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**BURLINGTON
ENVIRONMENTAL**

**QUARTERLY GROUNDWATER
MONITORING REPORT
First Quarter 1995**

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

February 28, 1995

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.
A Philip Environmental Company
5901 Christie Avenue, Suite 501
Emeryville, California 94608**

SIO101/12104

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ENVIRONMENTAL**
A Philip Environmental Company

February 28, 1995
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
First Quarter 1995
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 in January 1995.

BACKGROUND

Two 550-gallon underground storage tanks (USTs) were removed from the site on March 20, 1989 by Petroleum Engineering, Inc. One UST contained gasoline and was located under the sidewalk between the former building and San Pablo Avenue. 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 beneath 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. Elevated concentrations of TPH and benzene, toluene, ethylbenzene and total xylenes (BTEX) were found in the groundwater sample collected from well MW-1 (see Table 1). At the time the wells were sampled,

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Burlington Environmental Inc.
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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.

MONITORING ACTIVITIES

The first quarter 1995 monitoring event was conducted on January 17, 1995. 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 TPH as gasoline (TPHg), BTEX, and total lead. In addition, groundwater from monitoring well MW-3 was analyzed for cadmium, chromium, zinc, and nickel. The groundwater sample from well MW-3 to be analyzed for the five metals was filtered during sampling with a 0.45 μm filter.

The ground water sample from well MW-2 was also analyzed for halogenated volatile organics in response to matrix interference observed during the 3rd and 4th quarter 1994 monitoring events, per the request of Ms. Juliet Shin (ACDEH) in her November 2, 1994 correspondence to you.

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 (Groundwater Analytical Data)

RESULTS

The groundwater elevation in the monitoring wells beneath the site on January 17, 1995 ranged from 32.64 to 34.00 feet above mean sea level (see Table 2, Groundwater Elevation Data). A contour map of these data is presented in Figure 3 (Groundwater Elevation Contours). The approximate groundwater flow direction is to the east with an approximate hydraulic gradient of 0.007 feet/foot. The reversal in groundwater flow direction from previous monitoring events could be a result of the intensive rain that fell at the site during the sampling period. This flow direction reversal is believed to be temporary.

The results of the chemical analyses are presented in Table 1. No PSH were detected in any of the groundwater monitoring wells. No detectable concentrations of TPHg or BTEX were found in the groundwater samples collected from well MW-2 or MW-3. However, elevated concentrations of petroleum hydrocarbons were found in the

Ms. Florence Ann Connors
February 28, 1995
Page 3

groundwater sample collected from well MW-1, including 600 micrograms per liter ($\mu\text{g/l}$) of TPHg and 250 $\mu\text{g/l}$ of benzene. The groundwater sample collected from well MW-3 contained trace levels of chromium and zinc (see Table 1). No detectable concentrations of lead were found.

*According to
table, lead
was detected
in wells 1 +
2.*

Elevated concentrations of tetrachloroethene (PCE) were found in the groundwater sample from well MW-2, at 100 $\mu\text{g/l}$. In addition, trace concentrations of chloromethane, carbon tetrachloride, trichloroethene, and cis-1,2-dichloroethene were found in the sample. Although the PCE level exceeds the California maximum contaminant level (MCL) of 5 $\mu\text{g/l}$, there is no known source of PCE onsite, and an offsite source for the halogenated hydrocarbons is likely.

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

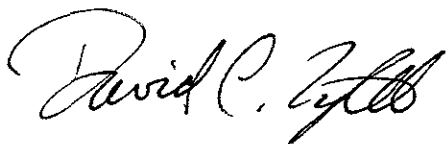
CONCLUSIONS

One year of quarterly groundwater monitoring has been completed at this time. The recurrence of TPHg and BTEX in the groundwater samples collected from well MW-1 suggests that the groundwater below the former gasoline UST continues to be impacted. Burlington recommends that a Corrective Action Feasibility Study be prepared at this time to evaluate the most feasible corrective action for the site. Burlington further recommends that the quarterly groundwater monitoring be temporarily discontinued while the Feasibility Study is being prepared and reviewed.

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

Sincerely,

BURLINGTON ENVIRONMENTAL INC.



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

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Ms. Florence Ann Connors
February 28, 1995
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Attachments:

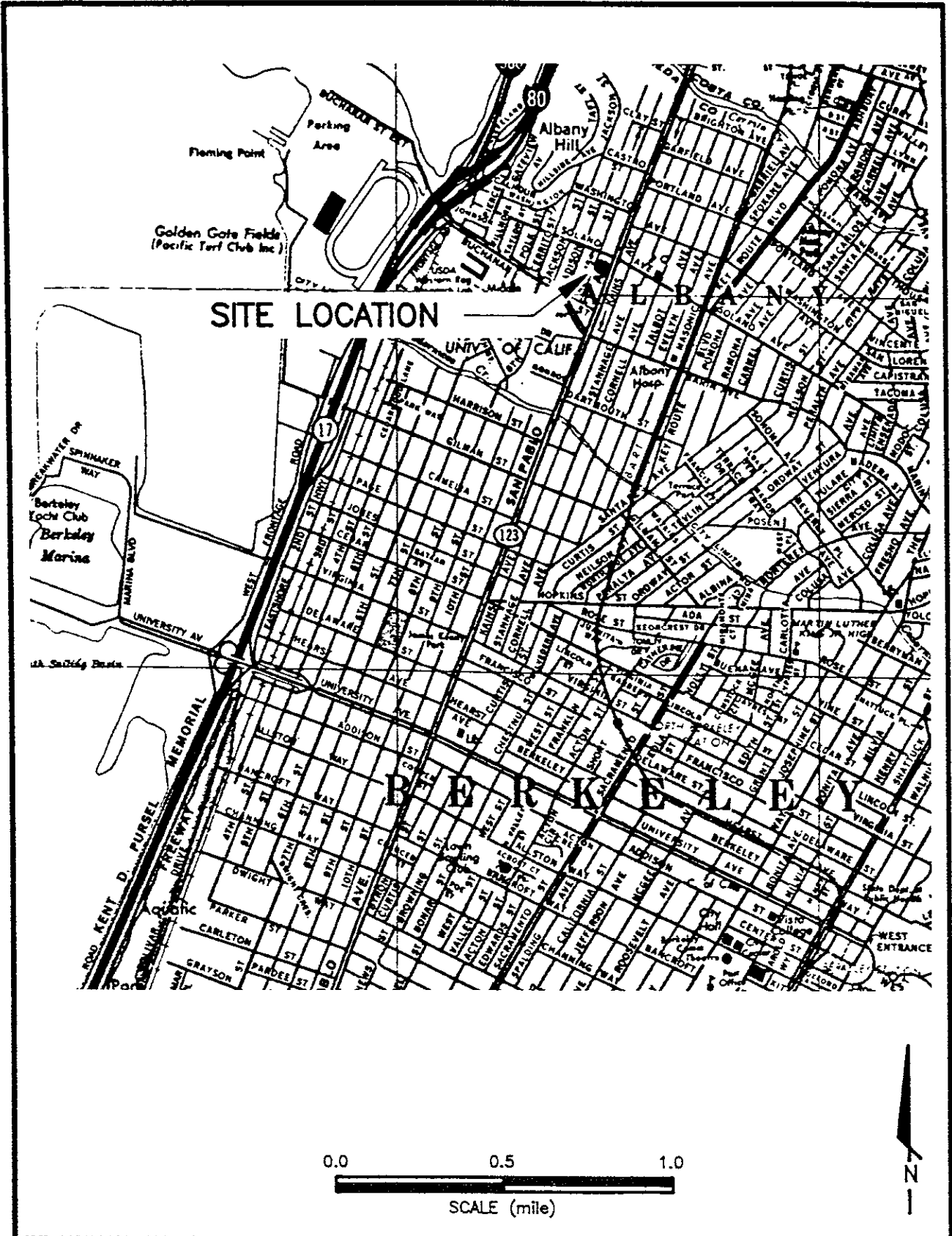
Figure 1 - Site Location Map
Figure 2 - Site Plan
Figure 3 - Groundwater Elevation Contours

