

**GROUNDWATER MONITORING AND SAMPLING REPORT**

**Anderson Lift Truck Transport  
310 Bartlett Avenue  
Hayward, California**

**Project No. 10-144**

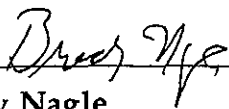
**Prepared for:**


**Mr. Robert Falconer  
18776 Walnut Road  
Castro Valley, Washington**

**Prepared by:**

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

**May 14, 1993**

  
\_\_\_\_\_  
**Brady Nagle  
Project Manager**

  
\_\_\_\_\_  
**Al Sevilla, P.E.  
Principal**



# GROUNDWATER MONITORING AND SAMPLING REPORT

Anderson Lift Truck Transport  
310 Bartlett Avenue  
Hayward, California

Project No. 10-144

May 14, 1993

## INTRODUCTION

This report presents the results and findings of the April 4, 1993 groundwater monitoring and sampling conducted by Alisto Engineering Group at Anderson Lift Truck Transport, 310 Bartlett Avenue, Hayward, California. A site vicinity map is shown in Figure 1.

## FIELD PROCEDURES

Field activities were performed in accordance with the procedures and guidelines of the 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 the 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 sea level. 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 the well. The samples were transferred from the bailer into laboratory-supplied containers. The water sampling field survey forms are presented in Appendix A.

## SAMPLING AND ANALYTICAL RESULTS

The results of monitoring and laboratory analysis of the groundwater samples for this and previous quarters are summarized in Table 1. A summary of results of groundwater sample analysis for halogenated volatile organic compounds is presented in Table 2. The potentiometric groundwater elevations as interpreted from the results of this monitoring event are shown in Figure 2. The laboratory report and chain of custody record are presented in Appendix B.



TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING  
 ANDERSON LIFT TRUCK TRANSPORT  
 310 BARTLETT AVENUE  
 HAYWARD, CALIFORNIA

ALISTO PROJECT NO. 10-144

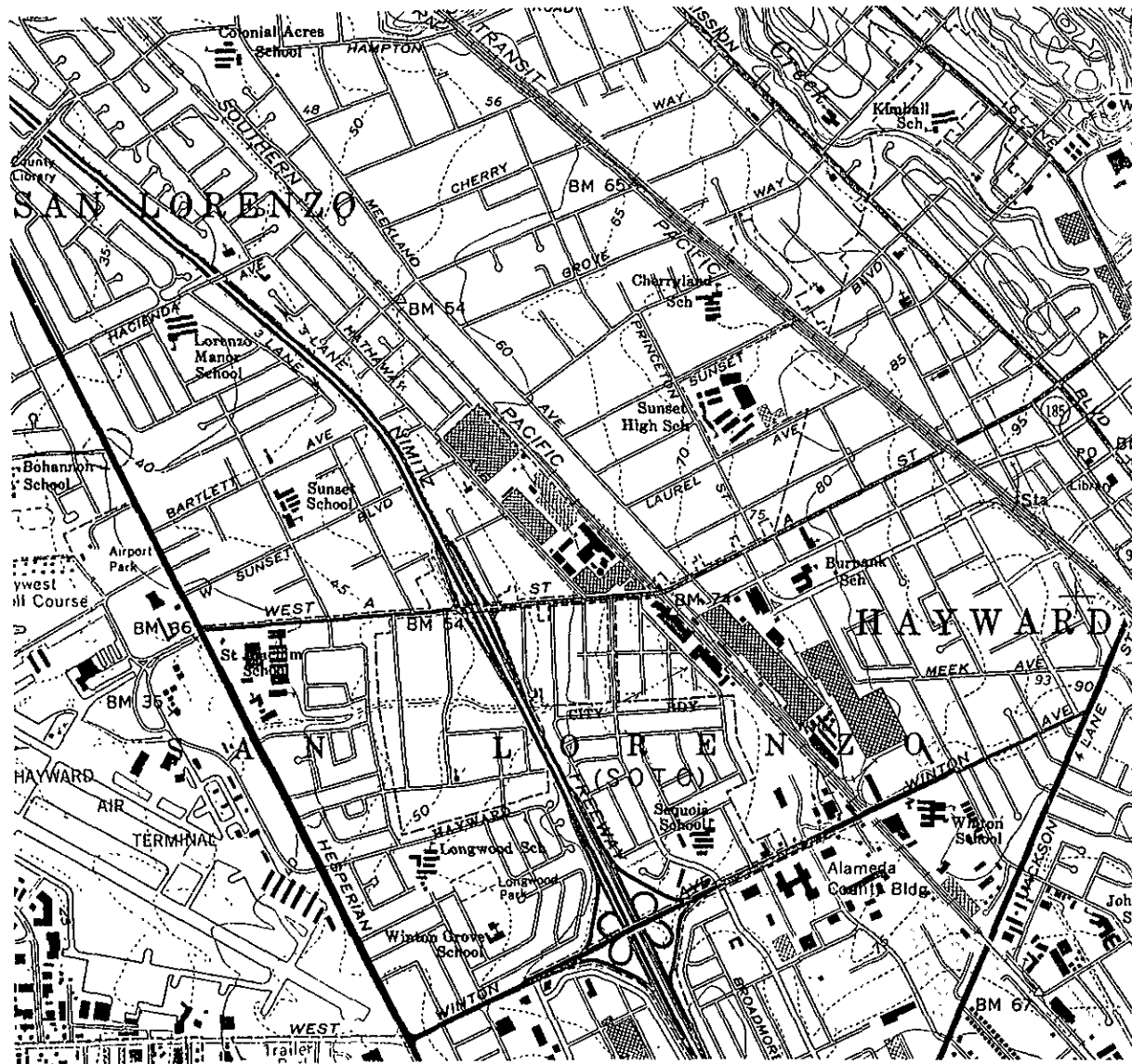
WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	LAB
MW-1	04/14/92	51.97	22.82	29.15	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-1	04/29/92	51.97	23.13	28.84	---	---	---	---	---	---
MW-1	04/04/93	51.97	20.77	31.20	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-2	04/14/92	51.62	22.48	29.14	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-2	04/29/92	51.62	22.8	28.82	---	---	---	---	---	---
MW-2	04/04/93	51.62	20.44	31.18	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
QC-1 (c)	04/04/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-3	04/14/92	51.6	22.48	29.12	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-3	04/29/92	51.6	22.79	28.81	---	---	---	---	---	---
MW-3	04/04/93	51.6	19.44	32.16	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
QC-2 (d)	04/04/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA

ABBREVIATIONS:

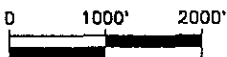
TPH-G Total petroleum hydrocarbons as gasoline  
 TPH-D Total petroleum hydrocarbons as diesel  
 B Benzene  
 T Toluene  
 E Ethylbenzene  
 X Total xylenes  
 ppb Parts per billion  
 ND Not detected above reported detection limits  
 ANA Anametrix, Inc.  
 --- Not analyzed/applicable

NOTES:

(a) Top of casing elevations for wells surveyed relative to the monument disk at the intersection of Royal Avenue and Bartlett Avenue with an elevation of 46.32 feet above mean sea level.  
 (b) Groundwater elevation in feet above mean sea level.  
 (c) Blind duplicate of sample collected from MW-2.  
 (d) Travel blank.



SOURCE:  
 USGS MAP, HAYWARD QUADRANGLE,  
 CALIFORNIA, 7.5 MINUTE SERIES, 1959.  
 PHOTOREVISED 1980.



**FIGURE 1**

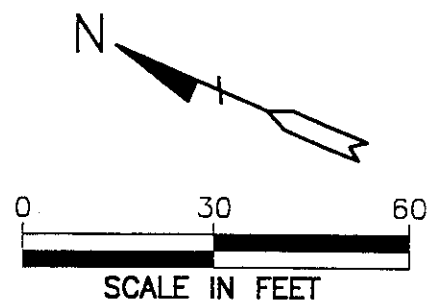
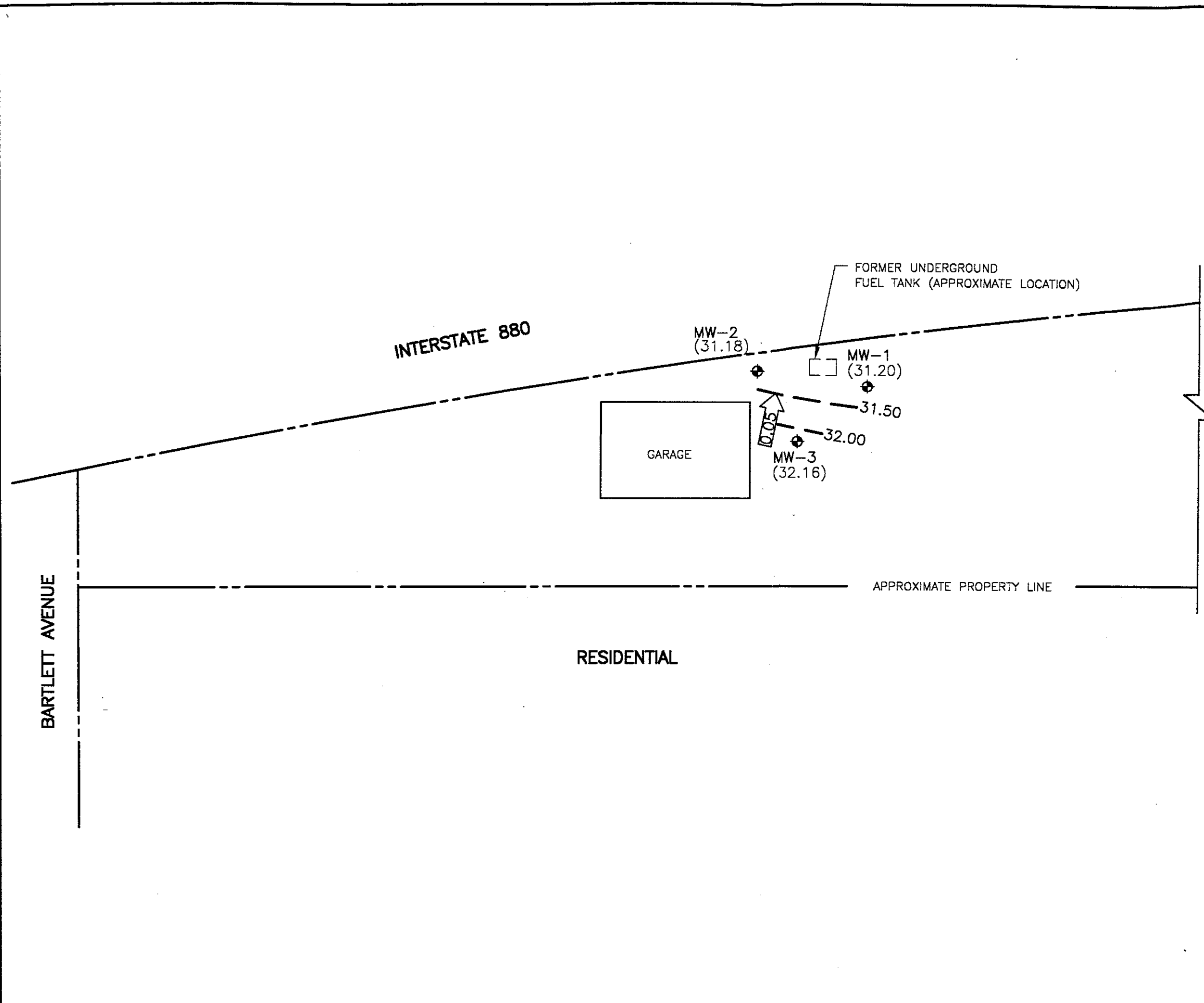
**SITE VICINITY MAP**

**ANDERSON LIFT TRUCK TRANSPORT**  
**310 BARTLETT AVENUE**  
**HAYWARD, CALIFORNIA**

**PROJECT NO. 10-144**



**ALISTO ENGINEERING GROUP**  
 WALNUT CREEK, CALIFORNIA



- LEGEND**
- ⊕ GROUNDWATER MONITORING WELL
  - (31.20) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
  - 31.50 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL=0.50 FOOT)
  - ←0.05 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

