01-002**

**Prepared for:**

**Port of Oakland  
530 Water Street  
Oakland, California**

**Prepared by:**

**Alisto Engineering Group  
1575 Treat Boulevard, Suite 201  
Walnut Creek, California**

**November 2, 1995**



**Dale Swain  
Project Manager**



**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. 10-256-01-002

November 2, 1995

## INTRODUCTION

This report presents the results and findings of the September 25, 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. The work was performed under Work Order No. 2101496. A site vicinity map is shown on Figure 1.

The scope of work includes monitoring and sampling of three groundwater monitoring wells, MW-1, MW-2, and MW-3, which have been installed in the vicinity of four former underground storage tanks that were removed in January 1992: one 10,000-gallon diesel (EF-06); one 5,000-gallon diesel (EF-07); one 1,000-gallon gasoline (EF-08); and one 550-gallon waste oil (EF-09).

## 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 (3.2 feet below mean sea level), Port of Oakland datum. 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:

WELL ID	ANALYTE						
	TPH-G	BTEX	TPH-D	TPH-MO	TOG	HVOCs	TDS
MW-1	X	X	X	X		X	X
MW-2			X	X		X	X
MW-3			X	X		X	X

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

BTEX = Benzene, toluene, ethylbenzene, and total xylenes using EPA Method 8020

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 (TOG) using EPA Method 5520

HVOCs = Halogenated volatile organic compounds using EPA Method 8010

TDS = Total dissolved solids 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 on Figure 2. The results of groundwater analysis are shown on Figure 3. The field procedures for chain of custody documentation and the laboratory report and chain of custody record are presented in Appendix B.

## RESULTS AND FINDINGS

The findings of the September 25, 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 northwesterly direction across the site.
- Benzene, toluene, and total xylenes were detected at concentrations of 12, 8.0, and 22.5 micrograms per liter (ug/l) in samples collected from Monitoring Well MW-1.
- TPH-D was detected at a concentration of 200 ug/l in the sample collected from MW-3.



- TPH-MO was detected at concentrations of 1300, 880, and 1300 ug/l in samples collected from MW-1, MW-2, and MW-3.
- Cis-1,2-dichloroethene was detected at concentrations of 0.7 and 0.4 ug/l in samples collected from MW-1 and MW-2. In addition, 1,1-dichloroethane was detected at a concentration of 1.9 ug/l and vinyl chloride at 1.9 ug/l in the sample collected from MW-1.
- TDS was detected at concentrations ranging from 2200 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-1	03/07/95	10.37	3.87	6.50	ND<50	ND<500	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.4	--	2200	CEC
QC-1 (c)	03/07/95	10.37	--	--	--	--	--	--	--	--	--	--	--	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-2	03/07/95	10.03	3.48	6.55	--	ND<300	ND<50	--	--	--	--	--	ND<500	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	6.78	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
MW-3	03/07/95	9.84	3.19	6.65	--	890	ND<50	--	--	--	--	--	ND<500	CEC
QC-2 (d)	03/07/95	--	--	--	ND<50	--	--	ND<0.4	ND<0.3	ND<0.3	ND<0.4	--	--	CEC
QC-2 (d)	09/25/95	--	--	--	ND<50	--	--	ND<0.4	ND<0.3	ND<0.3	ND<0.4	--	--	CEC

ABBREVIATIONS:

TPH-G Total petroleum hydrocarbons as gasoline  
 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	Bromo (ug/l)	Chloroform (ug/l)	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	ND	ND	0.8	ND	ND	ND	ND	ND	ND	ND	CEC
MW-1	05/11/93	ND	ND	0.6	ND	ND	ND	ND	ND	ND	ND	CEC
MW-1	08/19/93	ND	ND	2.0	ND	2.0	ND	ND	ND	ND	ND	CEC
MW-1	11/24/93	ND	ND	0.7	ND	ND	ND	ND	ND	ND	ND	CEC
MW-1	02/24/94	ND	ND	2.0	ND	ND	ND	ND	ND	ND	ND	CEC
MW-1	06/14/94	ND	ND	1.0	ND	ND	ND	ND	ND	ND	ND	CEC
MW-1	08/23/94	ND	ND	2.3	0.3	ND	0.4	ND	ND	ND	1.1	CEC
MW-1	11/04/94	ND	ND	2.2	0.8	ND	ND	ND	ND	ND	0.7	CEC
MW-1	03/07/95	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	CEC
MW-1		ND	ND	1.7	ND	ND	ND	ND	ND	ND	ND	CEC
QC-1		ND	ND	1.8	ND	ND	ND	ND	ND	ND	ND	CEC
MW-2	02/05/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-2	05/11/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-2	08/19/93	ND	ND	ND	ND	ND	ND	ND	1.0	3.0	ND	CEC
MW-2	11/24/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-2	02/24/94	ND	ND	ND	ND	ND	ND	ND	ND	1.0	ND	CEC
MW-2	06/14/94	ND	ND	ND	ND	ND	ND	ND	ND	0.8	ND	CEC
MW-2	08/23/94	ND	ND	ND	ND	ND	0.4	ND	ND	1.3	ND	CEC
MW-2	11/04/94	ND	ND	ND	ND	ND	2.2	ND	ND	0.9	ND	CEC
MW-2	03/07/95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-2		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-3	02/05/93	ND	ND	ND	ND	ND	ND	0.4	ND	ND	ND	CEC
MW-3	05/11/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-3	08/19/93	ND	ND	ND	ND	ND	ND	ND	ND	1.0	ND	CEC
MW-3	11/24/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-3	02/24/94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-3	06/14/94	ND	ND	ND	ND	ND	ND	ND	ND	0.6	ND	CEC
MW-3	08/23/94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-3	11/04/94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-3	03/07/95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CEC
MW-3		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	CEC
QC-2	09/25/95	3.2	11	ND	ND	ND	ND	ND	ND	ND	ND	CEC

ABBREVIATIONS:

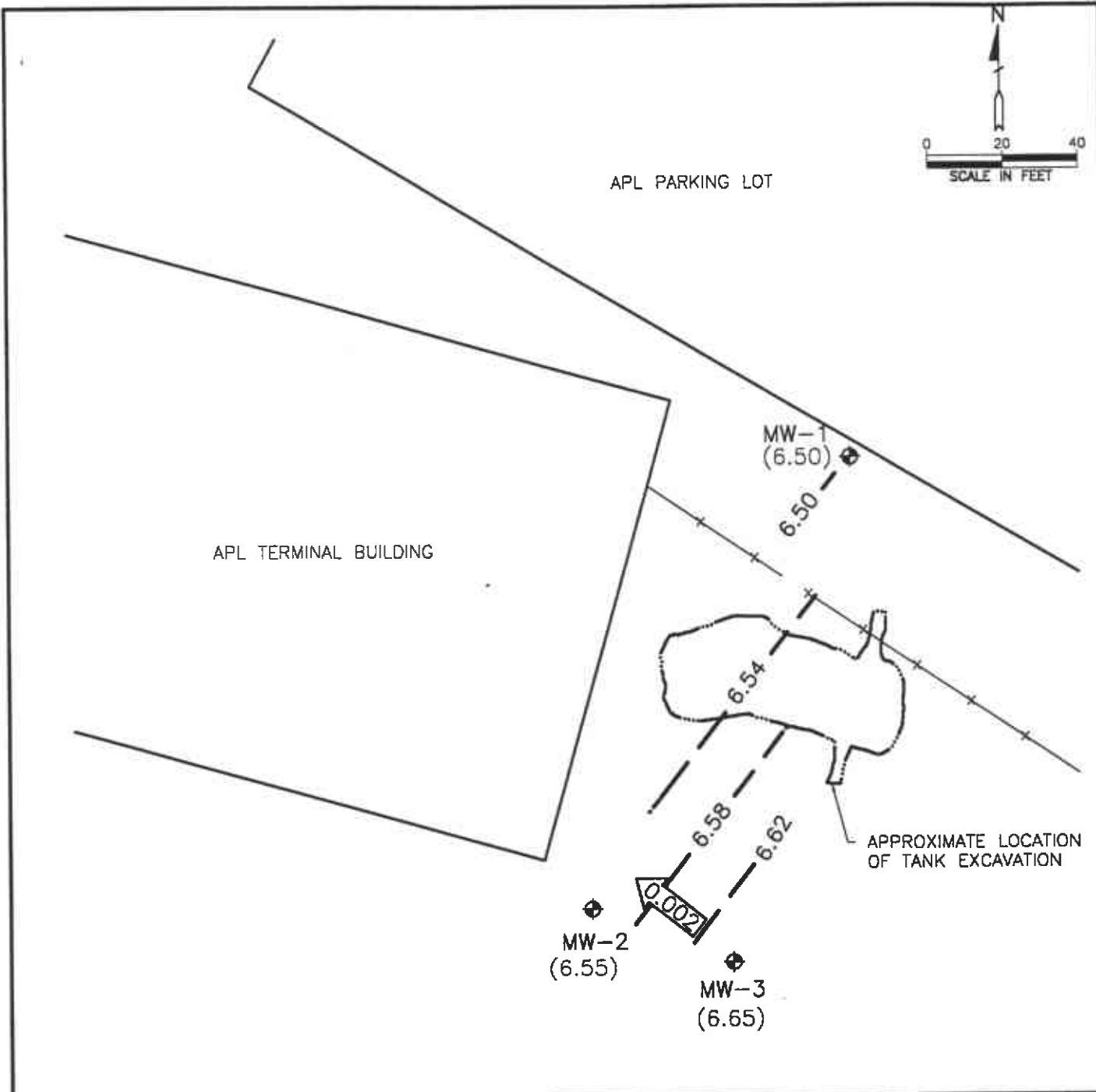
Bromo Bromodichloromethane  
 DCA Dichloroethane  
 DCE Dichloroethane  
 DCB Dichlorobenzene  
 VC Vinyl chloride  
 ND Not detected above reported detection limit  
 ug/l Micrograms per liter  
 CEC Clayton Environmental Consultants

NOTES:

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







**LEGEND**

- ◆ GROUNDWATER MONITORING WELL
- (6.65) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 6.64 - GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL-0.04 FOOT)
- ← 0.002 → CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

**FIGURE 2**

**POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP**

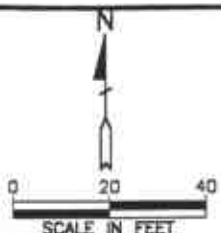
**SEPTEMBER 25, 1995**

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

PROJECT NO. 10-256



**ALISTO ENGINEERING GROUP**  
 WALNUT CREEK, CALIFORNIA



APL PARKING LOT

APL TERMINAL BUILDING

APPROXIMATE LOCATION OF TANK EXCAVATION

MW-1  
 310  

12	8.0
ND < 0.31	22.5
ND < 500	
1300	

MW-2  
 NOT ANALYZED  
 NOT ANALYZED NOT ANALYZED  
 NOT ANALYZED NOT ANALYZED  
 ND < 300  
 880

MW-3  
 NOT ANALYZED  
 NOT ANALYZED NOT ANALYZED  
 NOT ANALYZED NOT ANALYZED  
 200  
 1300



**LEGEND**

- ⊕ GROUNDWATER MONITORING WELL
- TPH-G CONCENTRATION OF CONSTITUENTS IN MICROGRAMS PER LITER
- |   |   |
|---|---|
| B | T |
| E | X |
- TPH-D
- TPH-MO
- 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**

**SEPTEMBER 25, 1995**

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

PROJECT NO. 10-256



**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

## Field Report / Sampling Data Sheet

ENGINEERING

GROUP

1575 TREAT BOULEVARD, SUITE 201

WALNUT CREEK CA 94598 (510) 295-1650 FAX 295-1823

Project No. 10-256-01-002

Address 1395 Middle Harbor Rd

Contract No. 201476

Station No. Amer. Pres.Line

Date: 9/25/95

Day: M T W T H F

City: Oakland

Sampler: X

### DEPTH TO GROUNDWATER SUMMARY

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME SAMPLED	COMMENTS:
MW-1	—	2"	9.64'	3.87		1114	
MW-2	—	↓	9.65'	3.48		1104	
MW-3	—	↓	9.57'	3.19		1109	

### FIELD INSTRUMENT CALIBRATION DATA

PH METER Hydax 4.00  7.00  10.00  TEMPERATURE COMPENSATED  N TIME 1140 WEATHER overcast

D.O. METER \_\_\_\_\_ ZERO d.O. SOLUTION \_\_\_\_\_ BAROMETRIC PRESSURE \_\_\_\_\_ TEMP 69°F

CONDUCTIVITY METER Hydax 10,000  TURBIDITY METER \_\_\_\_\_ 5.0 NTU \_\_\_\_\_ OTHER \_\_\_\_\_

Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
<u>MW-2</u>	<u>3.48</u>	<u>2"</u>	<u>OL</u>	<u>Ø</u>	<u>Y (N)</u>	<u>1</u>	<u>1142</u>	<u>72.6</u>	<u>7.03</u>	<u>720</u>		<input checked="" type="checkbox"/> TPH Diesel-Motor-Oil <u>Hy</u>
Total Depth - Water Level= <u>9.65 - 3.48 = 6.17</u> x Well Vol. Factor= <u>.16</u> = <u>0.99</u> x 3 = <u>2.96</u>						<u>2</u>	<u>1145</u>	<u>72.1</u>	<u>6.99</u>	<u>720</u>		<input type="checkbox"/> TPH-G/BTEX _____
Purge Method: <u>OSurface Pump</u> <u>ODisp.Tube</u> <u>OWinch</u> <input checked="" type="checkbox"/> <u>ODisp. Baller(s)</u> <u>OSys Port</u>						<u>3</u>	<u>dry</u>					<input checked="" type="checkbox"/> EPA 601 <u>Hy</u>
Comments: <u>Dry @ 2.59 gal, wait for recovery</u>												<input checked="" type="checkbox"/> TDS <u>none</u>
											TIME/SAMPLE ID	<u>1200</u>

Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
<u>MW-3</u>	<u>3.19</u>	<u>2"</u>		<u>Ø</u>	<u>Y (N)</u>	<u>1</u>	<u>1203</u>	<u>70.7</u>	<u>7.79</u>	<u>720</u>		<input checked="" type="checkbox"/> TPH Diesel-Motor-Oil <u>Hy</u>
Total Depth - Water Level= <u>9.57 - 3.19 = 6.38</u> x .16 = <u>1.02</u> x 3 = <u>3.06</u>						<u>2</u>	<u>1205</u>	<u>70.4</u>	<u>6.97</u>	<u>720</u>		<input type="checkbox"/> TPH-G/BTEX _____
Purge Method: <u>OSurface Pump</u> <u>ODisp.Tube</u> <u>OWinch</u> <input checked="" type="checkbox"/> <u>ODisp. Baller(s)</u> <u>OSys Port</u>						<u>3.25</u>	<u>dry</u>					<input checked="" type="checkbox"/> EPA 601 <u>Hy</u>
Comments: <u>Dry @ 2.75 gal, wait for recovery</u>												<input checked="" type="checkbox"/> TDS <u>none</u>
											TIME/SAMPLE ID	<u>1215</u>

# ALISTO

## Field Report / Sampling Data Sheet

ENGINEERING

GROUP

1575 TREAT BOULEVARD, SUITE 201

WALNUT CREEK CA 94598 (510) 295-1650 FAX 295-1823

Project No.

10-256-01-002

Address

1395 Middle Harbor Rd

Contract No.

201476

Station No.

Amer. Pres. Line

Sampler:

Date:

9/25/95

Day:

MTWTF

City:

Oakland

Well ID	Depth to Water	Diam	Cap/Lock	Product	Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
mw-1	3.87	2 1/2	Refer	Φ	Y (N)		1	1229	72.9	7.00	13.75		
Total Depth - Water Level =							2	1231	73.7	7.13	11.20		
x Well Vol. Factor =							3						
x#vol. to Purge													
Purge Vol.													
Purge Method: OSurface Pump ODisp.Tube OWinch													
ODisp. Bailer(s) OSys Port													
Comments: QC - 16 from this well, July 2, 1995, wait for results													

- TPH Diesel-Motor-Oil 1.0
  - TPH-G/BTEX 1.0
  - EPA 601 1.0
  - TDS 1.0
- TIME/SAMPLE ID

1245

\* Conductivity readings are in + 1000 uS/cm units.

**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

October 11, 1995

Mr. Dale Swain  
ALISTO ENGINEERING GROUP  
1575 Treat Blvd., Suite 201  
Walnut Creek, CA 94598

Client Ref.: 10-256-01-002  
Clayton Project No.: 95093.56

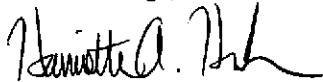
Dear Mr. Swain:

Attached is our analytical laboratory report for the samples received on September 26, 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 November 10, 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.

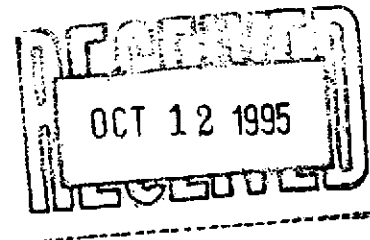
Sincerely,



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

HAH/tjb

Attachments



Analytical Results  
for  
Alisto Engineering Group  
Client Reference: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification:	MW-2	Date Sampled:	09/25/95
Lab Number:	9509356-01A	Date Received:	09/26/95
Sample Matrix/Media:	WATER	Date Prepared:	09/26/95
Preparation Method:	EPA 5030	Date Analyzed:	09/26/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Purgeable Halocarbons</u>			
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	0.4	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: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification:	MW-2	Date Sampled:	09/25/95
Lab Number:	9509356-01A	Date Received:	09/26/95
Sample Matrix/Media:	WATER	Date Prepared:	09/26/95
Preparation Method:	EPA 5030	Date Analyzed:	09/26/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	0.5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
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: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification: MW-3	Date Sampled: 09/25/95
Lab Number: 9509356-02A	Date Received: 09/26/95
Sample Matrix/Media: WATER	Date Prepared: 09/26/95
Preparation Method: EPA 5030	Date Analyzed: 09/26/95
Method Reference: EPA 8010	Analyst: NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Purgeable Halocarbons</u>			
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: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification:	MW-3	Date Sampled:	09/25/95
Lab Number:	9509356-02A	Date Received:	09/26/95
Sample Matrix/Media:	WATER	Date Prepared:	09/26/95
Preparation Method:	EPA 5030	Date Analyzed:	09/26/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	0.5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	97	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: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification: MW-1	Date Sampled: 09/25/95
Lab Number: 9509356-03A	Date Received: 09/26/95
Sample Matrix/Media: WATER	Date Prepared: 09/26/95
Preparation Method: EPA 5030	Date Analyzed: 09/26/95
Method Reference: EPA 8010	Analyst: NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Purgeable Halocarbons</u>			
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	1.7	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	0.6	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: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification:	MW-1	Date Sampled:	09/25/95
Lab Number:	9509356-03A	Date Received:	09/26/95
Sample Matrix/Media:	WATER	Date Prepared:	09/26/95
Preparation Method:	EPA 5030	Date Analyzed:	09/26/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	1.8	0.5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	86	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: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification:	QC-1	Date Sampled:	09/25/95
Lab Number:	9509356-04A	Date Received:	09/26/95
Sample Matrix/Media:	WATER	Date Prepared:	09/26/95
Preparation Method:	EPA 5030	Date Analyzed:	09/26/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Purgeable Halocarbons</u>			
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	1.9	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	0.7	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: 10-256-01-002  
 Clayton Project No. 95093.56

Sample Identification:	QC-1	Date Sampled:	09/25/95
Lab Number:	9509356-04A	Date Received:	09/26/95
Sample Matrix/Media:	WATER	Date Prepared:	09/26/95
Preparation Method:	EPA 5030	Date Analyzed:	09/26/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	1.9	0.5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	101	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: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification: QC-2	Date Sampled: 09/25/95
Lab Number: 9509356-05A	Date Received: 09/26/95
Sample Matrix/Media: WATER	Date Prepared: 09/26/95
Preparation Method: EPA 5030	Date Analyzed: 09/26/95
Method Reference: EPA 8010	Analyst: NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Purgeable Halocarbons</u>			
Bromodichloromethane	75-27-4	3.2	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	11	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: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification:	QC-2	Date Sampled:	09/25/95
Lab Number:	9509356-05A	Date Received:	09/26/95
Sample Matrix/Media:	WATER	Date Prepared:	09/26/95
Preparation Method:	EPA 5030	Date Analyzed:	09/26/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	0.5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	127	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: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9509356-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	09/26/95
Preparation Method:	EPA 5030	Date Analyzed:	09/26/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Purgeable Halocarbons</u>			
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: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9509356-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	09/26/95
Preparation Method:	EPA 5030	Date Analyzed:	09/26/95
Method Reference:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	0.5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	90	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: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification: MW-1	Date Sampled: 09/25/95
Lab Number: 9509356-03G	Date Received: 09/26/95
Sample Matrix/Media: WATER	Date Prepared: 10/02/95
Preparation Method: EPA 5030	Date Analyzed: 10/02/95
Method Reference: EPA 8015/8020	Analyst: WGK

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	12	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	8.0	0.3
o-Xylene	95-47-6	6.5	0.4
p,m-Xylenes	--	16	0.4
Gasoline	--	310	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1,4-Difluorobenzene	540-36-3	97	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: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9509356-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	10/02/95
Preparation Method:	EPA 5030	Date Analyzed:	10/02/95
Method Reference:	EPA 8015/8020	Analyst:	WGK

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>BTEX/Gasoline</u>			
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
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
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: 10-256-01-002  
Clayton Project No. 95093.56

Sample Identification:	See Below	Date Received:	09/26/95
Lab Number:	9509356	Date Extracted:	09/28/95
Sample Matrix/Media:	WATER	Date Analyzed:	09/29/95
Preparation Method:	EPA 3510		
Method Reference:	EPA 8015 (Modified)		

Lab Number	Sample Identification	Date Sampled	TPH-O (ug/L)	Method Detection Limit (ug/L)
-01	MW-2	09/25/95	1300	200
-02	MW-3	09/25/95	880	200
-03	MW-1	09/25/95	1300	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.

Analytical Results  
 for  
 Alisto Engineering Group  
 Client Reference: 10-256-01-002  
 Clayton Project No. 95093.56

Sample Identification: See Below  
 Lab Number: 9509356  
 Sample Matrix/Media: WATER  
 Method Reference: EPA 160.1

Date Received: 09/26/95  
 Date Analyzed: 09/27/95

Lab Number	Sample Identification	Date Sampled	Total Dissolved Solids (mg/L)	Method Detection Limit (mg/L)
-01	MW-2	09/25/95	11000	10
-02	MW-3	09/25/95	19000	10
-03	MW-1	09/25/95	2200	10
-06	METHOD BLANK	--	<10	10

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

Quality Assurance Results Summary  
Matrix Spike/Matrix Spike Duplicate Results  
for  
Clayton Project No. 95093.56

Quality Assurance Results Summary - Matrix Spike/Matrix Spike Duplicate  
for  
Clayton Project No. 95093.56

Clayton Lab Number: 9509343-LCS  
Ext./Prep. Method: EPA 5030  
Date: 09/26/95  
Analyst: NAN  
Std. Source: V950829-04W  
Sample Matrix/Media: WATER

Analytical Method: EPA 6012/801020  
Instrument ID: 00000  
Date: 09/26/95  
Time: 02:00  
Analyst: NAN  
Units: ug/L  
QC Batch No: 950926P1

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	(HALL) ND	20.0	20.3	102	18.1	91	96	65	131	12	22
BENZENE	(PID) ND	20.0	22.8	114	23.6	118	116	76	134	3.4	20
CHLOROBENZENE	(PID) ND	20.0	21.0	105	21.6	108	107	75	127	2.8	20
CHLOROBENZENE	(HALL) ND	20.0	23.0	115	23.2	116	116	79	132	0.9	20
TOLUENE	(PID) ND	20.0	21.5	108	22.3	112	110	71	125	3.7	20
TRICHLOROETHENE	(HALL) ND	20.0	18.6	93	18.2	91	92	69	133	2.2	20

ND = Not detected at or above limit of detection  
SOR = Spike out of range due to high sample concentration.

LCL = Lower Control Limit

UCL = Upper Control Limit

Quality Assurance Results Summary - Matrix Spike/Matrix Spike Duplicate  
for  
Clayton Project No. 95093.56

Clayton Lab Number: 9509347-LCS  
Ext./Prep. Method: EPA 3510  
Date: 09/28/95  
Analyst: HYT  
Std. Source: E950901-D1W  
Sample Matrix/Media: WATER

Analytical Method: EPA 8015  
Instrument ID: 02893  
Date: 09/29/95  
Time: 16:51  
Analyst: GUD  
Units: UG/L  
QC Batch No: 95092859

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	921	92	907	91	91	65	128	1.6	25

ND = Not detected at or above limit of detection  
SOR = Spike out of range due to high sample concentration.

LCL = Lower Control Limit

UCL = Upper Control Limit

Quality Assurance Results Summary - Matrix Spike/Matrix Spike Duplicate  
for  
Clayton Project No. 95093.56

Clayton Lab Number: 9509389-01P  
Ext./Prep. Method: EPA 5030  
Date: 10/02/95  
Analyst: FAK  
Std. Source: V950313-02W  
Sample Matrix/Media: WATER

Analytical Method: EPA 8015/8020  
Instrument ID: 05587  
Date: 10/02/95  
Time: 19:54  
Analyst: FAK  
Units: ug/L  
QC Batch No: 95100281

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	4.20	4.25	101	4.05	96	99	79	125	4.8	20
ETHYLBENZENE	(PID)	ND	4.24	4.11	97	4.21	99	98	91	123	2.4	20
GASOLINE	(FID)	ND	500	458	92	445	89	90	80	120	2.9	25
TOLUENE	(PID)	ND	27.1	25.2	93	25.1	93	93	84	118	0.4	20
TOTAL XYLENE	(PID)	ND	27.2	29.0	107	28.9	106	106	85	115	0.3	20

ND = Not detected at or above limit of detection  
SOR = Spike out of range due to high sample concentration.

LCL = Lower Control Limit

UCL = Upper Control Limit

## REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only Page 1 of 1

Project No. \_\_\_\_\_

Batch No. **9509356**

Ind. Code \_\_\_\_\_ W.P. \_\_\_\_\_

Date Logged In 9/20 By AD

REPORT RESULTS TO	Name <u>DALE SUSAN</u>	Title <u>Project manager</u>	Purchase Order No. _____	Client Job No. <u>10-256-01-002</u>
	Company <u>Aristo Engineering</u>	Dept. _____	Name <u>S. K. Gates</u>	
	Mailing Address <u>1575 Walnut Blvd</u>		Company <u>Port of Oakland</u>	Dept. _____
	City, State, Zip <u>Waukegan IL 60087</u>	Telephone No. <u>(508) 295-1650</u>	Address <u>530 Water St</u>	City, State, Zip <u>Oakland CA</u>

Date Results Req.:  Yes  No

Rush Charges Authorized?  Yes  No

Phone / Fax Results  Phone  Fax

Special Instructions: (method, limit of detection, etc.)

\* 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	ANALYSIS REQUESTED										FOR LAB USE ONLY							
					HVOC	TPH	TDS	PH	AMMONIA	CHLORIDE	COBALT	COD	CUPROUS	CYANIDE		DISSOLVED	IRON	LEAD	NITRATE	NITRITE	PHOSPHATE	SILICA
<u>MW-2 1200</u>	<u>9/25/95</u>	<u>1+20</u>	<u>40ml x 3</u>	<u>6</u>	X	X	X															<u>01 A-F</u>
<u>MW-3 1215</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>6</u>	↓	↓	↓															<u>02 A-F</u>
<u>MW-1 1245</u>	<u>↓</u>	<u>↓</u>	<u>40ml x 6</u>	<u>9</u>	↓	↓	↓	X														<u>03 A-F</u>
<u>QC-1 -</u>	<u>↓</u>	<u>↓</u>	<u>40ml</u>	<u>3</u>	↓	↓	↓															<u>04 A-C</u>
<u>QC-2 -</u>	<u>↓</u>	<u>↓</u>	<u>40ml</u>	<u>2</u>	↓	↓	↓															<u>05 APB</u>

Collected by: DAVE CUSACK (print) Collector's Signature: [Signature]

Relinquished by: [Signature] Date/Time 9/24/95 Received by: [Signature] Date/Time 9/26/95 13:35

Relinquished by: [Signature] Date/Time 9/25/95 14:15 Received at Lab by: [Signature] Date/Time 9/26/95 2:15

Method of Shipment: \_\_\_\_\_ Sample Condition Upon Receipt:  Acceptable  Other (explain)

Authorized by: \_\_\_\_\_ Date \_\_\_\_\_  
(Client Signature Must Accompany Request)

# ALISTO

# Field Services Sheet

ENGINEERING GROUP  
1575 TREAT BOULEVARD, SUITE 201  
WALNUT CREEK CA 94598 (510) 295-1650  
FAX (510) 295-1823

Project No. 10-256-01-002 Date: 9/25/95  
Address 1395 Middle Harbor Rd Day: (M) W T H F  
Contract No. 201476 City: Oakland  
Station No. Amer. Pres. Line Sampler: DC

Field Activity:  Groundwater Monitoring  Groundwater Sampling  Water Disposal

### Equipment Used

1 Water Level Indicator  Surface Pump  
1 pH, Temp, Conductivity meter  Electric Subsurface Pump  
 Dissolved Oxygen Meter 1 Tank Trailer  
 Turbidimeter  Organic Vapor Meter

Disposable and repair items used:

Disposable bailers 3 Disposable poly tubing \_\_\_\_\_ Feet  
2 Inch Locking caps 1 4 Inch Locking Caps \_\_\_\_\_ 6 Inch Locking Caps \_\_\_\_\_  
Locks 1 Nitrile gloves \_\_\_\_\_ Disp. Gloves \_\_\_\_\_ Replacement Traffic Box \_\_\_\_\_

Time and Mileage:

\_\_\_\_\_ to \_\_\_\_\_ Preparation/ Mobilization Time  
\_\_\_\_\_ to \_\_\_\_\_ Travel to Site One Way Mileage to site 45 miles x \_\_\_\_\_ = 90 miles  
\_\_\_\_\_ to \_\_\_\_\_ Time at Site

Waste at site:

\_\_\_\_\_ Drums of Water, \_\_\_\_\_ Drums of Soil, \_\_\_\_\_ Empty Drums, \_\_\_\_\_ Dbl Cont. Drums, \_\_\_\_\_ Cu Yd Soil Pile

Notes: 9:00 - 10:00 - prep time  
10:00 - 10:45 - Drive to site  
10:45 - 11:15 - open & top well  
11:15 - 11:40 - calibration & paperwork  
11:40 - 12:45 - QMS  
12:45 - 1:15 - EOC, Bill of lading, clean  
1:15 - 2:15 - Drive back to office, prep O&S sample & paperwork



# Clayton

ENVIRONMENTAL  
CONSULTANTS

## REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only Page 1 of 1

Project No. \_\_\_\_\_

Batch No. \_\_\_\_\_

Ind. Code \_\_\_\_\_ W.P. \_\_\_\_\_

Date Logged In \_\_\_\_\_ By \_\_\_\_\_

REPORT RESULTS TO	Name <u>DALE SWAIN</u>	Title <u>Project manager</u>	Purchase Order No. _____	Client Job No. <u>10-256-01-002</u>
	Company <u>Air Star Group, Inc.</u>	Dept. _____	Name <u>Zipp Cusack</u>	
	Mailing Address <u>1575 Walnut Creek Blvd</u>		Company <u>Perth of New York</u>	Dept. _____
	City, State, Zip <u>Waukegan IL 60087</u>	Telephone No. <u>(312) 295-1550</u>	Address <u>530 Walnut St</u>	City, State, Zip <u>Chickadee IL</u>

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

Special Instructions: (method, limit of detection, etc.)

\* Explanation of Preservative: "P" = H<sub>2</sub>O

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	ANALYSIS REQUESTED										FOR LAB USE ONLY				
<u>MW-2</u>	<u>1200</u>	<u>9/25/95</u>	<u>1120</u>		<u>6</u>	<u>X</u>	<u>X</u>	<u>X</u>												
<u>MW-3</u>	<u>1215</u>	<u>↓</u>	<u>↓</u>		<u>6</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>												
<u>MW-1</u>	<u>1245</u>	<u>↓</u>	<u>↓</u>		<u>9</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>X</u>											
<u>QC-1</u>	<u>-</u>	<u>↓</u>	<u>↓</u>		<u>3</u>	<u>↓</u>														
<u>QC-2</u>	<u>-</u>	<u>↓</u>	<u>↓</u>		<u>2</u>	<u>↓</u>														

Collected by: DAVE CUSACK (print) Collector's Signature: [Signature]

Relinquished by: [Signature] Date/Time 9/26/95 Received by: [Signature] Date/Time 9/26/95 12:30

Relinquished by: \_\_\_\_\_ Date/Time \_\_\_\_\_ Received at Lab by: \_\_\_\_\_ Date/Time \_\_\_\_\_

Method of Shipment: \_\_\_\_\_ Sample Condition Upon Receipt:  Acceptable  Other (explain)

Authorized by: \_\_\_\_\_ Date \_\_\_\_\_ (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<br>Novi, MI 48375<br>(810) 344-1770 | Raritan Center<br>160 Fieldcrest Ave.<br>Edison, NJ 08837<br>(908) 225-6040 | 400 Chastain Center Blvd., N.W.<br>Suite 490<br>Kennesaw, GA 30144<br>(404) 499-7500 | 1252 Quarry Lane<br>Pleasanton, CA 94566<br>(510) 426-2657 |
|---|---|--|--|

DISTRIBUTION:

WHITE - Clayton Laboratory

YELLOW - Clayton Accounting

PINK - Client Retains