Table 1 - Groundwater Analytical Data
Table 1A- Halogenated/Volatile Organics 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

cc: Ms. Juliet Shin (ACDEH)

FIGURES 1 - 3



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
 Drawing No. ASI00101

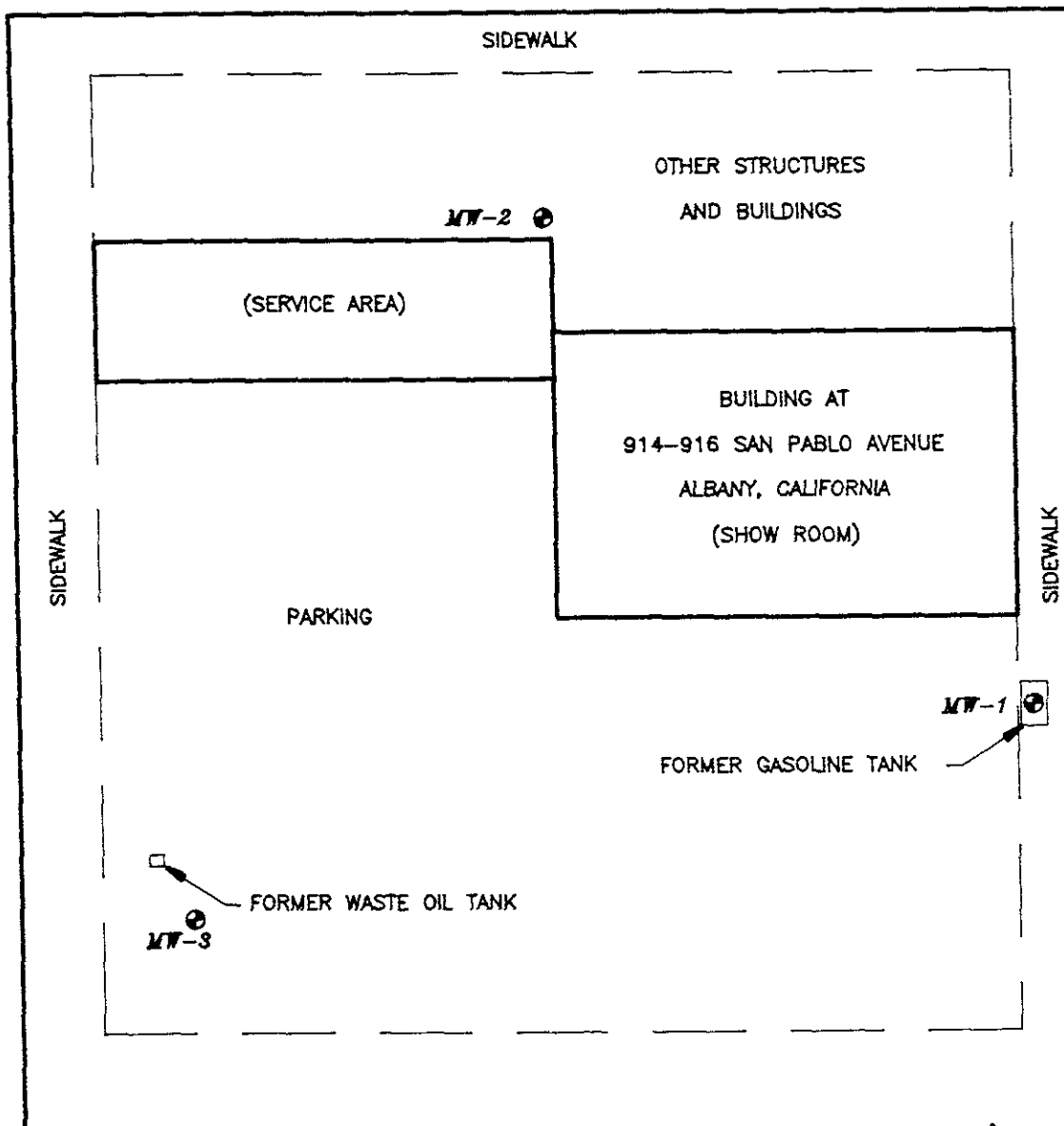
Reviewed By : *DOJ*

Date : *2/28/95*

SOLANO AVENUE

ADAMS STREET

SAN PABLO AVENUE



EXPLANATION

⊙ MONITORING WELL LOCATION



0 20 40
 SCALE (feet)



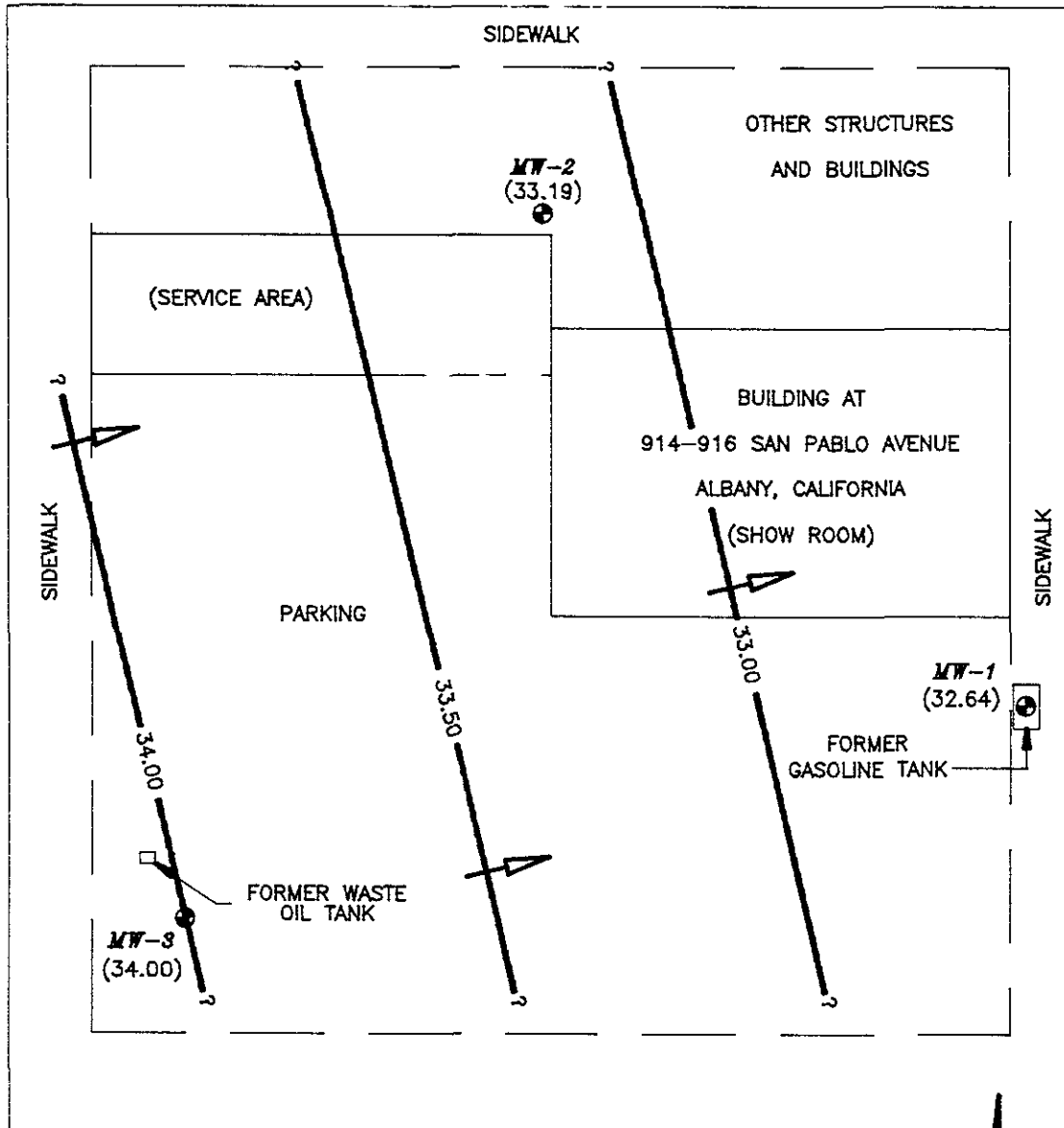
SITE PLAN
 Joe Sio Chevrolet
 914 - 916 San Pablo Avenue
 Albany, California
 Reviewed By : *[Signature]*
 Date : 2/28/95

Figure 2
 Project No. 12104
 Drawn By SBW Date 11/2/94
 Drawing No. ASI00102

SOLANO AVENUE

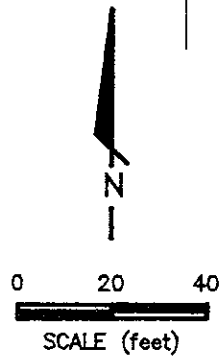
ADAMS STREET

SAN PABLO AVENUE



EXPLANATION

- ⊙ MONITORING WELL LOCATION
- (34.00) GROUNDWATER ELEVATION (FT-MSL)
MEASURED ON: JANUARY 17, 1995
- 33.50 — GROUNDWATER ELEVATION CONTOUR (FT-MSL)
CONTOUR INTERVAL = 0.50'
- (FT-MSL) FEET ABOVE MEAN SEA LEVEL
- ↗ APPROXIMATE GROUNDWATER FLOW DIRECTION



FIRST QUARTER 1995



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

Figure 3	
Project No.	12104
Drawn By	Date
SBW	2/21/95
Drawing No. ASI00106	

Reviewed By : *J. Sio*

Date : 2/23/95

TABLES 1 - 2

TABLE 1
GROUNDWATER ANALYTICAL DATA

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

50ppb drinking water std.

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	MW01-041694	2,500	880	22	79	47	NA	NA	NA	0.0093	NA	NA
	7/14/94	MW01-071494	470	110	22	21	87	NA	NA	NA	0.0059	NA	NA
	10/14/94	MW01-101494	380	86	17	24	77	NA	NA	NA	0.008	NA	NA
	1/17/95	MW01-011795	600	250	11	5.3	66	NA	NA	NA	0.0096	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
	7/14/94	MW02-071494	ND(<50)	ND(<0.30)	0.73 *	ND(<0.30) *	0.71 *	NA	NA	NA	0.023	NA	NA
	10/14/94	MW02-101494	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	0.021	NA	NA
	1/17/95	MW02-011795	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	0.031	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	MW03-041694	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
	4/16/94 d	DW01-041494	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	NA	NA	NA
	7/14/94	MW03-071494	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	0.50	NA	0.017	0.55	0.22	0.73	0.84
	7/14/94 d	DW01-071494	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	0.53	NA	NA	NA	NA	NA	NA
	10/14/94	MW03-101494	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	0.019	0.64	0.14	0.88	0.90 b
	10/14/94 d	DW01-101494	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	NA	NA	NA
	1/17/95	MW03-011795	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	ND(<0.004)	0.0088	ND(<0.003)	ND(<0.016)	0.022
	1/17/95 d	DW03-011795	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	NA	NA	NA
Rinse Analyses:													
	4/15/94	RS01-041694	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	NA	NA	NA
	7/14/94	RS01-071494	ND(<50)	ND(<0.30)	0.33	ND(<0.30)	0.65	NA	NA	NA	NA	NA	NA
	10/14/94	RS01-101494	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	NA	NA	NA
	1/17/95	RS01-011795	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	NA	NA	NA
Trip Blank Analyses:													
	4/15/94	TB01-041694	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	NA	NA	NA
	7/14/94	TB01-071494	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	NA	NA	NA
	10/14/94	TB01-101494	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	NA	NA	NA
	1/17/95	TB01-011795	ND(<50)	ND(<0.30)	ND(<0.30)	ND(<0.30)	ND(<0.50)	NA	NA	NA	NA	NA	NA
DRINKING WATER STANDARDS:													
California Maximum Contaminant Levels:				1		680	1750		0.01	0.05	0.05		5

Results above detection limit are bolded for emphasis.

- * An external standard quantitation was used on this sample due to matrix interference
- b Analyte found in method blank
- d Duplicate sample
- mg/l Milligrams per liter (parts per million)
- NA Not analyzed
- ND Concentration below detection limit presented in parentheses
- ug/l Micrograms per liter (parts per billion)

TABLE 1A
 HALOGENATED/VOLATILE ORGANICS ANALYTICAL DATA

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

Monitoring Well No.	Date Sampled	Sample No.	Chloro-methane	Carbon Tetra-chloride	Trichloro-ethene	<i>cis</i> -1,2-Dichloro-ethene	Tetrachloro-ethene
	EPA Analytical Method:		601	601	601	601	601
MW-2	1/17/95	MW02-011795	0.94	0.98	0.58	0.51	100
DRINKING WATER STANDARDS:							
California Maximum Contaminant Levels:			-	0.5	5	6	5

Results above detection limit are bolded for emphasis.
 All results presented in micrograms per liter (ug/l)
 601 analytes not listed are all below method detection limits

**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
	7/14/94	29.70	42.61	10.55	32.06
	10/14/94	29.75	42.61	10.88	31.73
	1/17/95	29.75	42.61	9.97	32.64
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
	7/14/94	26.85	42.73	10.91	31.82
	10/14/94	26.88	42.73	12.10	30.63
	1/17/95	26.87	42.73	9.54	33.19
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
	7/14/94	25.62	39.44	8.40	31.04
	10/14/94	25.61	39.44	9.31	30.13
	1/17/95	25.79	39.44	5.44	34.00

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



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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



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- 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

WATER DATA SHEET

PROJECT NO.: 12104

SAMPLE ID.: MW01-011795

LOCATION: 914 SAN PABLO AVE., ALBANY

DATE: 1-17-95

STATION NO.: 518-101

WELL/SAMPLE

SAMPLER: D. LAMB

POINT DESIGNATION: MW-1

SAMPLING DEVELOPING BAILING FLOATING PRODUCT

Casing Diameter:	Screened Int. (ft.): <u>10-30</u>	Calc. Casing Vol. (gal.): <u>3.36</u>
2 inch <input checked="" type="checkbox"/>		<small>(2" = .17) (3" = .38) (4" = .66) (6" = 1.5)</small>
3 inch _____	Initial DTW (ft.): <u>.97 @ 0925</u>	Calc. Purge Vol. (gal.): <u>13.45</u>
4 inch _____	Initial TD (ft.): <u>29.75</u>	Final DTW (ft.): <u>13.84 @ 0948</u>
6 inch _____		
other _____	Water Column Height (ft.): <u>19.78</u>	Final TD (ft.): <u>29.76</u>
Casing Elev. (ft.): _____	80 % Recovery (ft.): <u>13.93</u>	Product Bailed (gal.): <u>0</u>
TD (Actual) (ft.): <u>30</u>		

FIELD MEASUREMENTS

TIME	VOLUME (gal.)	pH (units)	TEMP. (degrees F)	E.C. (umhos/cm)	COLOR	DTW (if dry)
<u>0933</u>	<u>3.5</u>	<u>6.92</u>	<u>60.9</u>	<u>6.41 x 10⁻²</u>	<u>grn. / BRN</u>	_____
<u>0938</u>	<u>7.0</u>	<u>6.57</u>	<u>61.3</u>	<u>6.10 x 10⁻²</u>	<u>yellow / BRN.</u>	_____
<u>0942</u>	<u>10.5</u>	<u>6.48</u>	<u>62.4</u>	<u>6.23 x 10⁻²</u>	<u>yellow / BRN.</u>	_____
<u>0947</u>	<u>13.5</u>	<u>6.45</u>	<u>62.9</u>	<u>6.26 x 10⁻²</u>	<u>yellow / BRN</u>	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Odor? slight

Actual Purge Vol. (gal.): 13.5

PURGE METHOD:

- Bailer (Teflon)
- Bailer (PVC)
- Well Wizard
- Dedicated Bailer
- Other _____

SAMPLE METHOD:

- Bailer (Teflon)
- Bailer (PVC)
- Dedicated Bailer
- Other _____

REMARKS: MW01-011795 SAMPLED @ 1020 ON 1-17-95.

WEATHER: SUNNY, 90%, ± 58°

WATER DATA SHEET

PROJECT NO.: 12104

SAMPLE ID.: MW02-01795

LOCATION: 914 SAN PABLO AVE., ALBANY

DATE: 1-17-95

STATION NO.: 510-101

WELL/SAMPLE

SAMPLER: D.LAMB

POINT DESIGNATION: MW-2

SAMPLING DEVELOPING BAILING FLOATING PRODUCT

Casing Diameter:

- 2 inch
- 3 inch
- 4 inch
- 6 inch
- other

Screened Int. (ft.): 8-28

Calc. Casing Vol. (gal.): 2.95

(2" = .17 (3" = .38) (4" = .65) (6" = 1.5)

Initial DTW (ft.): 9.54 @ 0909

Calc. Purge Vol. (gal.): _____

Initial TD (ft.): 26.87

Final DTW (ft.): 9.48 @ 1045

Casing Elev. (ft.): _____

Water Column Height (ft.): 17.33

Final TD (ft.): 26.88

TD (Actual) (ft.): 28

80 % Recovery (ft.): 13.01

Product Bailed (gal.): 0

FIELD MEASUREMENTS

TIME	VOLUME (gal.)	pH (units)	TEMP. (degrees F)	E.C. (umhos/cm)	COLOR	DTW (ft dry)
<u>1032</u>	<u>3</u>	<u>7.13</u>	<u>56.9</u>	<u>6.02 x 10²</u>	<u>YELLOW / BRN.</u>	_____
<u>1037</u>	<u>6</u>	<u>7.02</u>	<u>58.8</u>	<u>6.20 x 10²</u>	<u>YELLOW / BRN.</u>	_____
<u>1041</u>	<u>9</u>	<u>6.94</u>	<u>60.2</u>	<u>6.53 x 10²</u>	<u>YELLOW / BRN.</u>	_____
<u>1044</u>	<u>12</u>	<u>6.91</u>	<u>60.4</u>	<u>6.51 x 10²</u>	<u>YELLOW / BRN.</u>	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Odor? NONE

Actual Purge Vol. (gal.): 12

PURGE METHOD:

- Bailor (Teflon)
- Bailor (PVC)
- Well Wizard
- Dedicated Bailor
- Other _____

SAMPLE METHOD:

- Bailor (Teflon)
- Bailor (PVC)
- Dedicated Bailor
- Other _____

REMARKS: MW02-01795 SAMPLED @ 1100 ON 1-17-95

WEATHER: SUNNY, CLIP, ~ 50°

WATER DATA SHEET

PROJECT NO.: 12104 DW01-011795 (DUPLICATE)
 LOCATION: 914 SAN PABLO AVE., ALBANY SAMPLE ID.: MW03-011795
 STATION NO.: 510-101 DATE: 1.17.95
 SAMPLER: D. LAMB WELL/SAMPLE
POINT DESIGNATION: MW-3

SAMPLING
 DEVELOPING
 BAILING FLOATING PRODUCT

Casing Diameter:	Screened Int. (ft.): <u>7-27</u>	Calc. Casing Vol. (gal.): <u>3.45</u>
2 inch _____		<small>(2" = .17) (3" = .30) (4" = .65) (6" = 1.5)</small>
3 inch _____	Initial DTW (ft.): <u>5.44 @ 0902</u>	Calc. Purge Vol. (gal.): <u>13.84</u>
4 inch _____		
6 inch _____	Initial TD (ft.): <u>25.79</u>	Final DTW (ft.): <u>5.52 @ 1129</u>
other _____		
Casing Elev. (ft.): _____	Water Column Height (ft.): <u>20.35</u>	Final TD (ft.): <u>25.78</u>
TD (Actual) (ft.): <u>27</u>	80 % Recovery (ft.): <u>9.51</u>	Product Bailed (gal.): <u>0</u>

FIELD MEASUREMENTS

TIME	VOLUME (gal.)	pH (units)	TEMP. (degrees F)	EC. (umhos/cm)	COLOR	DTW (ft dry)
<u>1113</u>	<u>3.5</u>	<u>6.84</u>	<u>57.4</u>	<u>2.14 x 10²</u>	<u>YELLOW/BRN.</u>	_____
<u>1119</u>	<u>7.0</u>	<u>7.74</u>	<u>59.9</u>	<u>2.21 x 10²</u>	<u>YELLOW/BRN.</u>	_____
<u>1124</u>	<u>10.5</u>	<u>7.68</u>	<u>61.2</u>	<u>2.12 x 10²</u>	<u>YELLOW/BRN.</u>	_____
<u>1128</u>	<u>14.0</u>	<u>7.62</u>	<u>61.4</u>	<u>2.16 x 10²</u>	<u>YELLOW/BRN.</u>	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Odor? NONE

Actual Purge Vol. (gal.): 14

PURGE METHOD:

- _____ Bailer (Teflon)
- Bailer (PVC)
- _____ Well Wizard
- _____ Dedicated Bailer
- _____ Other _____

SAMPLE METHOD:

- Bailer (Teflon)
- _____ Bailer (PVC)
- _____ Dedicated Bailer
- _____ Other _____

REMARKS: MW03-011795 SAMPLE @ 1145 ON 1.17.95
DW01-011795 SAMPLE @ 1210 ON 1.17.95

WEATHER: SUNNY, COOL, @ 51°

APPENDIX C
Chain-of-Custody Records
and
Certified Analytical Data

Sample: MW01-011795

From : Project # 12104 (Joe Sio Chevrolet)

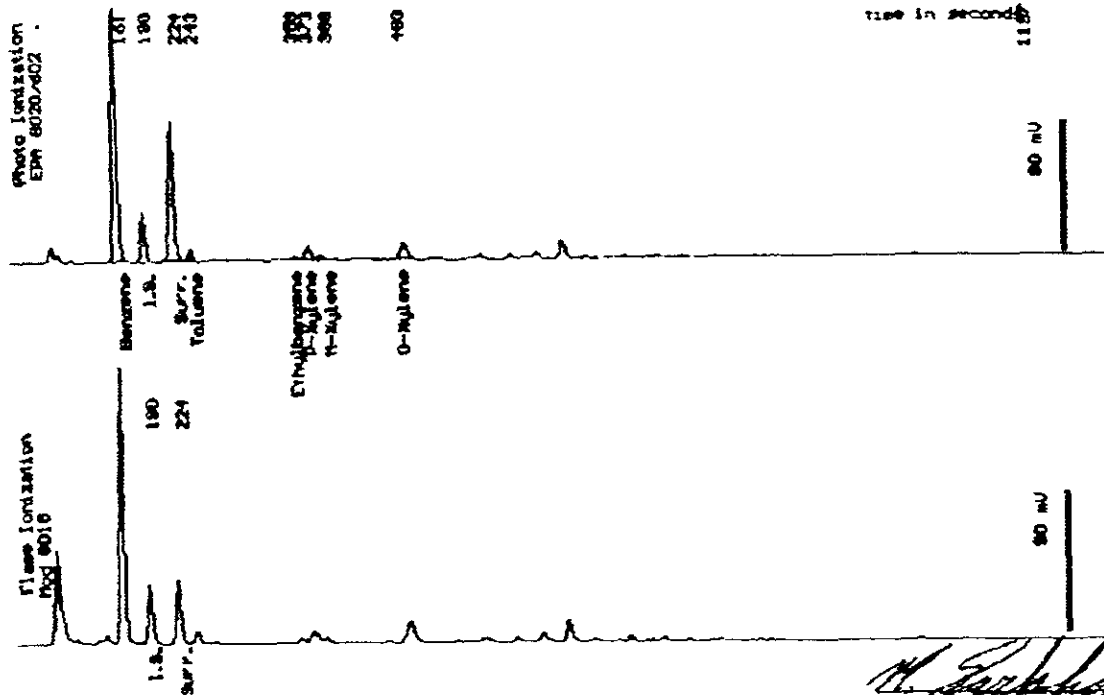
Sampled : 01/17/95

Dilution : 1:3

QC Batch : 4111M

Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.75)	250
Toluene	(.75)	11
Ethylbenzene	(.75)	5.3
Total Xylenes	(1.3)	56
TPH as Gasoline	(130)	600
Surrogate Recovery		98 %



Date Analyzed: 01-20-95
Column: 0.53mm ID X 30m DELTA (J&W Scientific)

M. Sarkosh
Mira Sarkosh
Senior Chemist

Sample: MW02-011795

From : Project # 12104 (Joe Sio Chevrolet)

Sampled : 01/17/95

Dilution : 1:1

QC Batch : 6138K

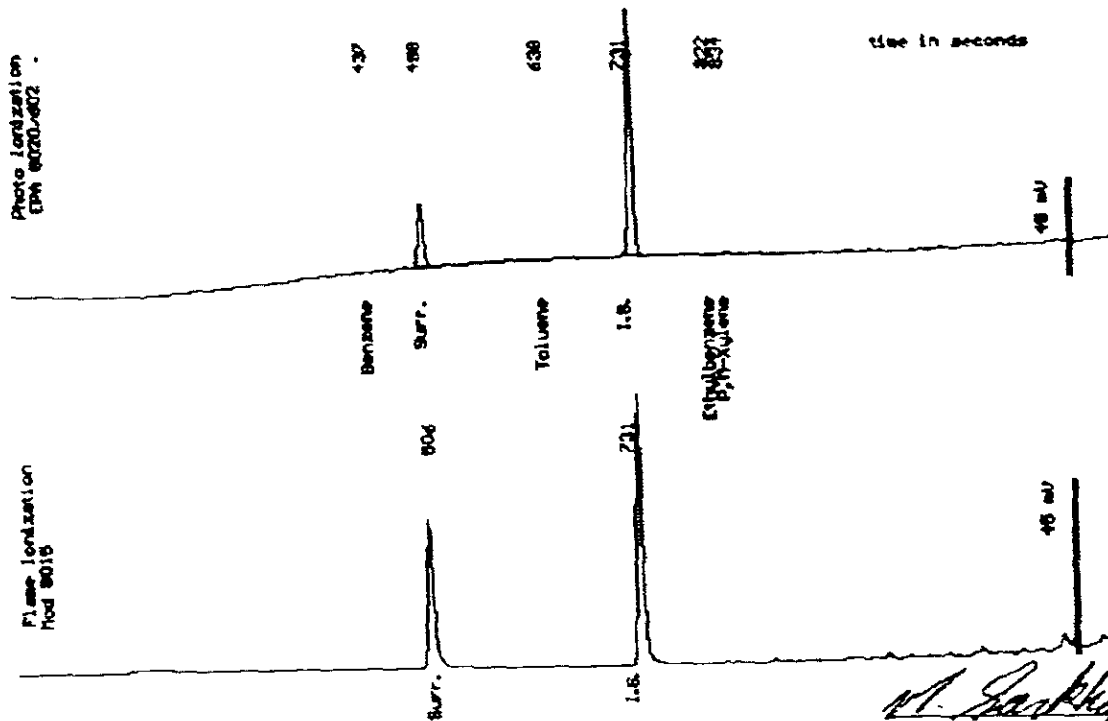
Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50

Surrogate Recovery

101 * %

* External standardization was used due to matrix interference.



Date Analyzed 01-23-95
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

M. Sarthosh
Mira Sarthosh
Senior Chemist

Sample: MW02-011795

From : Project # 12104 (Joe Sio Chevrolet)

Sampled : 01/17/95

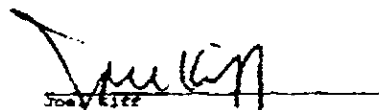
Received : 01/17/95

Matrix : Water

Analyzed : 01/23/95

601 - Halogenated Volatile Organics

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$	Flag
Chloromethane	(0.50)	.94	
Chloroethane	(1.0)	< 1.0	
Vinyl Chloride	(0.50)	<0.50	
Bromomethane	(1.0)	< 1.0	
Trichlorofluoromethane	(0.50)	<0.50	
1,1-Dichloroethene	(0.50)	<0.50	
Dichloromethane	(0.50)	<0.50	
t-1,2-Dichloroethene	(0.50)	<0.50	
1,1-Dichloroethane	(0.50)	<0.50	
Chloroform	(0.50)	<0.50	
1,1,1-Trichloroethane	(0.50)	<0.50	
1,2-Dichloroethane	(0.50)	<0.50	
Carbon Tetrachloride	(0.50)	.98	
1,2-Dichloropropane	(0.50)	<0.50	
Trichloroethene	(0.50)	.58	
Bromodichloromethane	(0.50)	<0.50	
c-1,2-Dichloroethene	(0.50)	.51	
c-1,3-Dichloropropene	(0.50)	<0.50	
t-1,3-Dichloropropene	(0.50)	<0.50	
1,1,2-Trichloroethane	(0.50)	<0.50	
Tetrachloroethene	(0.50)	100	
Dibromochloromethane	(0.50)	<0.50	
Chlorobenzene	(0.50)	<0.50	
Bromoform	(0.50)	<0.50	
1,1,2,2-Tetrachloroethane	(0.50)	<0.50	
1,4-Dichlorobenzene	(0.50)	<0.50	
1,3-Dichlorobenzene	(0.50)	<0.50	
1,2-Dichlorobenzene	(0.50)	<0.50	
2-Chlorotoluene (Surrogate)		93	*


 Joe Sio
 Senior Chemist

January 20, 1995
Sample Log 11124

From : Project # 12104 (Joe Sio Chevrolet)
Date Sampled : 01/17/95
Matrix : Water

Date Received 01/17/95
Units : (mg/L)

Total Lead by GFAA by SW-846 Method 7421

<u>WEST ID</u>	<u>Sample ID</u>	<u>Result</u>	<u>MRL</u>	<u>Date Digested</u>	<u>Date Analyzed</u>
11124-3	MW01-011795	0.0096	0.003	01/19/95	01/20/95
11124-4	MW02-011795	0.031	0.003	01/19/95	01/20/95

MRL = Method Reporting Limit


Michelle L. Anderson
Inorganics Supervisor

Sample: MW03-011795

From : Project # 12104 (Joe Sio Chevrolet)

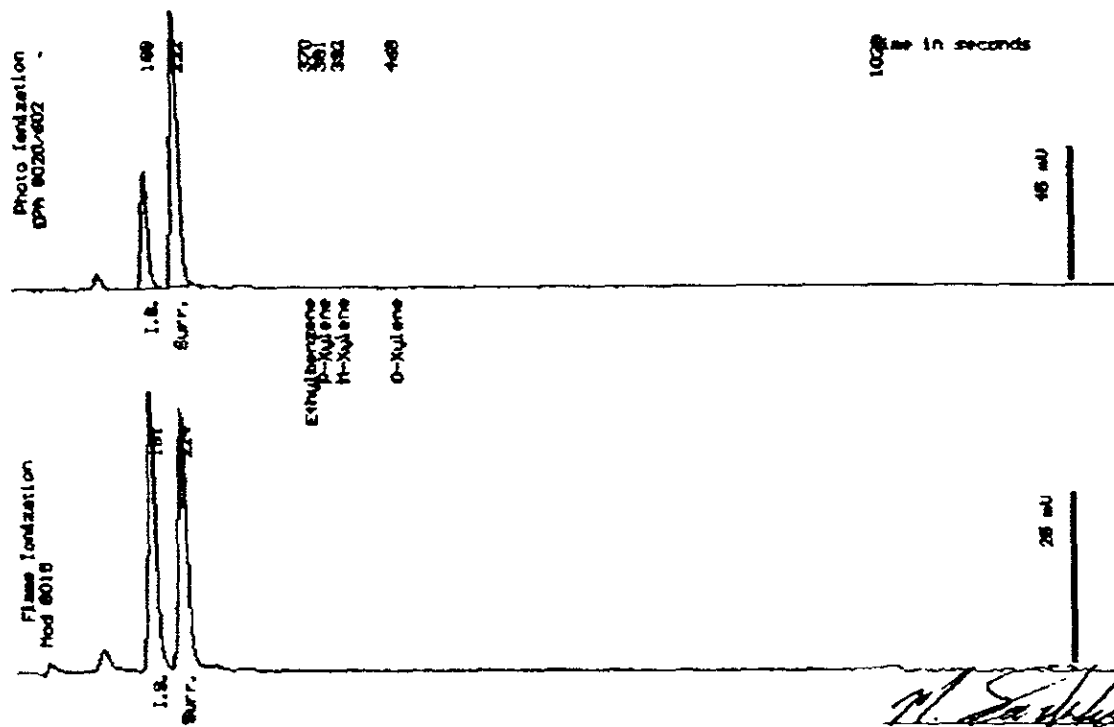
Sampled : 01/17/95

Dilution : 1:1

QC Batch : 2112c

Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		108 %



Date Analyzed: 01-19-95
Column : 0.53mm ID X 30m DBMEX (J&W Scientific)

N. Sarkosh
Nitra Sarkosh
Senior Chemist

Sample: DW01-011795

From : Project # 12104 (Joe Sio Chevrolet)

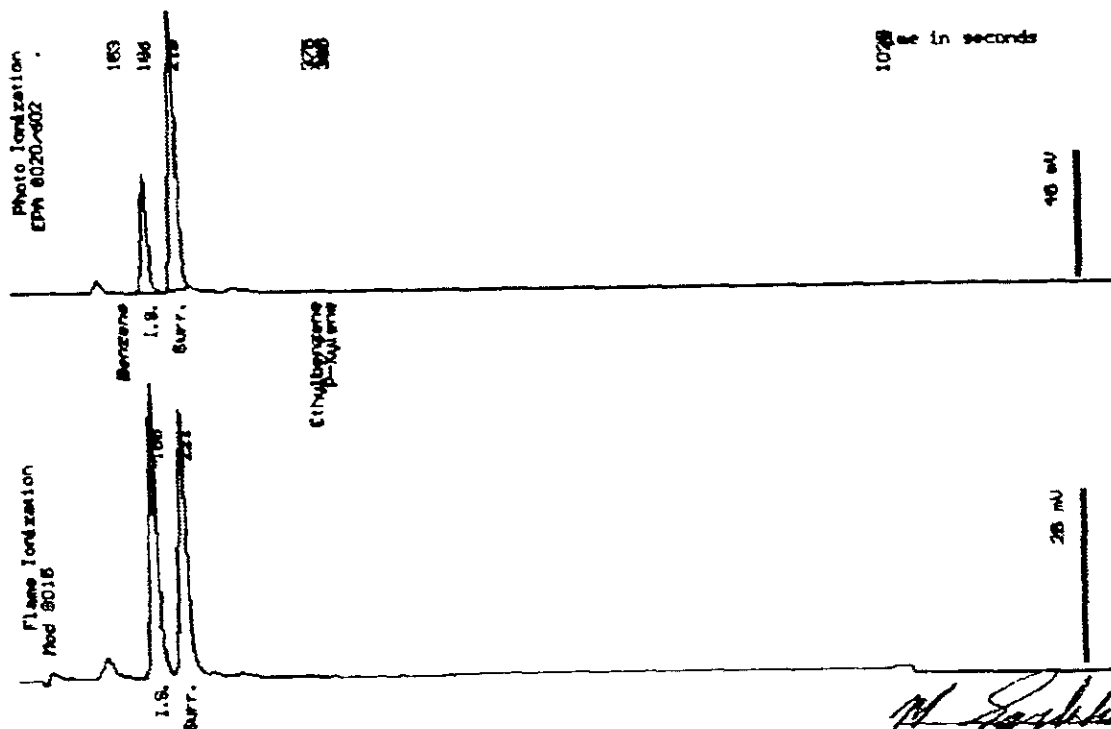
Sampled : 01/17/95

Dilution : 1:1

QC Batch : 2112c

Matrix : Water

Parameter	(MRL) $\mu\text{g}/\text{L}$	Measured Value $\mu\text{g}/\text{L}$
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		107 %



Date Analyzed: 01-19-95
 Column: 0.53mm ID X 30m DB-17X (J&H Scientific)

M. Sarkosh
 Mitra Sarkosh
 Senior Chemist

January 24, 1995
Sample Log 11124-5


Sample : MW03-011796
From : Project # 12104 (Joe Sio Chevrolet)
Matrix : Water

Date Sampled : 01/17/95
Date Received : 01/17/95
Units : (mg/L)

Dissolved Metals Analyzed by ICP and GFAA by SW-846
6 LUET : "Waste Oil" Metals

Analyte	Result	MRL	EPA Method	Date Digested	Date Analyzed
Cadmium (Cd)	<0.004	0.004	6010	01/23/95	01/24/95
Chromium (Cr)	0.0066	0.007	6010	01/23/95	01/24/95
Lead (Pb)	<0.003	0.003	7421	01/19/95	01/20/95
Nickel (Ni)	<0.015	0.015	6010	01/23/95	01/24/95
Zinc (Zn)	0.022	0.010	6010	01/23/95	01/24/95

MRL = Method Reporting Limit


Michelle L. Anderson
Inorganics Supervisor

HEWLETT LABORATORY

Sample Log 11124
11124-3

Sample: RS01-011795

From : Project # 12104 (Joe Sio Chevrolet)

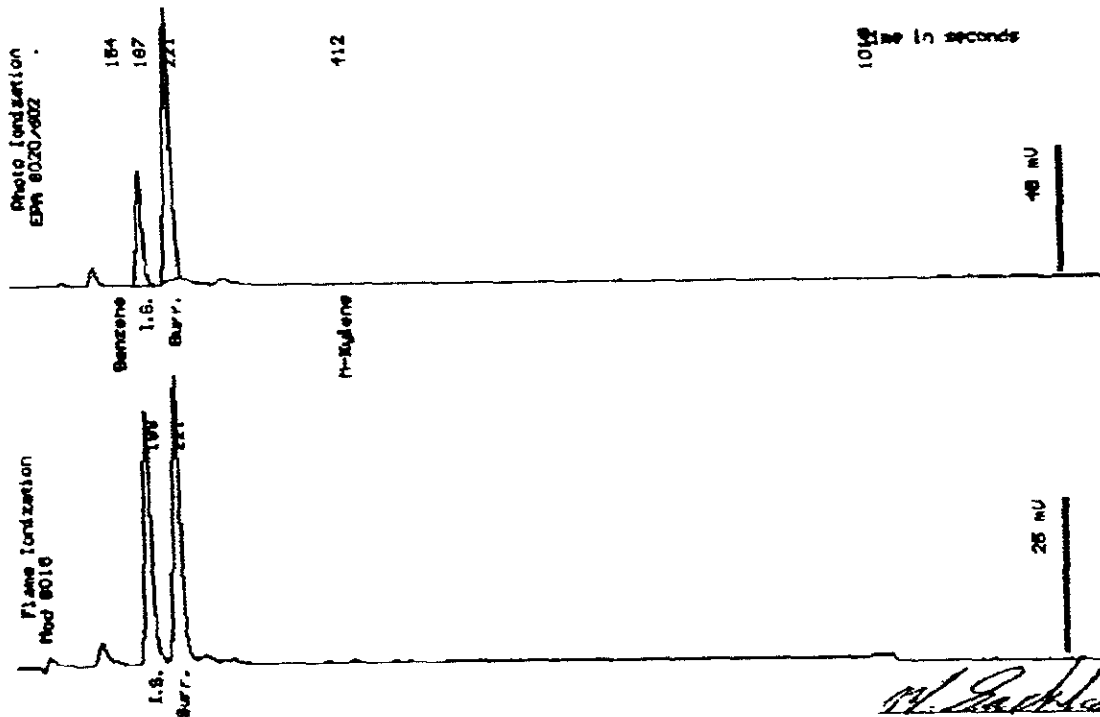
Sampled : 01/17/95

Dilution : 1:1

QC Batch : 2112c

Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		105 †



Date Analyzed: 01-19-95
Column : 6.ESms ID X 30m DBMx (VMI Scientific)

M. Sarkosh
Mina Sarkosh
Senior Chemist

Sample: TB01-011795

From : Project # 12104 (Joe Sio Chevrolet)

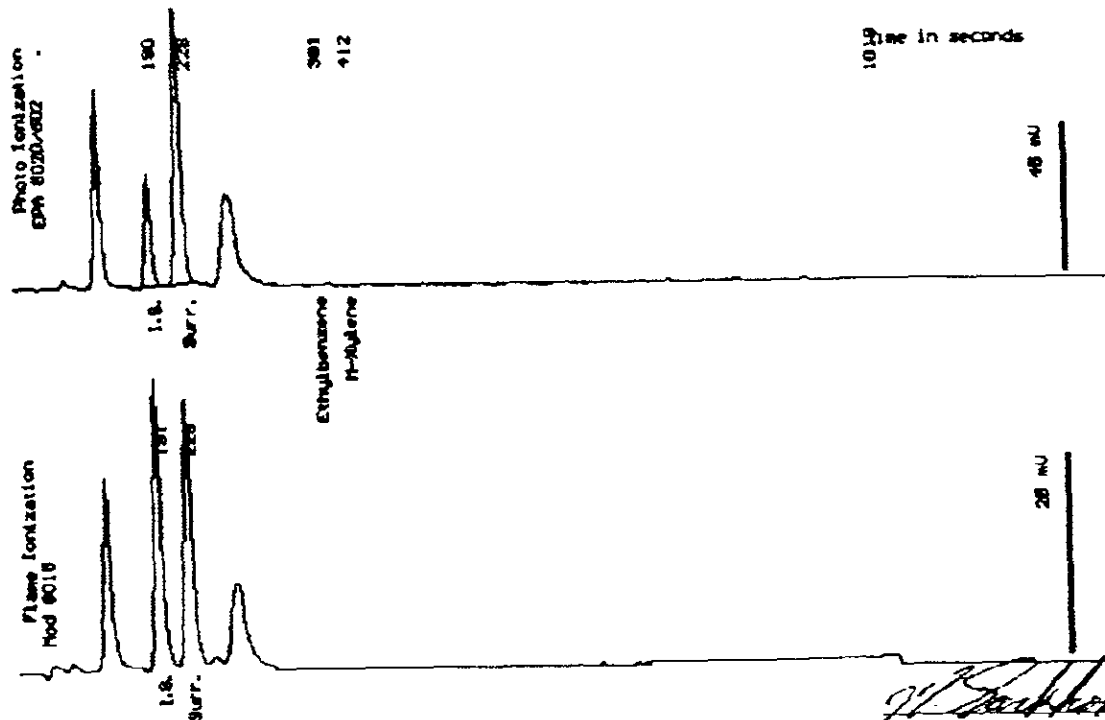
Sampled : 01/17/95

Dilution : 1:1

QC Batch : 2112c

Matrix : Water

Parameter	(MRL) $\mu\text{g/L}$	Measured Value $\mu\text{g/L}$
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50
TPH as Gasoline	(50)	<50
Surrogate Recovery		112 %



Date Analyzed: 01-19-95
 Column: 0.83mm ID x 30m DBMMS (J&W Scientific)

Mitra Sankhosh
 Mitra Sankhosh
 Senior Chemist

January 20, 1995

Metals QC Report for Sample Log 11124

From: Project # 12104 (Joe Sio Chevrolet)
Matrix: Water
Sample Spiked for MS/MSD: 11124-5

Units: (mg/L)

Method Blank					
Analyte	Result	MRL	EPA Method	Date Digested	Date Analyzed
Lead (Pb)	<0.003	0.003	7421	01/19/95	01/20/95

MRL = Method Reporting Limit

Laboratory Control Sample (LCS)					
Analyte	% Recovery	EPA Method	Date Digested	Date Analyzed	
Lead (Pb)	98	7421	01/19/95	01/20/95	

LCS Limits are 85 - 115%.

Matrix Spikes						
Analyte	MS % Recov	MSD % Recov	RPD	EPA Method	Date Digested	Date Analyzed
Lead (Pb)	94	96	4	7421	01/19/95	01/20/95

MS = Matrix Spike MSD = Matrix Spike Duplicate RPD = Relative Percent Difference
Spike Recovery Limits for Matrix Spikes are 75 - 125%. The RPD Limits are $\pm 20\%$.

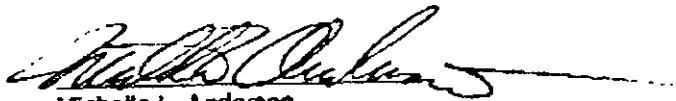

Michelle L. Anderson
Inorganics Supervisor

January 24, 1995

Metals QC Report for Sample Log 11124 (cont'd)From : Project # 12104 (Joe Sio Chevrolet)
Sample Spiked for MS/MSD : 11124-5**Matrix Spikes**

<u>Analyte</u>	<u>MS</u> <u>% Recov</u>	<u>MSD</u> <u>% Recov</u>	<u>RPD</u>	<u>EPA Method</u>	<u>Date</u> <u>Digested</u>	<u>Date</u> <u>Analyzed</u>
Cadmium (Cd)	117	115	2	6010	01/23/95	01/24/95
Chromium (Cr)	98	98	0	6010	01/23/95	01/24/95
Lead (Pb)	94	98	4	7421	01/19/95	01/20/95
Nickel (Ni)	100	99	1	6010	01/23/95	01/24/95
Zinc (Zn)	106	107	1	6010	01/23/95	01/24/95

MS = Matrix Spike MSD = Matrix Spike Duplicate RPD = Relative Percent Difference
Spike Recovery Limits for Matrix Spikes are 75 - 125%. RPD Limits are $\pm 20\%$.

Michelle L. Anderson
Inorganics Supervisor

January 24, 1995

Metals QC Report for Sample Log 11124

From : Project # 12104 (Joe Slo Chevrolet)
Matrix : Water

Units : (mg/L)

Method Blank					
Analyte	Result	MRL	EPA Method	Date Digested	Date Analyzed
Cadmium (Cd)	<0.004	0.004	8010	01/23/95	01/24/95
Chromium (Cr)	<0.007	0.007	8010	01/23/95	01/24/95
Lead (Pb)	<0.003	0.003	7421	01/19/95	01/20/95
Nickel (Ni)	<0.015	0.015	8010	01/23/95	01/24/95
Zinc (Zn)	<0.010	0.010	8010	01/23/95	01/24/95

MRL = Method Reporting Limit

Laboratory Control Sample (LCS)					
Analyte	% Recovery	EPA Method	Date Digested	Date Analyzed	
Cadmium (Cd)	112	8010	01/23/95	01/24/95	
Chromium (Cr)	102	8010	01/23/95	01/24/95	
Lead (Pb)	98	7421	01/19/95	01/20/95	
Nickel (Ni)	104	8010	01/23/95	01/24/95	
Zinc (Zn)	109	8010	01/23/95	01/24/95	

LCS Limits are 85 - 115%.



Michelle L. Anderson
Inorganics Supervisor



1046 Olive Drive, Suite 3
Davis, CA 95616

916-753-9800
FAX #: 916-753-6081
LAB#: 916-757-4650

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager:

Phone #:

510-420-7910

Company/Address: BURLINGTON ENVIRONMENTAL FAX #: 510-658-7770

590 CHRISTIE AVE. STE 501 EMERYVILLE, CA

Project Number:

P.O.#:

Project Name:

1204

52863

JOE SA CHEVROLET

Project Location:

914 SAN PABLO AVE., ALBANY, CA

Sampler Signature:

ANALYSIS REQUEST

TAT

Sample ID	Sampling		Container		Method Preserved				Matrix			
	DATE	TIME	VOA	SLEEVE	1L GLASS	1L PLASTIC	HCl	HNO3	CE	NONE	WATER	SOIL
1795												
TB01-011795	1-17	0645	X				X	X		X		
TS01-011795	1-17	0900	X				X	X		X		
TM01-011795	1-17	1020	X		X		X	X		X		
TM02-011795	1-17	1100	X		X		X	X		X		
TM03-011795	1-17	1145	X		X		X	X		X		
TM04-011795	1-17	1210	X				X	X		X		

BTEX (602/8029)	
BTEX/TPH as Gasoline (602/8020/8015)	
TPH as Diesel/DO (8015)	
Total Oil & Grease (5520 B/E, F)	
Total Oil & Grease IR (5520 B/E, F, G)	
86 - Hour Fish Bioassay	
EPA 601/8010	
EPA 602/8020	
EPA 615/8150	
EPA 608/6080 - Pesticides	
EPA 606/6060-PCBs	
EPA 820/8240	
EPA 825/8270	
ORGANIC LEAD	
Reactivity, Corrosivity, Ignitibility	
CAM - 17 Metals	
EPA - Priority Pollutant Metals	
LEAD (7420/7421/239.2)	
Cd, Cr, Pb, Zn, Ni	5 LIFT
TOTAL LEAD	
BUILD	
RUSH SERVICE (12 hr or 24 hr)	
EXPEDITED SERVICE (48 hr) or (1 wk)	
STANDARD SERVICE (2-3 wk)	

RECEIVED
DATE: 1/17/95 TIME: 1515
TEMP: DPC
INITIAL: SC
WEST LAB

Relinquished by:
Date Time: 1/17/95 1555

Relinquished by:
Date Time: 1/17/95 1515

Relinquished by:
Date Time: 1/17/95 1515

Received by:

Received by:

Received by Laboratory: J. Cantrell

Remarks: NOTE: TM03-011795 FILTERED IN FIELD (METALS ONLY).

Bill To: