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LETTER OF TRANSMITTAL

To: Alameda County Dept
of Env Health
80 Swan Way, Suite 200
Oakland, CA 94620

ATTN Ms. Juliet Shin

Date: 6/2/94

Project Joe Sio Chevrolet
SIO101/12104.2001

1) **For Review and Comment ( )**
2) **For Approval ( )**
3) **As Requested ( )**
4) **For Your Use (x)**

We are enclosing (x) / Sending under separate cover ( ):

No. of Copies	Description
1	Bound "Quarterly Groundwater Monitoring Report, Second Quarter 1994"

Comments:

By: Larry Miller

QUARTERLY GROUNDWATER MONITORING REPORT
Second Quarter 1994

JOE SIO CHEVROLET
914-916 San Pablo Avenue
Albany, California
STID-3808

May 31, 1994

Prepared for:

MS. FLORENCE ANN CONNORS
EXECUTOR FOR THE ESTATE OF JOSEPHINE A. DIBBLE
1658 Del Dayo Drive
Carmichael, California 95608

Prepared by:

BURLINGTON ENVIRONMENTAL INC.
5901 Christie Avenue, Suite 501
Emeryville, California 94608

SIO101/12104.2001

BURLINGTON
ENVIRONMENTAL

May 31, 1994
SIO101/12104

Ms. Florence Ann Connors
Executor for the Estate of Josephine A. Dibble
1658 Del Dayo Drive
Carmichael, California 95608

Subject: **QUARTERLY GROUNDWATER MONITORING REPORT**
Second Quarter 1994
Joe Sio Chevrolet
914-916 San Pablo Avenue, Albany, California

Dear Ms. Connors:

Burlington Environmental Inc. (Burlington) is pleased to submit the following quarterly monitoring report for Joe Sio Chevrolet, located at 914-916 San Pablo Avenue in Albany, California (see Figure 1, Site Location Map). The groundwater monitoring and sampling was conducted by Burlington on April 15, 1994.

MONITORING ACTIVITIES

Two 550-gallon underground storage tanks (USTs) were removed from the site on March 20, 1989 by Petroleum Engineering, Inc. (PE). One UST contained gasoline and was located under the sidewalk between the former building and San Pablo Avenue, and the other UST contained waste oil and was located adjacent to the southwest corner of the former building (see Figure 2, Site Plan). Soil samples collected from the former gasoline UST contained concentrations of total petroleum hydrocarbons (TPH) ranging between 270 and 1,300 milligrams per kilogram (mg/kg). As a result of the TPH in the soil samples from beneath the former gasoline UST, Alameda County Department of Environmental Health (ACDEH) requested that additional excavation be conducted in the vicinity of the former gasoline UST, and groundwater monitoring wells be installed and sampled to determine groundwater quality, flow direction, and gradient.

On July 24 and 25, 1991, Aqua Terra Technologies (ATT) of Walnut Creek, California, installed three groundwater monitoring wells (MW-1, MW-2, and MW-3) at the site (see Figure 2, Site Plan). The three groundwater monitoring wells were developed on July 31, 1991 and sampled on August 7, 1991. The analytical results of the sampling event conducted by ATT on August 7, 1991 are presented in Table 1. Development and purge water were contained in 55-gallon drums and stored on the site. At the time the

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wells were sampled, ATT determined that the groundwater flow direction was to the west-northwest with an approximate hydraulic gradient of 0.01 feet/foot.

In a letter dated November 9, 1993, Ms. Juliet Shin (ACDEH) directed that quarterly groundwater monitoring be resumed at the site. In April 1994, Burlington received authority to proceed with quarterly groundwater monitoring at the site.

In each well, the depth to groundwater and the presence or absence of phase-separated hydrocarbons (PSH) were determined. Groundwater samples were collected and analyzed according to U. S. Environmental Protection Agency (EPA) guidelines to determine the concentrations of total petroleum hydrocarbons as gasoline (TPHg); benzene, toluene, ethylbenzene, and total xylenes (BTEX); and total lead. In addition, groundwater from monitoring well MW-3 was analyzed for cadmium, chromium, zinc, and nickel. The monitoring and sampling procedures are presented in Appendix A. Field data sheets are presented in Appendix B.

Western Environmental Science & Technology, located in Davis, California, performed the analysis. The analytical results and detection limits are presented in Table 1.

RESULTS

The groundwater elevation in the monitoring wells beneath the site on April 15, 1994, ranged from 31.76 to 32.57 feet above mean sea level (see Table 2, Groundwater Elevation Data). A contour map of these data is presented in Figure 3. The approximate groundwater flow direction is to the south with an approximate hydraulic gradient of 0.01 feet/foot.

The results of the chemical analyses are presented in Table 2. No PSH were detected in any of the groundwater monitoring wells. Groundwater samples collected from well MW-1 contained 2,500 micrograms per liter (µg/l) of TPHg, 880 µg/l of benzene, 22 µg/l of toluene, 79 µg/l of ethyl-benzene, 47 µg/l of total xylenes, and 0.0093 milligrams per liter (mg/l) of total lead. Samples collected from well MW-2 contained 0.022 mg/l of total lead. Samples collected from well MW-3 contained 0.22 mg/l of total lead, 0.012 mg/l of cadmium, 0.25 mg/l of chromium, 0.34 mg/l of nickel, and 0.49 mg/l of zinc. Samples collected from wells MW-2 and MW-3 were below the method detection limit (MDL) for TPHg and BTEX.

Chain-of-custody documentation and certified analytical results are presented in Appendix C. Purge and rinsate water was stored on the site in 55-gallon drums. The drums were labeled by the field sampling technician. Purge and rinsate water disposal will be arranged by the client.

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As requested in Ms. Shin's letter of November 9, 1993, exploratory boring logs and well construction details from the ATT Groundwater Monitoring Well Installation and Soil and Groundwater Sample Results Report dated November 15, 1991 are presented in Appendix D.

CONCLUSIONS

Although the ATT Groundwater Sampling Report dated November 15, 1991 states that the source of hydrocarbons has been removed from the area of the former gasoline UST, the significant increase in the level of TPHg and BTEX in the sample collected from well MW-1 in 1994 over the sample collected from well MW-1 in 1991 indicates that the groundwater below the former gasoline UST continues to be impacted. ATT's report also indicates that further excavation below the former gasoline UST is not possible because of underground utilities in the area.

Burlington appreciates the opportunity to provide you with quality consulting and environmental services. Please feel free to contact us if we can provide further assistance.

Sincerely,

BURLINGTON ENVIRONMENTAL INC.

Larry Miller
Senior Project Manager

David C. Tight, R.G. No. 4603
Investigation/Remediation Manager

Attachments:

Figure 1 - Site Location Map
Figure 2 - Site Plan
Figure 3 - Groundwater Elevation Contours

Table 1 - Groundwater Analytical Data
Table 2 - Groundwater Elevation Data

Appendix A - Groundwater Sampling and Analysis Procedures
Appendix B - Water Sample Field Data Sheets
Appendix C - Chain-of-Custody Records and Certified Analytical Reports
Appendix D - Exploratory Boring Logs and Well Construction Details

cc: Ms. Juliet Shin (ACDEH)

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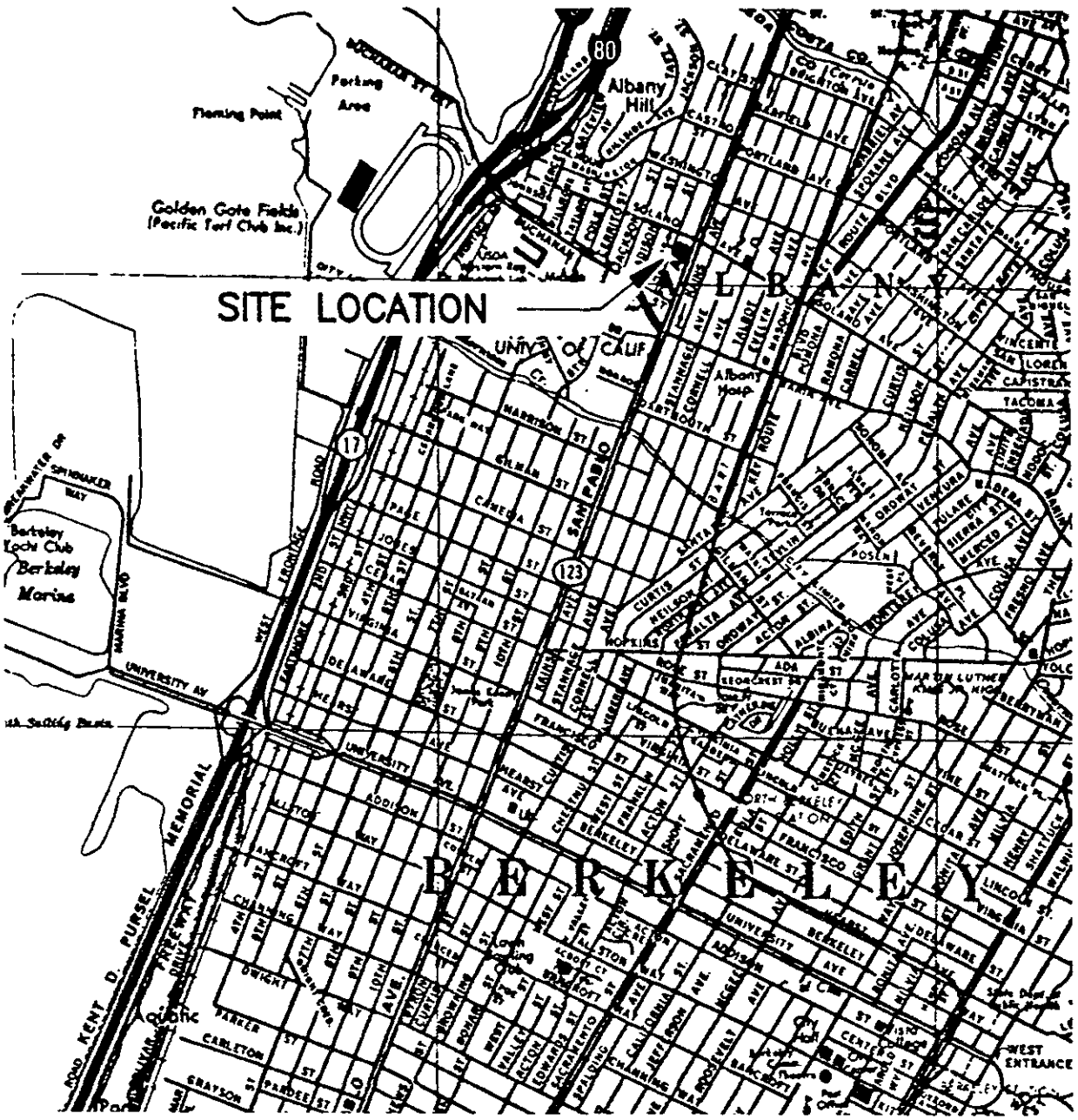
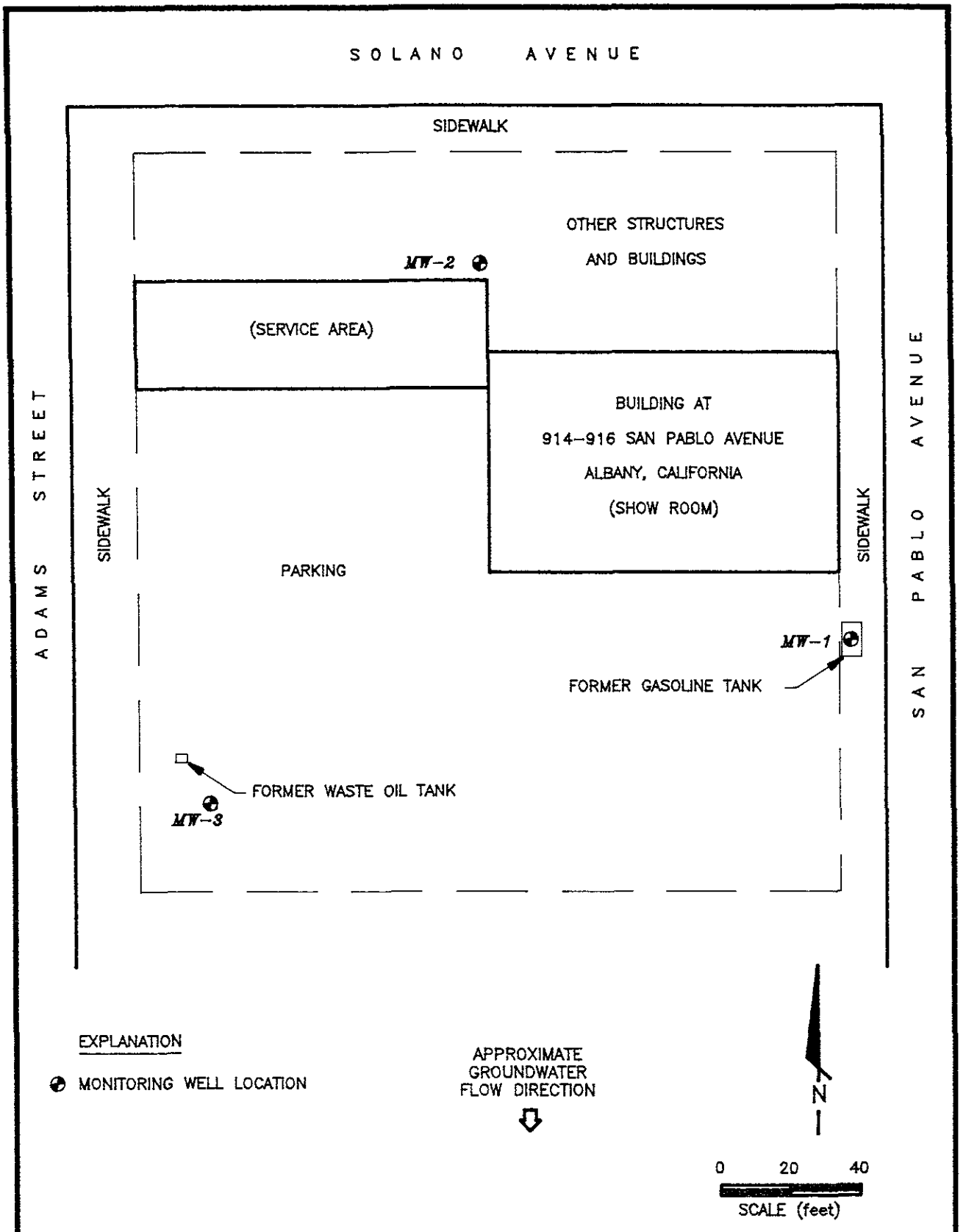
FIGURES 1 - 3



BURLINGTON ENVIRONMENTAL INC.	SITE LOCATION MAP Joe Sio Chevrolet 914 – 916 San Pablo Avenue Albany, California	Figure 1
		Project No. 12104
		Drawn By SBW / Date 5/27/94
	Reviewed By : DC / Date : 6/1/94	Drawing No. ASI00101



BURLINGTON ENVIRONMENTAL INC.

SITE PLAN
Joe Sio Chevrolet
914 – 916 San Pablo Avenue
Albany, California

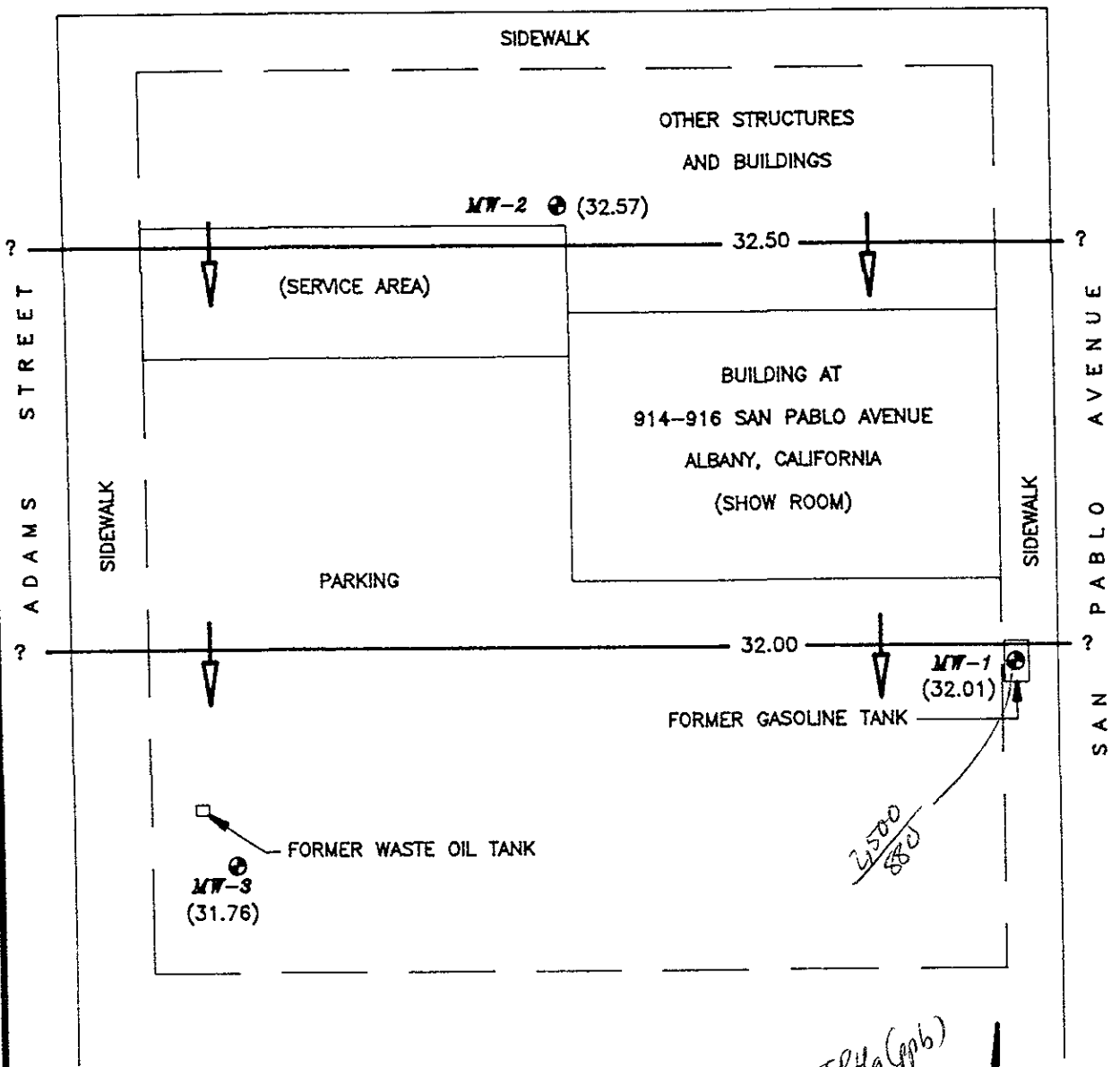
Figure 2

Project No. 12104

Drawn By SBW | Date 6/1/94

Reviewed By : LJM | Date : 6/2/94

Drawing No. ASI00102



BURLINGTON ENVIRONMENTAL INC.

GROUNDWATER ELEVATION CONTOURS
Joe Sio Chevrolet
914 – 916 San Pablo Avenue
Albany, California

Figure 3

Project No.	12104
Drawn By	SBW
Date	6/2/94
Reviewed By :	LJM
Date :	6/2/94
Drawing No.	AS100103

TABLES 1 - 2

TABLE 1
GROUNDWATER ANALYTICAL DATA

Joe Sio Chevrolet
914-916 San Pablo Avenue, Albany, California

Monitoring Well No.	Date Sampled	Sample No.	TPH Gasoline (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Total Xylenes (ug/l)	Total Oil and Grease (mg/l)	Cadmium (mg/l)	Chromium (mg/l)	Lead (mg/l)	Nickel (mg/l)	Zinc (mg/l)
	EPA Analytical Method:		8015m	602	602	602	602	9070	AA	AA	AA	AA	AA
Groundwater Analyses:													
MW-1	8/7/91	MW-1	**110**	**16**	**2**	**0.7**	**15**	NA	NA	NA	NA	NA	NA
	4/15/94	MW01-041594	**2,500**	**880**	**22**	**79**	**47**	NA	NA	NA	**0.0093**	NA	NA
MW-2	8/7/91	MW-2	NA(<50)	ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA	NA	NA	NA	NA	NA
	4/15/94	MW02-041494	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	**0.022**	NA	NA
MW-3	8/7/91	MW-3	NA(<50)	ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<0.50)	ND(<5)	NA	NA	NA	NA	NA
	4/15/94	MW03-041594	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	**0.012**	**0.25**	**0.22**	**0.34**	**0.49**
	4/15/94 (d)	DW01-041494	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	NA	NA	NA
Rinsate Analyses:													
-	4/15/94	RS01-041594	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)		NA	NA	NA	NA	NA
Trip Blank Analyses:													
-	4/15/94	TB01-041594	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)		NA	NA	NA	NA	NA
DRINKING WATER STANDARDS:													
California Maximum Contaminant Levels:			-	1	-	680	1750	-	0.1	0.5	0.05	-	5

Results above detection limit are bolded for emphasis.

(d)	Duplicate sample
mg/l	Milligrams per liter (parts per million)
NA	Not analyzed
ND	Concentration below detection limit presented in parenthesis
ug/l	Micrograms per liter (parts per billion)

TABLE 2
GROUNDWATER ELEVATION DATA

Joe Sio Chevrolet
914-916 San Pablo Avenue, Albany, California

Monitoring Well No.	Date Measured	Total Depth (ft-BTOC)	TOC Elevation (ft-MSL)	Depth to Water (ft-BTOC)	Water Elevation (ft-MSL)
MW-1	8/7/91	NM	42.61	10.49	32.12
	8/12/91	NM	42.61	10.37	32.24
	4/15/94	29.80	42.61	10.60	32.01
MW-2	8/7/91	NM	42.73	11.64	31.09
	8/12/91	NM	42.73	11.69	31.04
	4/15/94	26.88	42.73	10.16	32.57
MW-3	8/7/91	NM	39.44	8.94	30.50
	8/12/91	NM	39.44	8.94	30.50
	4/15/94	25.58	39.44	7.68	31.76

Water levels measured on 8/7/91 and 8/12/91 by Aqua Terra Technologies (ATT) of Walnut Creek, California.

TOC elevations obtained from survey data provided in the ATT Groundwater Monitoring Report dated 11/11/91.

ft-BTOC	Feet below top of casing
ft-MSL	Feet above mean sea level
NM	Not measured
TOC	Top of casing

APPENDIX A

Groundwater Sampling and Analysis Procedures

APPENDIX A

Groundwater Sampling and Analysis Procedures

INTRODUCTION

The sampling and analysis procedures for water-quality monitoring programs are contained in this Appendix. These procedures ensure that consistent and reproducible sampling methods are used, proper analytical methods are applied, analytical results are accurate, precise, and complete, and the overall objectives of the monitoring program are achieved.

SAMPLE COLLECTION

Sample collection procedures include equipment cleaning, water-level and total well-depth measurements, and well purging and sampling.

Equipment Cleaning

Sample bottles, caps, and septa were precleaned and provided by a DHS-certified laboratory. All sampling containers were used only once and discarded after analysis was complete.

Before starting the sampling event, all equipment to be placed in the well or come in contact with groundwater was disassembled and cleaned thoroughly with detergent water, then steam cleaned with tap water, and rinsed with distilled water. Any parts that may absorb contaminants, such as plastic pump valves or bladders, were cleaned as described above or replaced.

During the sampling event all equipment used in the well was washed with detergent, steam-cleaned, and rinsed with distilled water before purging or sampling the next well. The rinsate water was contained for temporary storage in 55-gallon drums and disposal

will be arranged by the client. The 55-gallon drums were stored onsite and labeled by the field technician.

Quality Assurance Samples

A trip blank was analyzed to insure contamination did not result from travel exposure.

WATER-LEVEL, FLOATING-HYDROCARBON, AND TOTAL WELL-DEPTH MEASUREMENTS

Before purging and sampling, the depth to water, floating hydrocarbon thickness, and the well total depth were measured using an oil water interface probe and an electric sounder. The electric sounder, manufactured by Slope-Indicator, Inc., is a transistorized instrument that uses a reel-mounted, two conductor, coaxial cable that connects the control panel to the sensor. Cable markings are stamped at 1-foot intervals. An engineers rule was used to measure the depths to the closest 0.01 foot. The water level was measured by lowering the sensor into the monitoring well. A low current circuit is completed when the sensor contacts the water, which serves as a conductor. The current is amplified and fed across an indicator light and audible buzzer, signaling when water has been contacted. A sensitivity control compensates for very saline or conductive water. The oil water interface probe signals with a solid sound when it contacts phase-separated hydrocarbons. When the probe detects water, the sound changes to a beeping sound.

No phase-separated hydrocarbons were detected in any of the monitoring wells. When PSH is detected at greater than 1/32-inch in thickness, a sample is not collected.

All liquid measurements were recorded to the nearest 0.01 foot in the field logbook. The groundwater elevation at each monitoring well was calculated by subtracting the measured depth to water from the surveyed well-casing elevation. Well total depth was then measured by lowering the sensor to the bottom of the well. Well total depth, used to calculate purge volumes and to determine whether the well screen is partially obstructed by silt, was recorded to the nearest 0.01 foot in the field log book.

WELL PURGING

Before sampling, standing water in the casing was purged from the monitoring wells using a PVC hand bailer. Samples were collected from the monitoring wells after a minimum of four casing volumes had been evacuated or the pH, electrical conductivity, and temperature had stabilized. In the case that the monitoring well was purged until dry, the well was allowed to recover to within 80% of its static water level and sampled.

The pH, electrical conductivity, and temperature meter were calibrated each day before beginning field activities. After every well volume of groundwater removed from the monitoring well, field measurements were taken. The data is presented on the water sample field data sheets. The calibration was checked once each day to verify meter performance. All field meter calibrations were recorded in the field log book.

Groundwater generated from well-purging operations were contained for temporary storage in 55-gallon drums. All drums were labeled and stored onsite. The sampler recorded on the drum label for each drum generated:

- drum content (i.e., groundwater)
- source (i.e., well identification code)
- date generated
- client contact
- project number
- name of sampler.

The purge water will be disposed of by the client.

WELL SAMPLING

A Teflon bailer was used for well sampling. Glass bottles of at least 40 milliliters volume and fitted with Teflon-lined septa were used in sampling for volatile organics. These bottles were filled completely to prevent air from remaining in the bottle. A positive meniscus forms when the bottle is completely full. A convex Teflon septum is placed over the meniscus to eliminate air. After capping, the bottle was inverted and tapped to verify that it did not contain air bubbles. The sample containers for other parameters were filled, and capped.

SAMPLE HANDLING AND DOCUMENTATION

The following section specifies the procedures and documentation used during sample handling.

Sample Handling

All sample containers were labeled immediately following sample collection. Samples were kept cool with ice cubes until received by the laboratory. At the time of sampling, each sample was logged on a chain-of-custody record which accompanied the sample to the Western Environmental, Science, and Technology.

Sample Documentation

The following procedures were used during sampling and analysis to provide chain-of-custody control during sample handling from collection through storage. Sample documentation included:

- field log books to document sampling activities in the field
- labels to identify individual samples; and

- chain-of-custody record sheets for documenting possession and transfer of samples.

Field Log Book

In the field, the sampler recorded on the Water Sample Field Data Sheet for each sample collected:

- project number
- client name
- location
- name of sampler
- date and time
- pertinent well data (e.g., casing diameter, depth to water, well depth
- calculated and actual purge volumes
- purging equipment used
- sampling equipment used
- appearance of each sample (e.g., color, turbidity, sediment)
- results of field analyses (i.e., temperature, pH, electrical conductivity)
- general comments

The field logbooks were signed by the sampler.

Labels

Sample labels contained:

- project number
- sample number (i.e., well designation)
- sampler's initials
- date and time of collection
- type of preservative used (if any)

Sampling and Analysis Chain-of-Custody Record

The Sampling and Analysis Chain-of-Custody record, initiated at the time of sampling, contains, but is not limited to, the well number, sample type, analytical request, date of sampling, and the name of the sampler. The record sheet was signed, timed, and dated by the sampler when transferring the samples. The number of custodians in the chain of possessions were kept to a minimum. A copy of the Sampling and Analysis Chain-of-Custody record is included in Appendix C.

APPENDIX B

Water Sample Field Data Sheets

FIELD REPORT
WATER LEVEL / FLOATING PRODUCT SURVEY

PROJECT NO.: 12104 LOCATION: 914 SAN PABLO AVE., ALBANY SAMPLER: D. LAMB
STATION NO.: JOE SIO CHEVROLET DATE: 4-15-94 TIME AND DATE OF SYSTEM START-UP: N/A

WELL ID	TOTAL DEPTH (Feet)	WELL DIAMETER (in)	DEPTH TO WATER (Feet)	DEPTH TO FLOATING PRODUCT (Feet)	FLOATING PRODUCT THICKNESS (Feet)	TIME	COMMENTS
MW-1	29.80	2	10.60	—	—	0815	REPLACED BROKEN LOCKING WELL CAP
MW-2	26.88	2	10.16	—	—	0805	REPLACED BROKEN LOCKING WELL CAP
MW-3	25.58	2	7.68	—	—	0755	

WATER DATA SHEET

PROJECT NO.: 12104 SAMPLE ID.: MW01-041594

LOCATION: 914 San Pablo Ave., Albany DATE: 4-15-94

STATION NO.: SIO-101 WELL/SAMPLE

SAMPLER: O. LAMB POINT DESIGNATION: MW-1

[X] SAMPLING [ ] DEVELOPING [ ] BAILING FLOATING PRODUCT

Casing Diameter:
2 inch X
3 inch
4 inch
6 inch
other

Screened Int. (ft.): 10 - 30

Initial DTW (ft.): 10.60 @ 0815

Initial TD (ft.): 29.80

Water Column Height (ft.): 19.20

80 % Recovery (ft.): 14.44

Calc. Casing Vol. (gal.): 3.26
(2" = .17) (3" = .38) (4" = .66) (6" = 1.5)

Calc. Purge Vol. (gal.): 13.056

Final DTW (ft.): 19.26 0857

Final TD (ft.): 29.79

Casing Elev. (ft.):

TD (Actual) (ft.): 30

Product Bailed (gal.): Ø

FIELD MEASUREMENTS

TIME	VOLUME (gal.)	pH (units)	TEMP. (degrees F)	E.C. (umhos/cm)	COLOR	DTW (if dry)
0843	3	5.60	63.1	2.50 X10^2	TAN/ PALE GRN.	
0847	6	5.69	63.8	2.48 X10^2	TAN/ PALE GRN.	
0851	9	5.77	64.2	2.50 X10^2	TAN	
0854	13.25	5.81	65.2	2.50 X10^2	TAN	

Odor? slight

Actual Purge Vol. (gal.): 13.25

PURGE METHOD:
- ___ Bailer (Teflon)
- X Bailer (PVC)
- ___ Well Wizard
- ___ Dedicated Bailer
- ___ Other

SAMPLE METHOD:
- X Bailer (Teflon)
- ___ Bailer (PVC)
- ___ Dedicated Bailer
- ___ Other

REMARKS: MW01-041594 SAMPLED @ 0915 ON 4-15-94
OIL/H$_2$O INTERFACE PROBE INDICATES NO PSH.

WEATHER: light fog, breezy, ~ 60°.

WATER DATA SHEET

PROJECT NO.: 12104 SAMPLE ID.: MW02 · 041594

LOCATION: 914 San Pablo Ave., Albany DATE: 4.15.94

STATION NO.: 510 · 101 WELL/SAMPLE

SAMPLER: D.LAMB POINT DESIGNATION: MW-2

☐ SAMPLING ☐ DEVELOPING ☐ BAILING FLOATING PRODUCT

Casing Diameter:
2 inch X
3 inch ___
4 inch ___
6 inch ___
other ___

Screened Int. (ft.): 8-28

Initial DTW (ft.): 10.16 @0805

Initial TD (ft.): 26.88

Water Column Height (ft.): 16.72

Calc. Casing Vol. (gal.): 2.89
(2" = .17) (3" = .38) (4" = .66) (6" = 1.5)

Calc. Purge Vol. (gal.): 11.36

Final DTW (ft.): 11.90 @ 0955

Final TD (ft.): 26.92

Casing Elev. (ft.): ___

TD (Actual) (ft.): 28

80 % Recovery (ft.): 13.50

Product Bailed (gal.): Ø

FIELD MEASUREMENTS

TIME	VOLUME (gal.)	pH (units)	TEMP. (degrees F)	E.C. (umhos/cm)	COLOR	DTW (if dry)
0942	3	6.51	61.1	1.98×10^2	YELLOW / BRN.	
0945	6	6.48	61.7	1.99×10^2	YELLOW / BRN.	
0948	9	6.49	62.6	2.05×10^2	YELLOW / BRN.	
0952	11.5	6.42	62.7	2.05×10^2	YELLOW / BRN.	

Odor? NONE

Actual Purge Vol. (gal.): 11.5

PURGE METHOD:
___ Bailer (Teflon)
X Bailer (PVC)
___ Well Wizard
___ Dedicated Bailer
___ Other ___

SAMPLE METHOD:
X Bailer (Teflon)
___ Bailer (PVC)
___ Dedicated Bailer
___ Other ___

REMARKS: MW02 · 041594 SAMPLED @ 1015 ON 4.15.94
OIL/WATER INTERFACE PROBE INDICATES NO PSH.

WEATHER: Foggy, Breezy, ~60°.

WATER DATA SHEET

DW01. 041594 (DUPLICATE)

PROJECT NO.: 12104 SAMPLE ID.: MW03 · 041594

LOCATION: 914 SAN PABLO AVE, ALBANY DATE: 4.15.94

STATION NO.: SIO. 101 WELL/SAMPLE

SAMPLER: D. LAMB POINT DESIGNATION: MW-3

[X] SAMPLING [ ] DEVELOPING [ ] BAILING FLOATING PRODUCT

Casing Diameter:
2 inch X
3 inch ___
4 inch ___
6 inch ___
other ___

Screened Int. (ft.): 7-27

Initial DTW (ft.): 7.68 @ 0755

Initial TD (ft.): 25.58

Water Column Height (ft.): 17.9

80 % Recovery (ft.): 11.26

Calc. Casing Vol. (gal.): 3.04
(2" = .17) (3" = .38) (4" = .66) (6" = 1.5)

Calc. Purge Vol. (gal.): 12.17

Final DTW (ft.): 7.82 @ 1100

Final TD (ft.): 25.75

Casing Elev. (ft.): ___

TD (Actual) (ft.): 27

Product Bailed (gal.): Ø

FIELD MEASUREMENTS

TIME	VOLUME (gal.)	pH (units)	TEMP. (degrees F)	E.C. (umhos/cm)	COLOR	DTW (ft dry)
1045	3	7.03	62.6	1.89 x10²	BROWN	
1049	6	7.01	63.1	1.71 x10²	BROWN	
1052	9	7.00	64.9	1.72 x10²	BROWN	
1055	12.25	6.99	65.0	1.73 x10²	BROWN	

Odor? NONE

Actual Purge Vol. (gal.): 12.25

PURGE METHOD:
___ Bailer (Teflon)
X Bailer (PVC)
___ Well Wizard
___ Dedicated Bailer
___ Other ___

SAMPLE METHOD:
X Bailer (Teflon)
___ Bailer (PVC)
___ Dedicated Bailer
___ Other ___

REMARKS: MW03 · 041594 Sampled @ 1115 on 4.15.94
DW01 · 041594 Sampled @ 1130 on 4.15.94
OIL/WATER INTERFACE probe indicates NO PSH.

WEATHER: Foggy, Breezy, ~61°.

APPENDIX C

Chain-of-Custody Records
and
Certified Analytical Data

April 22, 1994
Sample Log 9160

Larry Miller
Burlington Environmental Inc.
5901 Cristie Street, Ste. 501
Emeryville, CA 94608

Subject: Analytical Results for 6 Water Samples
Identified as: Project # 12104 (S10.101)
Received: 04/15/94

Dear Mr. Miller:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on April 22, 1994 and describes procedures used to analyze the samples.

The sample(s) were received in:

40-ml glass vials sealed with TFE-lined septae
1-L polyethylene bottles with polyethylene caps

Each sample was transported and received under documented chain of custody, assigned a consecutive log number and stored at 4 degrees Celsius until analysis commenced.

Sample(s) were analyzed using the following method(s):

"BTEX" (EPA Method 602/Purge-and-Trap)
"TPH as Gasoline" (Modified EPA Method 8015/Purge-and-Trap)
"Metals by Atomic Absorption/ICAP" (EPA Methods 7000/6010/200.7)
"Total Lead" (EPA 7421)

Please refer to the following table(s) for summarized analytical results and contact us at 916-753-9500 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:

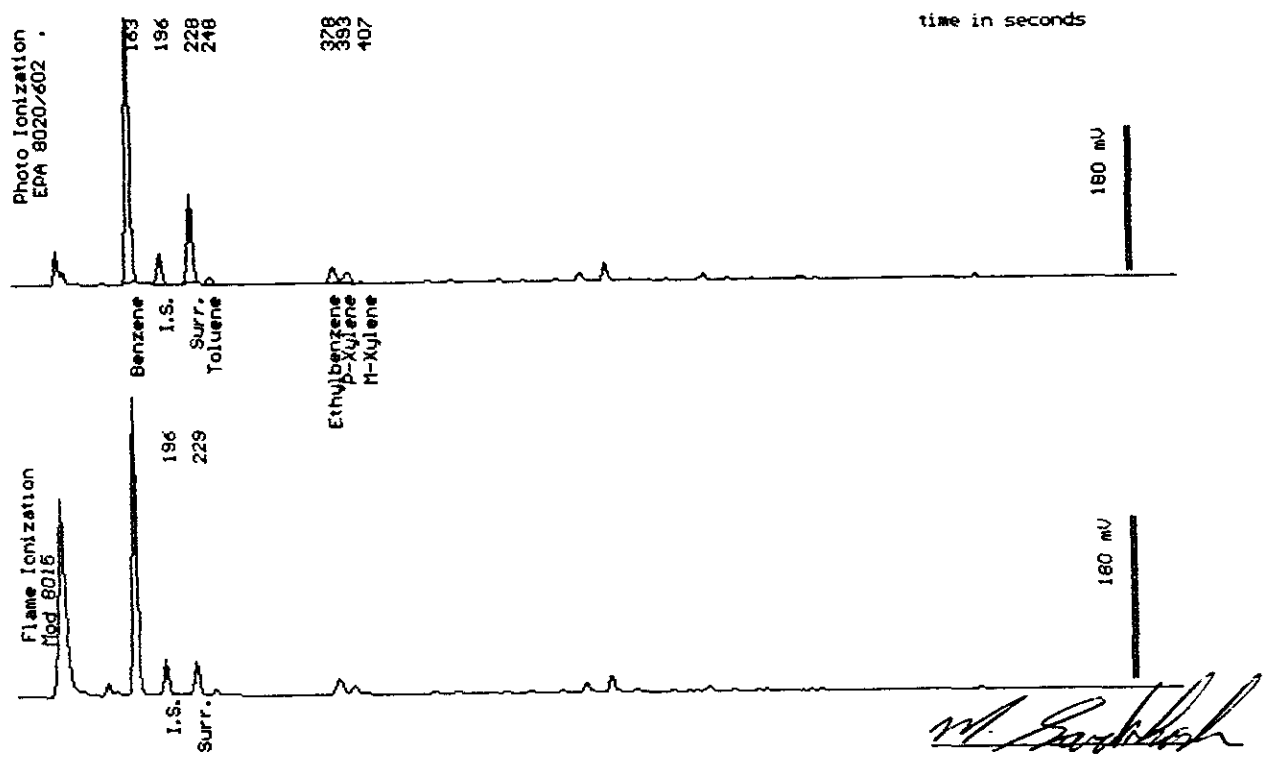
Joel Kiff
Senior Chemist

Sample Log 9160
9160-3

Sample: **MW01.041594**

From : Project # 12104 (S10.101)
Sampled : 04/15/94
Dilution : 1:5 QC Batch : 4079E
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(1.5)	880
Toluene	(1.5)	22
Ethylbenzene	(1.5)	79
Total Xylenes	(2.5)	47
TPH as Gasoline	(250)	2500
Surrogate Recovery		96 %



Date Analyzed: 04-19-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

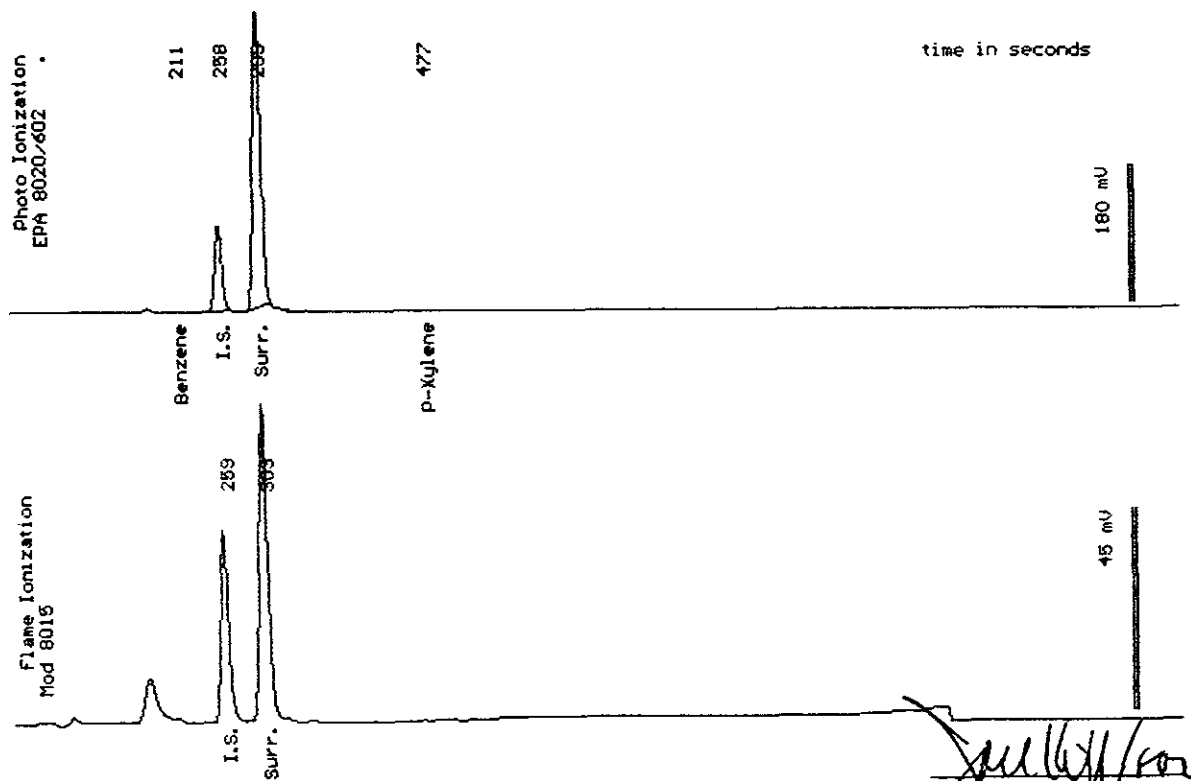
Sample Log 9160

9160-4

Sample: **MW02.041594**

From : Project # 12104 (S10.101)
Sampled : 04/15/94
Dilution : 1:1 QC Batch : 2070A
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		158 %



Date Analyzed: 04-19-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

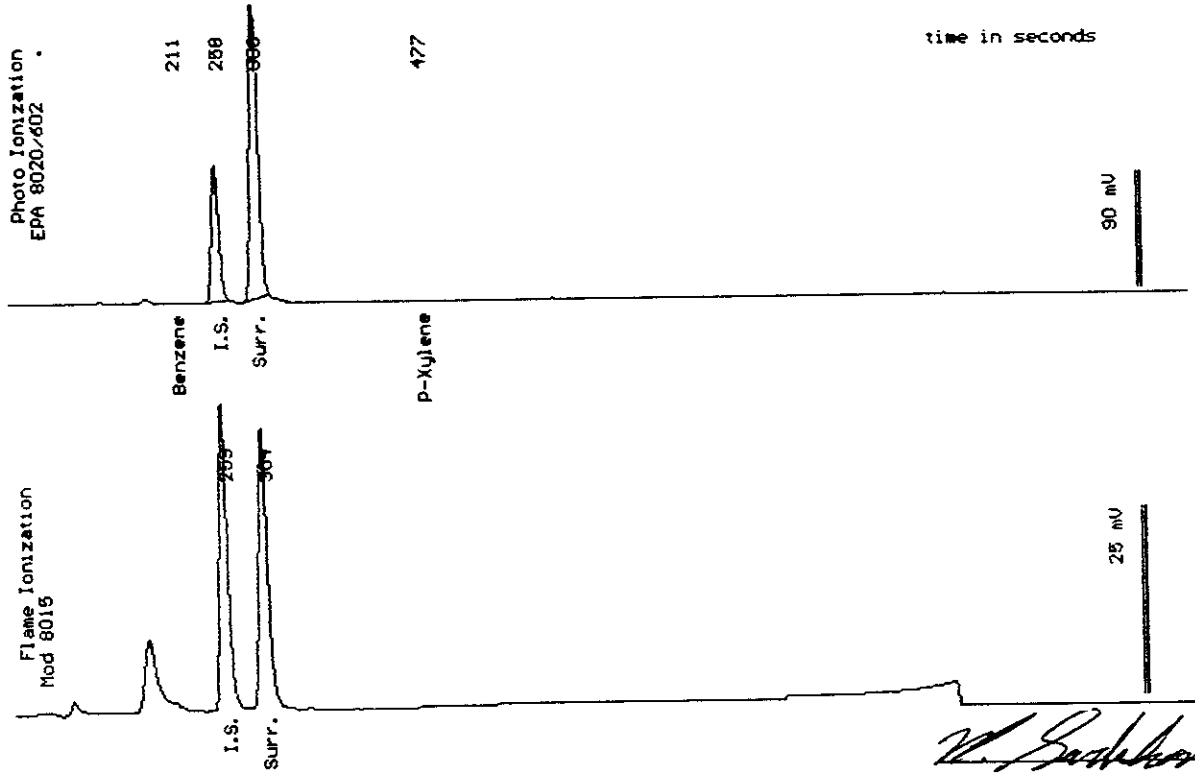
Mitra Sarkhosh
Senior Chemist

Sample Log 9160
9160-5

Sample: **MW03.041594**

From : Project # 12104 (S10.101)
Sampled : 04/15/94
Dilution : 1:1 QC Batch : 2070A
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		101 %



Date Analyzed: 04-19-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

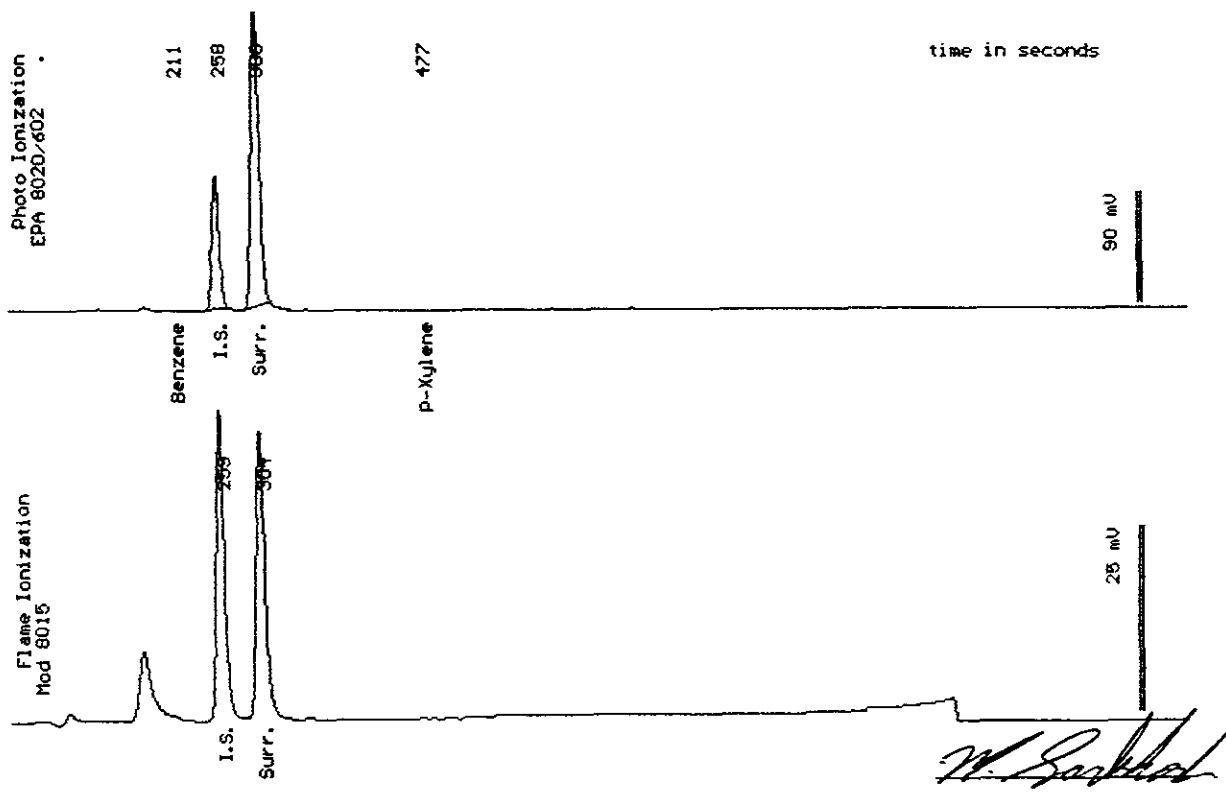
Sample Log 9160

9160-6

Sample: **DW01.041594**

From : Project # 12104 (S10.101)
Sampled : 04/15/94
Dilution : 1:1 QC Batch : 2070A
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		100 %



Date Analyzed: 04-19-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

April 22, 1994
Sample Log 9160

From : Project # 12104 (S10.101)
Sampled : 04/15/94 Received : 04/15/94
Matrix : water Units : mg/L

Total Lead (EPA 7421)

Sample ID	Result	MRL*	Date Digested	Date Analyzed
MW01.041594	0.0093	(0.003)	04/19/94	04/20/94
MW02.041594	0.022	(0.003)	04/19/94	04/20/94

* MRL = Method Reporting Limit

Michelle L. Anderson
Metals Supervisor

Western Environmental Science & Technology • 45133 County Road 32B • Davis, CA 95616 • 916 753-9500 • FAX: 916 757-4652

April 21, 1994
Sample Log 9160-5

Sample : **MW03.041594**
From : Project # 12104 (S10.101)
Sampled : 04/15/94 Received : 04/15/94
Matrix : Water Units : mg/L

5 LUFT "Waste Oil" Metals

Parameter	EPA Method	Date Digested	Date Analyzed	MRL*	Result
Cadmium	6010	04/19/94	04/21/94	(0.004)	0.012
Chromium	6010	04/19/94	04/21/94	(0.007)	0.25
Lead	7421	04/19/94	04/20/94	(0.030)	0.22
Nickel	6010	04/19/94	04/21/94	(0.015)	0.34
Zinc	6010	04/19/94	04/21/94	(0.010)	0.49

* MRL = Method Reporting Limit

Michelle L. Anderson
Metals Supervisor

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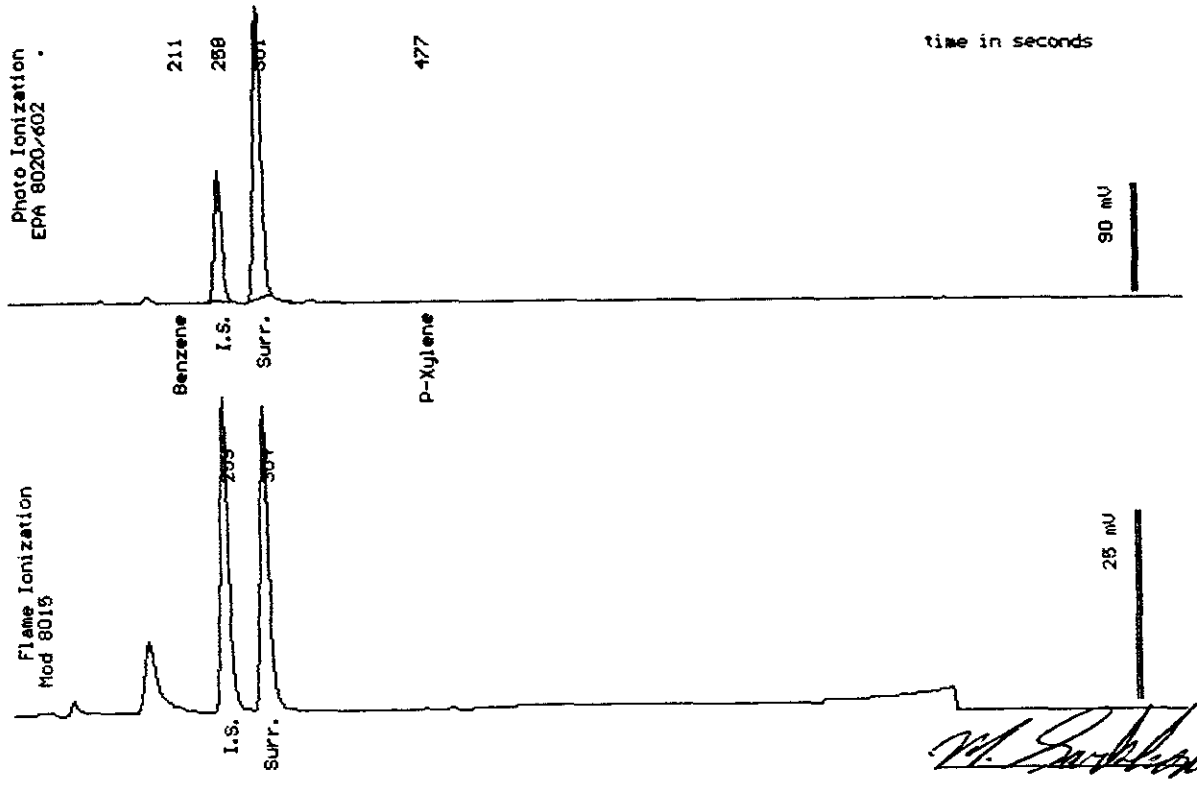
Sample Log 9160
9160-1

Sample: **TB01.041594**

From : Project # 12104 (S10.101)
Sampled : 04/15/94
Dilution : 1:1 QC Batch : 2070A
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		99 %



Date Analyzed: 04-19-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

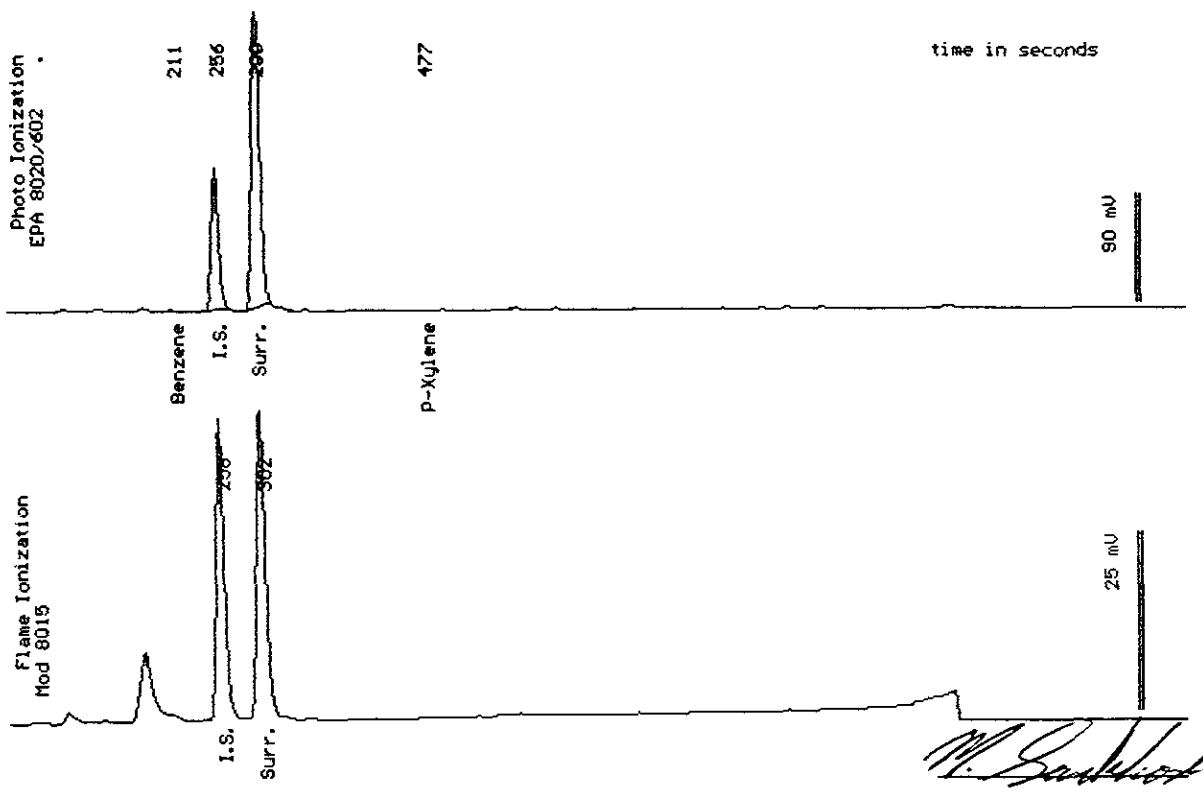
Mitra Sarkhosh
Senior Chemist

Sample Log 9160
9160-2

Sample: RS01.041594

From : Project # 12104 (S10.101)
Sampled : 04/15/94
Dilution : 1:1 QC Batch : 2070A
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		99 %



Date Analyzed: 04-19-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST
Western Environmental Science & Technology

1046 Olive Drive, Suite 3
Davis, CA 95616

916-753-9500
FAX #: 916-753-6091
LAB#: 916-757-4650

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Larry Miller
Phone #: 510-420-7910
Company/Address: Burlington Environ. FAX #: 510-658-7990
5901 Christie Ave, Ste 501 Emeryville, CA
Project Number: 12104
P.O.#:
Project Name: 510-101
Project Location: 914 San Pablo Ave, Albany, CA
Sampler Signature:

Sample ID	Sampling DATE 1994	Sampling TIME	Container VOA	Container SLEEVE	Container 1L GLASS	Container 1L PLASTIC	Method Preserved HCl	Method Preserved HNO_3	Method Preserved ICE	Method Preserved NONE	Matrix WATER	Matrix SOIL	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel/Oil (8015)	Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	96-Hour Fish Bioassay	EPA 601/8010	EPA 602/8020	EPA 615/8150	EPA 608/8080 - Pesticides	EPA 608/8080-PCBs	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivity, Corrosivity, Ignitibility	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	Cd, Cr, Pb, Zn, Ni (25 WET)	TOTAL (✓)	TOTAL LEAD	RUSH SERVICE (12 hr) or (24 hr)	EXPEDITED SERVICE (48 hr) or (1 wk)	STANDARD SERVICE (1 wk)
TB01-041594	4-15	0630	X				X		X		X			X																					X
RS01-041594	4-15	0745	X				X		X		X			X																					X
MW01-041594	4-15	0915	X			X	X	X	X		X			X																		X			X
MW02-041594	4-15	1015	X			X	X	X	X		X			X																		X			X
MW03-041594	4-15	1115	X			X	X	X	X		X			X																	X	X			X
DW01-041594	4-15	1130	X				X		X		X			X																					X

Relinquished by: [signature] Date 4/15/94 Time 13:50 Received by: [signature]
Relinquished by: Date Time Received by:
Relinquished by: [signature] Date 4/15/94 Time 1527 Received by Laboratory: [signature]

Remarks:

RECEIVED
APR 15 1994
W.E.S.T.
Date

Bill To:

APPENDIX D

Exploratory Boring Logs
and
Well Construction Details

ATT

AQUA TERRA TECHNOLOGIES INC.

Log of Exploratory Boring

Project: Dibble/Foley Job No.: 9124

Location: 914-916 San Pablo Ave., Albany, CA Date: 7/24/91

Boring No.: MW1 Driller: Gregg Drilling Page 1 of 2

Logged by: BB Proj. Mgr. WEM Surface Elev. :

Penetration (Blows/ 6")	Depth (feet)	U.S.C.S. Soil Class.	Field Description	Remarks
	0	Backfill	0'-7' Sand backfill material	
	1			
	2			
	3			
	4			
	5			
	6			
	7	CL	7'-13' Sandy clay; light olive brown (2.5Y 5/4); 10% to 30% very fine to fine sand; minor rust staining; minor blue-green aged hydrocarbon discoloring (horizonal streaks); very stiff; damp (no hydrocarbon discoloring below 13')	
	8			
	9			
	10			10' sample, slight hydrocarbon odor (no odor below 13', below 10' sampler was driven for lithologic description only)
9,13,15	11			
	12		13'-30' Sandy clay to clayey sand; yellowish brown (10YR 5/4); 10% to 70% very fine to fine sand in a clay matrix with occasional thin lenses (<6-inches) of clean fine sand; minor component of fine to medium gravel (quartz, white, dark colors, angular); little or no iron staining below 18'; damp to moist.	
	13	CL-SC		
	14			
	15			
5,7,12	16			
	17			

AQUA TERRA TECHNOLOGIES INC.

Field Drilling and Sampling Log

Job No: 9124

Penetration (Blows/ 6")	Depth (feet)	U.S.C.S. Soil Class.	MW1 Field Description	Remarks
	17			
	18			
	19	CL-		
	20	SC		
4,7,11	21			
	22			
	23			23' First water (very slow producing)
	24			
	25			25' Materia slipped out of sampler, saturated, not recovered
4,11,11	26			
	27			
	28			
	29			
	30		B.O.H. @ 30'	
	31			
	32			
	33			
	34			
	35			
	36			
	37			
	38			
	39			

ATT

AQUA TERRA TECHNOLOGIES INC.

Log of Exploratory Boring

Project: Dibble/Foley Job No.: 9124

Location: 914-916 San Pablo Ave., Albany, CA Date: 7/24/91

Boring No.: MW2 Driller: Gregg Drilling Page 1 of 2

Logged by: BB Proj. Mgr. WEM Surface Elev. :

Penetration (Blows/ 6")	Depth (feet)	U.S.C.S. Soil Class.	Field Description	Remarks
	0	Asphalt Fill	0'-0.5' Asphalt and gravel base 0.5'-1.5' Fill, black silty clay 1.5'-8' Sandy Clay; olive brown (2.5Y 4/4); 10% to 30% very fine sand; stiff to very stiff; damp	
	1			
	2			
	3			
	4			
	5	CL		
	6			
	7			
	8		8'-28' Sandy clay to clayey sand; yellowish brown (10YR 5/4); 10% to 60% very fine to fine sand in a clay matrix with occasional thin lenses (<6-inch) of clean fine to medium sand; major iron staining; damp to moist	
	9			
	10			10' Sample (below 10', sampler was driven for lithologic description only)
7,8,17	11	CL-SC		
	12			
	13			
	14			
	15			
	16			
4,5,11	17			

AQUA TERRA TECHNOLOGIES INC.

ATT

Field Drilling and Sampling Log

Job No: 9124

Penetration (Blows/ 6")	Depth (feet)	U.S.C.S. Soil Class.	MW2 Field Description	Remarks
	17			
	18			
	19			19' First water
	20			
4,7,14	21	CL-SC		
	22			
	23			
	24			
	25			
	26			
	27			
	28		B.O.H. @ 28'	
	29			
	30			
	31			
	32			
	33			
	34			
	35			
	36			
	37			
	38			
	39			

AQUA TERRA TECHNOLOGIES INC.

Log of Exploratory Boring

Project: Dibble/Foley Job No.: 9124

Location: 914-916 San Pablo Ave., Albany, CA Date: 7/25/91

Boring No.: MW3 Driller: Gregg Drilling Page 1 of 2

Logged by: BB Proj. Mgr. WEM Surface Elev. :

Penetration (Blows/ 6")	Depth (feet)	U.S.C.S. Soil Class.	Field Description	Remarks
	0	Fill	0'-8' Backfill material; native soil, engineered gravel, plastic sheeting, debris (probably tank backfill)	
	1			
	2			
	3			
	4			
	5			
	6			
	7			
	8	CL	8'-14' Sandy clay; light olive brown (2.5Y 5/4); 10% to 30% very fine to fine sand; very stiff; minor iron staining (gradational increase in iron staining); damp.	
	9			
	10			10' Sample (below 10', sampler was driven for lithologic description only)
11,23,24	11			
	12			
	13			
	14	CL-SC	14'-27' Sandy clay to clayey sand; pale olive (5Y 6/3); 10% to 60% very fine to fine sand in a clay matrix with occasional thin lenses (<6-inch) of clean fine to medium sand (lenses moist to saturated);	
	15			15' First water
5,8,12	16			
	17			

AQUA TERRA TECHNOLOGIES INC.

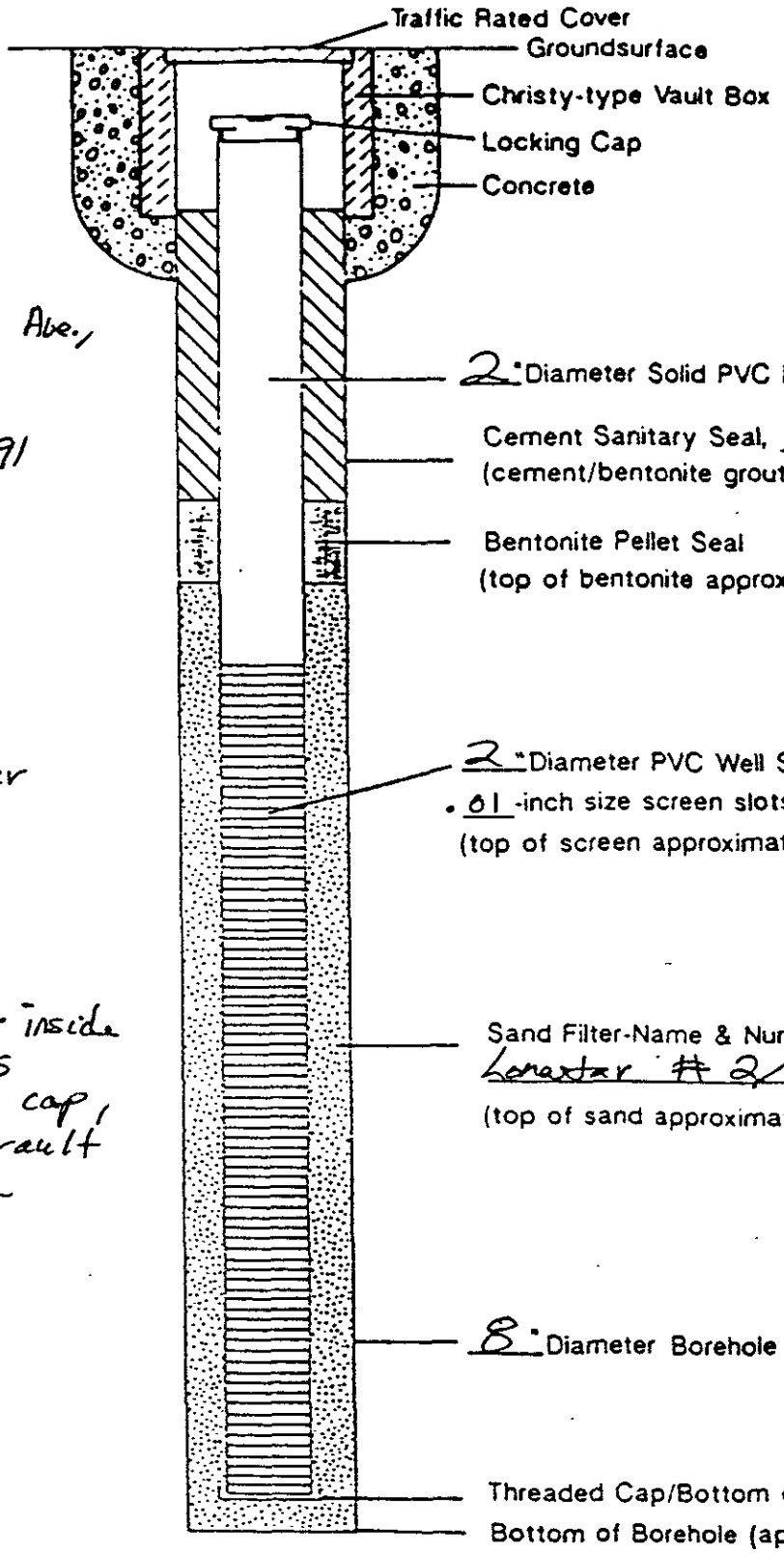
ATT

Field Drilling and Sampling Log

Job No: 9124

Penetration (Blows/ 6")	Depth (feet)	U.S.C.S. Soil Class.	MW3 Field Description	Remarks
	17			
	18	CL-SC	iron staining; minor component of fine gravel (varying composition, poorly graded); moist	
	19			
	20			
8,12,14	21			
	22			
	23			
	24			
	25			
	26			
	27		B.O.H. @ 27'	
	28			
	29			
	30			
	31			
	32			
	33			
	34			
	35			
	36			
	37			
	38			
	39			

MW1
Well Designation:



Site Location:
914-916 San Pablo Ave., Albany, CA.

Date Installed: 7-24-91

Drilling Company:
Gregg Drilling

Driller: Chris

Drilling Method:
Hollow-stem auger

Logged By: BB

Notes:
locking steel cover inside vault box, secures access to locking cap, steel cover and vault box are set in concrete.

Not to Scale

Groundwater Monitoring Well Construction Details

ATT Aqua Terra Technologies
Consulting Engineers
& Scientists

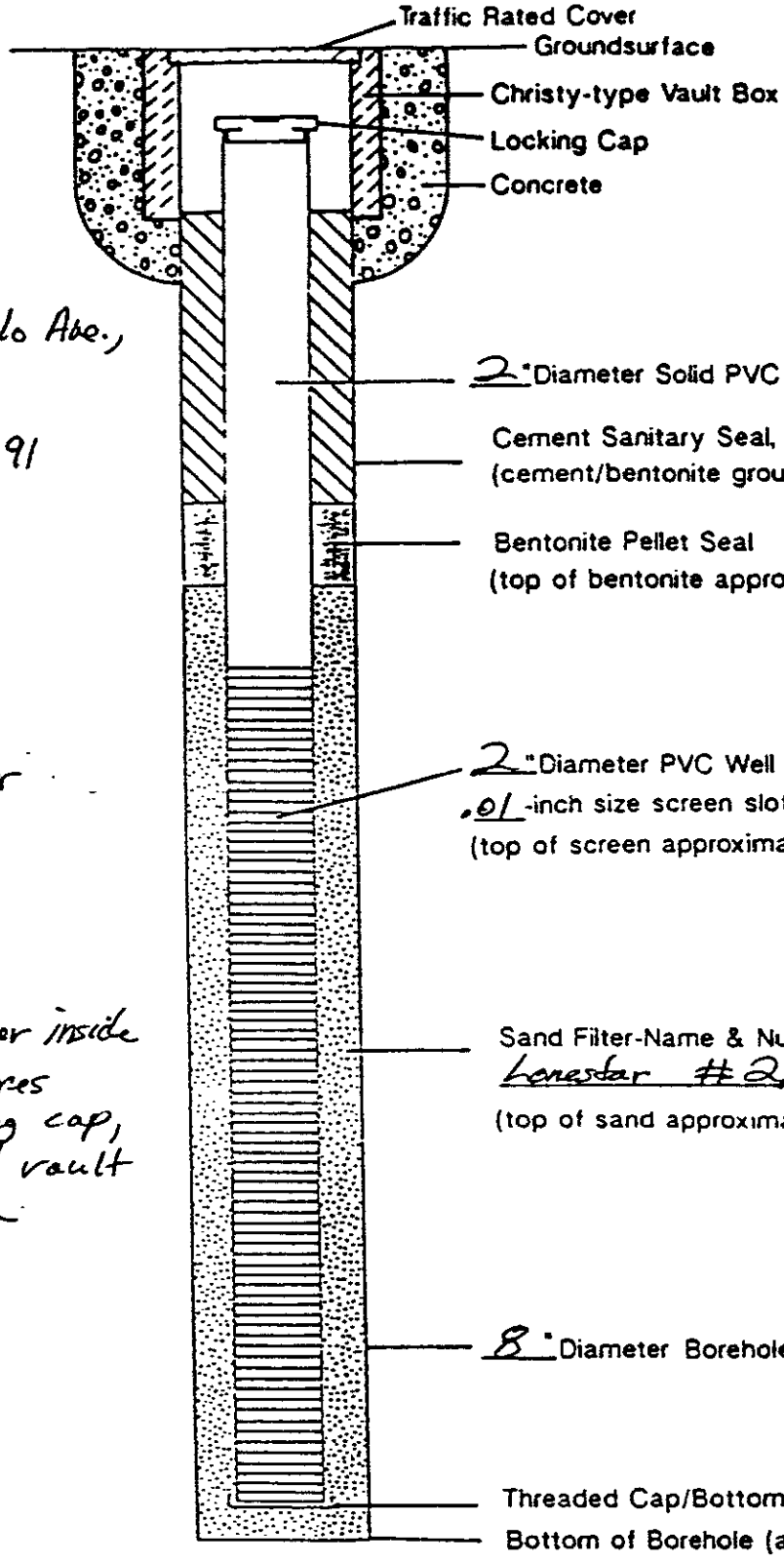
Dibble/Foley

JOB NUMBER 9124

DATE

PLATE

MW2
Well Designation:



Site Location:
914-916 San Pablo Ave., Albany, CA.

Date Installed: 7-24-91

Drilling Company:
Gregg Drilling

Driller: Chris

Drilling Method:
Hollow-stem auger

Logged By: BB

Notes:
locking steel cover inside vault box, secures access to locking cap, steel cover and vault box are set in concrete

Not to Scale

Groundwater Monitoring Well Construction Details

ATT Aqua Terra Technologies Consulting Engineers & Scientists

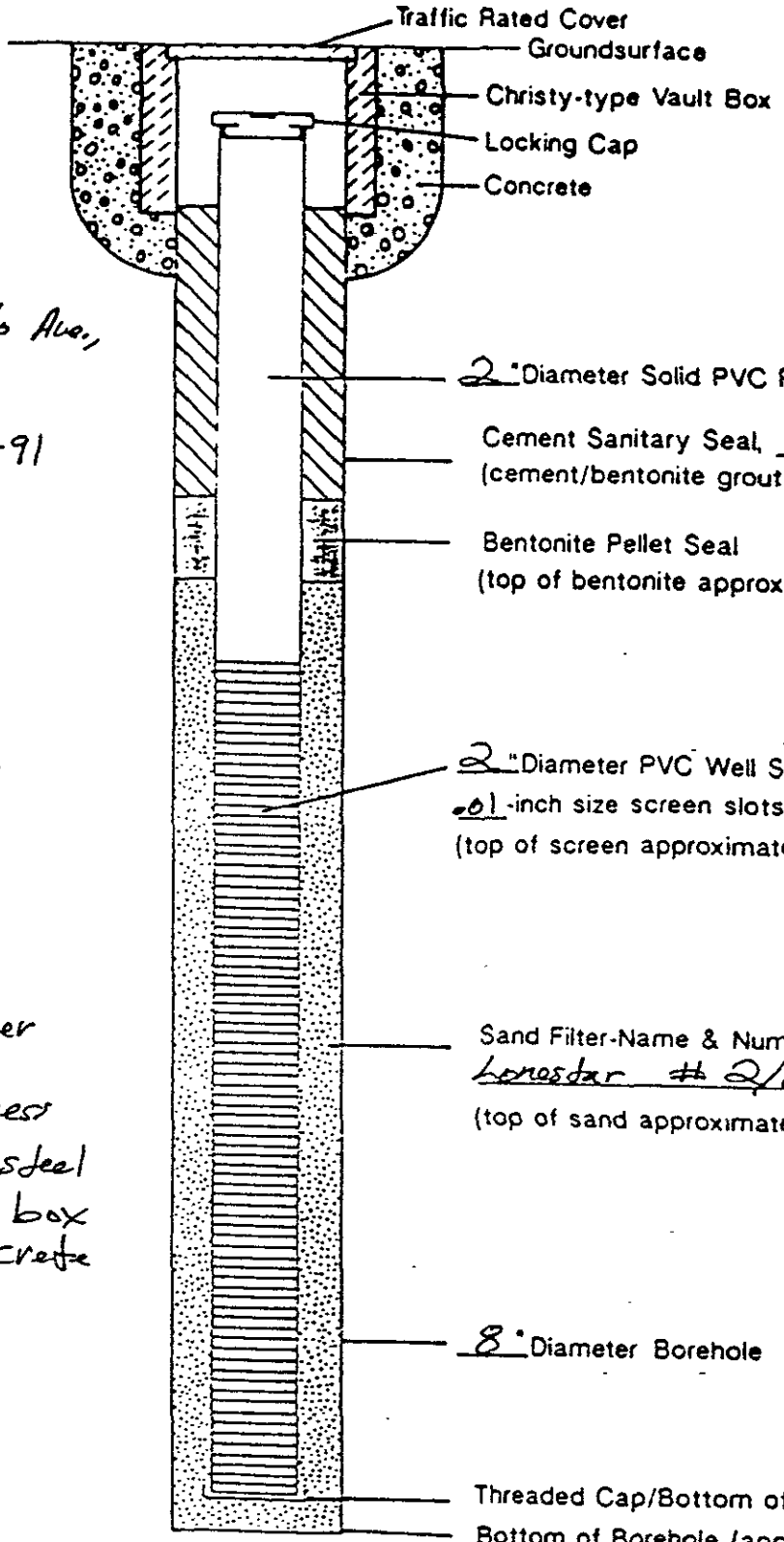
Dibble / Foley

JOB NUMBER 9124

DATE

PLATE

MW3
Well Designation:



Site Location:
914-916 San Pablo Ave., Albany, CA.

Date Installed: 7-25-91

Drilling Company:
Gregg Drilling

Driller: Chris

Drilling Method:
Hollow-stem auger

Logged By: B.B.

Notes:
locking steel cover inside vault box, ~~secure~~ secures access to locking cap, steel cover and vault box are set in concrete

Not to Scale

Groundwater Monitoring Well Construction Details

ATT Aqua Terra Technologies
Consulting Engineers
& Scientists

Dibble / Foley

JOB NUMBER 9124

DATE

PLATE

REGIONAL OFFICES

ALASKA
6251 Tuttle Place, Suite 101
Anchorage, AK 99507
(907) 561-1961

CALIFORNIA
5901 Christie Ave., Suite 501
Emeryville, CA 94608
(510) 420-7910
(800) 400-9372 (In-state only)

ILLINOIS
P.O. Box 330
210 W. Sand Bank Road
Columbia, IL 62236
(618) 281-7173

MISSOURI
801 Mulberry
Kansas City, MO 64101
(816) 474-1391

NEW JERSEY
R.D. #1, Box 683
2083 Jacksonville-Jobstown Rd.
Jobstown, NJ 08041
(609) 723-4700

OHIO
4091 Venture Place
Groveport, OH 43125
(614) 836-3003

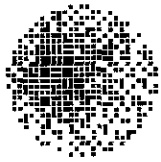
OREGON
141 "A" Street
Washougal, WA 98671
(206) 835-8743
(800) 547-2436

NEW MEXICO
4000 Monroe Road
Farmington, NM 87401
(505) 326-2262

PENNSYLVANIA
701 Rodi Road, Suite 101
Pittsburgh, PA 15235
(412) 824-0200

TEXAS
3010 Greens Road
Houston, TX 77032
(713) 442-1794

WASHINGTON
Corporate Office
1101 Western Avenue, Suite 700
Seattle, WA 98104
(206) 682-0550
(800) 228-7872



BURLINGTON ENVIRONMENTAL