**FIGURE 2**  
**POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP**  
**APRIL 4, 1993**  
 ANDERSON LIFT TRUCK TRANSPORT  
 310 BARTLETT AVENUE  
 HAYWARD, CALIFORNIA  
 PROJECT NO. 10-144

**APPENDIX A**  
**WATER SAMPLING FIELD SURVEY FORMS**

Birch  
Technical  
Services

# Field Report / Data Sheet

OGroundwater Sampling OGroundwater Monitoring OWell Development ODrill Support OStockpile Sampling

Firm: <b>ALISTO</b>	Date: <b>4/14/93</b>	Station #: <b>Anderson</b>	Day: M Tu <b>W</b> Th F
Project Number: <b>10-611</b>	Field Technician: <b>DAN BIRCH</b>	Address: <b>HAYWARD</b>	Weather: <b>overcast</b>
		Milage:	mi

116 Liberty st  
Santa Cruz, Ca 95060  
(408) 459-0718

DT Words	Well ID	DIA. In.	Lock	Exp Cap	Total Depth (feet)	1st Depth to Water (feet)	2nd Depth to Water (feet)	Depth to Product Product Thickness (feet)	Comments
	1 MW-1	2	ok	ok	36.40	20.77	20.77	None None	
	2 MW-2	2	ok	ok	37.62	20.44	20.44	None None	
	3 MW-3	2	ok	ok	36.26	19.44	19.44	None None	

Notes: Arrived at site and opened the monitoring wells. Depth to water was measured washing the water meter before each well. Calculated 3 bore volume purge values then sampled the wells as described.

Inv#:

# Birch Technical Services

# GROUNDWATER SAMPLING FORM

116 Liberty Street  
 Santa Cruz, Ca 95060  
 (408) 459-0718

Well Number: MW-1

Project Number: 10-011  
 Station Number: Anduson  
 Date: 4/14/93

Sample Type:  Groundwater  Trip Blank  Duplicate of \_\_\_\_\_  
 Sampled by: Dan Birch

## WELL PURGING

**PURGE VOLUME**

Casing Diameter (inches)  
 Volume Factors:

2" 0.1632  3" 0.3672  4" 0.6528  4.5" 0.826  6" 1.469  \_\_\_\_\_

Total Depth of Well 36.10

Initial Water Level: 20.77

Total Volume Purged: 9

Time Elapsed: 10

**PURGE METHOD:**

- Honda Pump
- Disposable Poly Tubing (37 ft)
- Speed Winch
- Disposable PVC Bailer(s) (\_\_\_\_)
- Other \_\_\_\_\_

Calculated Purge Volume:

$$\frac{36.40 - 20.77}{36.40} = \frac{15.63}{36.40} \times \frac{1.16}{1.16} = 2.5 \times 3 = 7.5 \text{ (gallons)}$$

Total Depth      Water Level      Well Vol. Fac.      #of vol. to Purge      Calculated Purge Volume

Subjective Analysis Prior to Purging

SHEEN  No  Yes  
 Depth to Product None (ft)      Product Thickness None (ft)

**PARAMETER EQUIPMENT CALIBRATION**

pH Meter #: 9112      Time: 1011  
 Solution pH 7.00 7 at 71 °F  
 Solution pH 4.00 4 at 71 °F  
 Solution pH 10.00 \_\_\_\_\_ at \_\_\_\_\_ °F  
 Water Level Meter#: 10337

COMMENTS:

**SAMPLING METHOD**

PVC Disposable Bailer      Time Sampled (24 hour clock) 1320  
 Teflon Bailer  
 Other: \_\_\_\_\_

**WELL SAMPLING PARAMETERS**

Gallons Removed	Time	Temp °F	pH	Cond. (umhos/cm)
3	1311	65.1	7.31	0.55
6	1316	64.7	7.29	0.57
9	1320	64.7	7.27	0.60

Analysis Required	No. of	Container Type	Preservatives
EPA 601		VOA's	
<input checked="" type="checkbox"/> TPH-G/BTEX	3	VOA's	HCl
TPH- Diesel		Amber Liter	
TOG 5520 BF		Amber Liter	H <sub>2</sub> SO <sub>4</sub>





# Birch Technical Services

# GROUNDWATER SAMPLING FORM

116 Liberty Street  
 Santa Cruz, Ca 95060  
 (408) 459-0718

Well Number: MW-3

Project Number: 10-011

Sample Type:  Groundwater  Trip Blank  Duplicate of \_\_\_\_\_

Station Number: Anderson

Sampled by: DAN BIRCH

Date: 4 / 14 / 93

## WELL PURGING

**PURGE VOLUME**

Casing Diameter (inches)  
 Volume Factors:

2" 0.1632  3" 0.3672  4" 0.6528  4.5" 0.826  6" 1.469  \_\_\_\_\_

Total Depth of Well: 36.26

Initial Water Level: 19.44

**PURGE METHOD:**

Total Volume Purged: 9

Time Elapsed: 10

Honda Pump  
 Disposable Poly Tubing (37 ft)  
 Speed Winch  
 Disposable PVC Bailer(s) (\_\_\_\_)  
 Other \_\_\_\_\_

Calculated Purge Volume:

$$\underline{36.26} - \underline{19.44} = \underline{16.82} \times \underline{.16} = \underline{2.69} \times \underline{3} = \underline{8.07} \text{ (gallons)}$$

Total Depth    Water Level                      Well Vol. Fac.                      # of vol. to Purge                      Calculated Purge Volume

### Subjective Analysis Prior to Purging

SHEEN  No  Yes    Depth to Product None (ft)    Product Thickness None (ft)

### PARAMETER EQUIPMENT CALIBRATION

pH Meter #: 9112    Time: 1107  
 Solution pH 7.00 7 at 70 °F  
 Solution pH 4.00 4 at 70 °F  
 Solution pH 10.00 10 at 70 °F  
 Water Level Meter#: 10337

COMMENTS:

### SAMPLING METHOD

PVC Disposable Bailer    Time Sampled (24 hour clock) 1212  
 Teflon Bailer  
 Other: \_\_\_\_\_

### WELL SAMPLING PARAMETERS

Gallons Removed	Time	Temp °F	pH	Cond. (umhos/cm)
2	1205	65.7	7.32	1.09
5	1207	64.9	7.34	1.11
7	1209	63.5	7.36	1.11
9	1212	63.5	7.36	1.11

Analysis Required	No. of	Container Type	Preservatives
EPA 601		VOA's	
<input checked="" type="checkbox"/> TPH-G/BTEX	3	VOA's	HCl
TPH- Diesel		Amber Liter	
TOG 5520 BF		Amber Liter	H <sub>2</sub> SO <sub>4</sub>





**APPENDIX B**

**LABORATORY REPORT AND CHAIN OF CUSTODY RECORD**



MR. BRADY NAGLE  
ALISTO ENGINEERING GROUP  
1000 BURNETT AVENUE, SUITE 420  
CONCORD, CA 94520

Workorder # : 9304183  
Date Received : 04/16/93  
Project ID : 10-011  
Purchase Order: N/A

The following samples were received at Anamatrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9304183- 1	MW-1
9304183- 2	MW-2
9304183- 3	MW-3
9304183- 4	QC-1
9304183- 5	QC-2

RECEIVED  
MAY 21 1993  
LISGSD

This report consists of 5 pages not including the cover letter, and is organized in sections according to the specific Anamatrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anamatrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anamatrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anamatrix.

Sarah Schoen, Ph.D.  
Laboratory Director

04-30-93

Date

REPORT SUMMARY  
ANAMETRIX, INC. (408)432-8192

MR. BRADY NAGLE  
ALISTO ENGINEERING GROUP  
1000 BURNETT AVENUE, SUITE 420  
CONCORD, CA 94520

Workorder # : 9304183  
Date Received : 04/16/93  
Project ID : 10-011  
Purchase Order: N/A  
Department : GC  
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9304183- 1	MW-1	WATER	04/14/93	TPHg/BTEX
9304183- 2	MW-2	WATER	04/14/93	TPHg/BTEX
9304183- 3	MW-3	WATER	04/14/93	TPHg/BTEX
9304183- 4	QC-1	WATER	04/14/93	TPHg/BTEX
9304183- 5	QC-2	WATER	04/14/93	TPHg/BTEX

REPORT SUMMARY  
ANAMETRIX, INC. (408)432-8192

MR. BRADY NAGLE  
ALISTO ENGINEERING GROUP  
1000 BURNETT AVENUE, SUITE 420  
CONCORD, CA 94520

Workorder # : 9304183  
Date Received : 04/16/93  
Project ID : 10-011  
Purchase Order: N/A  
Department : GC  
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Balmer 4/29/93  
Department Supervisor Date

Steve Smith 4/30/93  
Chemist Date



ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS  
(GASOLINE WITH BTEX)  
ANAMETRIX, INC. - (408) 432-8192

Anamatrix W.O.: 9304183  
Matrix : WATER  
Date Sampled : 04/14/93

Project Number : 10-011  
Date Released : 04/29/93

Reporting Limit	Sample I.D.# MW-1	Sample I.D.# MW-2	Sample I.D.# MW-3	Sample I.D.# QC-1	Sample I.D.# QC-2
COMPOUNDS (ug/L)	-01	-02	-03	-04	-05
Benzene	0.5	ND	ND	ND	ND
Toluene	0.5	ND	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND	ND
TPH as Gasoline	50	ND	ND	ND	ND
% Surrogate Recovery	101%	81%	83%	81%	101%
Instrument I.D.	HP4	HP21	HP21	HP21	HP4
Date Analyzed	04/22/93	04/20/93	04/20/93	04/20/93	04/23/93
RLMF	1	1	1	1	1

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
- RLMF - Reporting Limit Multiplication Factor.

Anamatrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Steve Amos 4/30/93  
Analyst Date

Cheryl Balmer 4/29/93  
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS  
(GASOLINE WITH BTEX)  
ANAMETRIX, INC. - (408) 432-8192

Anamatrix W.O.: 9304183  
Matrix : WATER  
Date Sampled : N/A

Project Number : 10-011  
Date Released : 04/29/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# BA2202E3 BLANK	Sample I.D.# BA2301E3 BLANK	Sample I.D.# BA2001E3 BLANK
Benzene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND
TPH as Gasoline	50	ND	ND	ND
% Surrogate Recovery		107%	110%	84%
Instrument I.D.		HP4	HP4	HP21
Date Analyzed		04/22/93	04/23/93	04/20/93
RLMF		1	1	1

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
- RLMF - Reporting Limit Multiplication Factor.

Anamatrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Steve Jones                      4/30/93  
Analyst                                      Date

Cheryl Balmer                      4/29/93  
Supervisor                                      Date

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT  
 EPA METHOD 5030 WITH GC/FID  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE  
 Matrix : WATER  
 Date Sampled : N/A  
 Date Analyzed : 04/23/93

Anamatrix I.D. : MA2201E1  
 Analyst : *AS*  
 Supervisor : *CS*  
 Date Released : 04/29/93  
 Instrument I.D.: HP4

COMPOUND	SPIKE AMT. (ug/L)	REC LCS (ug/L)	%REC LCS	% REC LIMITS
GASOLINE	500	490	98%	67-127
p-BFB			77%	61-139

\* Quality control established by Anamatrix, Inc.



**ANAMETRIX INC**  
 Environmental & Analytical Chemistry  
 1961 Concourse Drive, Suite E, San Jose, CA 95131  
 (408) 432-8192 • Fax (408) 432-8198

4/15/93  
 11:00 AM

9304183

18

# CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER		PROJECT NAME						Type of Analysis										Condition of Samples	Initial		
10-D11		ANDERSON																			
Send Report Attention of:				Report Due		Verbal Due		Number of Cntnrs	Type of Containers												
BRADY WAGLE				4,30,93		, ,															
Sample Number	Date	Time	Comp	Matrix	Station Location																
① MW-1	4/14/93	1320		W	FAYWARD		3	VOAs	X												
② MW-2		1130					3		X												
③ MW-3		1212					3		X												
④ QC-1		1133					3		X												
⑤ QC-2		1000					1		X												

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Remarks:
<i>[Signature]</i>	4/16/93			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	
Relinquished by: (Signature)	Date/Time	Received by Lab:	Date/Time	COMPANY: ALISTO ENGINEERING
		<i>[Signature]</i>	4/16/93 14:00	ADDRESS:
				PHONE: 510 295 1650 FAX: