94-911

JANUARY 1995 QUARTERLY MONITORING AND SAMPLING REPORT 505 CEDAR STREET OAKLAND, CALIFORNIA

Prepared For:

STATE DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ENGINEERING BRANCH
OAKLAND, CALIFORNIA

Contract Number 53U495
Task Order Number 04-192211-05

Submitted by:

ENVIRONMENTAL SOLUTIONS, INC.
PETALUMA, CALIFORNIA

March 8, 1995

Prepared by:

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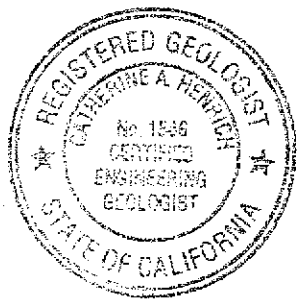

STATE OF CALIFORNIA

OFFICE MEMO
STD. 100 (REV. 10-91)

DATE: 3/22/95

TO

ROOM/STA. NO.

Susan Hugo
FROM

PHONE NUMBER ATSS ☐

286-5647
ROOM/STA. NO.

Chris Wilson

SUBJECT
Cal-East Foods Monitoring Wells

Susan:

Here is the report for the third round of samples from the monitoring wells at the former Cal-East Foods.

Chris Wilson

95 MAR 24 PM 12:45

ENVIRONMENTAL
PROTECTION

91 62476

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The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the California Department of Transportation or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

1.0 INTRODUCTION

1. Environmental Solutions, Inc. has prepared the January 1995 Quarterly Monitoring and Sampling Report for the California Department of Transportation site (Site), located at 505 Cedar Street in Oakland, California (Figure 1), as part of Task Order 04-192211-05 of Contract Number 53U495.

2. In July 1994, Environmental Solutions, Inc. installed three ground water monitoring wells (Monitoring Wells MW-1, MW-2, and MW-3; Figure 2) at the Site to assess if the ground water in the vicinity of the former Underground Storage Tank (UST) had been impacted by petroleum hydrocarbons. The monitoring wells were developed and sampled after installation in July 1994. The results showed the presence of Total Petroleum Hydrocarbons as gasoline (TPH-gas) and Volatile Organic Compounds (VOCs)[1]. The first quarterly monitoring event occurred in October 1994, and the results are presented in a report prepared by Environmental Solutions, Inc.[2]. This report presents the results of the second quarterly monitoring event performed by Environmental Solutions, Inc.

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(1) *Soil and Ground Water Investigation Report, Cal East Site, 505 Cedar Street, Oakland, California,* dated September 27, 1994.

(2) *October 1994 Quarterly Monitoring and Sampling Report, 505 Cedar Street, Oakland, California,* dated December 12, 1994.

2.0 GROUND WATER SAMPLING PROCEDURES

1. The quarterly monitoring activities were performed on January 19, 1995. The traffic-rated well surface covers were unscrewed and removed, and the well casing's water-resistant, expandable caps unlocked and removed. Ground water levels were measured with an electric sounder in each of the three monitoring wells on the Site (Figure 2). After the water levels were measured and recorded, a minimum of three wet well casing volumes were purged from the monitoring wells. Temperature, conductivity and pH measurements of the purge water were recorded during well evacuation procedures. Prior to purging the monitoring wells, all sampling equipment was decontaminated with an alconox wash and deionized water rinse, before and after each use. Prior to sampling, a minimum of 90 percent of the original water volume was allowed to recover in each well.

2. For each well, ground water samples were collected using a new disposable plastic bailer with fresh twine, and the collected ground water was released through new disposable VOC samplers into clean, laboratory-supplied sample bottles. Each sample bottle was labeled with the well number, sampler's name, and the date and time the sample was collected. After collection, the filled bottles were capped and placed in a cooler packed with blue ice, and transported under Chain-of-Custody documentation to Chromalab, Inc. (Chromalab), located in Pleasanton, California, for analysis.

3. Purge and decontamination rinsate water were placed in labeled Department of Transportation's (DOT) approved 55-gallon drums, pending laboratory analyses for evaluation of disposal alternatives.

3.0 ANALYTICAL PROGRAM

1. Ground water samples collected from Monitoring Wells MW-1, MW-2 and MW-3 were analyzed by Chromalab. The analytical program included the following analyses:

   - EPA Method 6010, Heavy Metal Scan
   - EPA Method 8015, Modified for Total Petroleum Hydrocarbons as Gasoline
   - EPA Method 5520, Oil and Grease
   - EPA Method 8015, Modified for Total Petroleum Hydrocarbons as Diesel
   - EPA Method 8240, VOCs

2. Chromalab filtered and preserved the ground water samples according to EPA testing procedures prior to analyzing the samples by EPA Method 6010, Heavy Metal Scan.

4.0 RESULTS

1. Table 1 presents the results of the depth to water measurements and ground water elevations. Table 2 presents the pH, temperature, and conductivity measurements collected during well evacuation procedures.

2. On the basis of depth to water measurements measured on January 19, 1995, it appears that the ground water flows toward the northeast at a gradient of 0.029 vertical feet per horizontal foot (Figure 3).

3. Analytical results are presented in Table 3 and Figure 4, and the results are summarized below. Certified analytical laboratory results and Chain-of-Custody documentation are presented in Appendix A.

4. TPH-gas was detected in Monitoring Well MW-3 at a concentration of 2.9 milligrams per liter (mg/l). TPH-gas was not detected at or above the laboratory's reporting limit in the other two monitoring wells onsite. TPH-diesel, and oil and grease, were not detected in the three ground water monitoring wells at concentrations at or above the laboratories reported detection limits.

5. In each of the monitoring wells, results of the metals analysis show the presence of several constituents at concentrations below their respective Maximum Contaminant Levels (MCLs)[3]. However, total chromium was detected in Monitoring Well MW-2 at a concentration of 0.05 mg/l, which is the MCL for this metal.

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(3) State of California Department of Health Services, *Summary of California Drinking Water Standards,* November 1994.

6. Results of the VOC analyses show detectable concentrations of benzene (16 micrograms per liter [ug/l]) and 1,2-Dichloroethane (1,2-DCA [26 ug/l]) in ground water samples collected from Monitoring Well MW-1. Ground water samples collected from Monitoring Well MW-3 had detectable concentrations of benzene (7.3 ug/l), ethylbenzene (20 ug/l), and total xylenes (7.7 ug/l). No other constituents were detected at concentrations at or above the laboratory's reported detection limits.

5.0 DISCUSSION

1. The ground water flow direction calculated this quarter is trending more northerly than the October 1994 calculated flow direction. The apparent fluctuation in ground water flow direction at the site may be influenced by several factors. Two of the monitoring wells are composed of 2-inch poly vinyl chloride (PVC), while the third is composed of 4-inch PVC. All three monitoring wells have different total depths, which causes the screened intervals to vary between the wells. A backfilled excavation is present between the three wells in the location of the former UST, which may influence the ground water pattern. Other factors, including seasonal fluctuations in water levels, local variation in soil composition, and the presence of braided stream channel sediments known to exist in the west Oakland area, may also be affecting the ground water flow patterns.

2. TPH-gas was detected in ground water samples collected from Monitoring Well MW-3 at a concentration slightly higher than previously detected in past sampling events.

3. Thallium, a heavy metal, was not detected in ground water samples collected during this sampling event. Thallium was detected in the July 1994 sampling event, in ground water samples collected from Monitoring Wells MW-1 and MW-2, at concentrations which exceed the MCL of 0.002 mg/l. This compound will continue to be monitored during the next quarterly monitoring event.

4. Lead, which was detected in ground water samples from Monitoring Well MW-2 in October 1994, was not detected during this sampling event. This metal will continue to be monitored during the next quarterly monitoring event.

5. Benzene, ethylbenzene, and total xylenes were detected for the first time this quarter in ground water samples collected from Monitoring Well MW-3. Benzene and 1,2-DCA were detected for the second and third time, respectively, in ground water samples collected from Monitoring Well MW-1. Benzene concentrations detected in ground water samples collected from Monitoring Well MW-1 and MW-3, and 1,2-DCA concentrations detected in ground water samples collected from Monitoring Well MW-1, exceeded their respective MCLs of 0.001 mg/l, and 0.0005 mg/l.

6.0 SCHEDULE

1. Environmental Solutions, Inc. will perform one more quarterly ground water monitoring and sampling event. This final sampling event is scheduled to take place in April 1995.

TABLE 1: WATER LEVEL DATA

Caltrans - 505 Cedar Street
Environmental Solutions, Inc. Project Number 94-911

Well Identification	Top of Casing Elevation*	Measuring Date	Depth to Water #	Water Level Elevation*
MW-1	9.25	7/22/94	8.83	0.42
		10/27/94	8.315	0.935
		1/19/95	4.91	4.34
MW-2	9.84	7/22/94	9.24	0.60
		10/27/94	8.82	1.02
		1/19/95	5.31	4.53
MW-3	9.41	7/22/94	8.94	0.47
		10/27/94	8.41	1.00
		1/19/95	3.78	5.63

* = Measurements in feet above USGS Mean Sea Level
# = Depths measured in feet from top of casing

TABLE 2: TEMPERATURE, pH, AND CONDUCTIVITY MEASUREMENTS

Caltrans - 505 Cedar Street
Environmental Solutions, Inc. Project Number 94-911

Well Identification	Measuring Date	Temperature*	pH	Conductivity+
MW-1	7/27/94	67.0	NA	1158
	10/27/94	70.6	7.0	1103
	1/19/95	66.0	6.6	1410
MW-2	7/27/94	65.4	NA	1040
	10/27/94	67.8	7.1	916
	1/19/95	63.0	7.0	740
MW-3	7/27/94	66.6	NA	1756
	10/27/94	68.4	6.8	1374
	1/19/95	60.0	6.6	980

* Temperature in degrees fahrenheit
+ = Conductivity in umhos
NA = not available

Table 3: Analytical Results, 505 Cedar Street, Oakland, California

		Hydrocarbons (mg/l)					6010 Metals (mg/l)									
Monitoring Well	Date	Hydrocarbons	Detection Limit	8015m-Diesel	5520-Oil and Grease	8015m-Gasoline	6010 Metals	Detection Limit	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (total)	Cobalt	Copper
MW-1	7/27/94		mg/l	ND(0.05)	ND(1.0)	**0.12**		mg/l	ND(0.02)	ND(0.005)	**0.069**	ND(0.001)	ND(0.001)	**0.011**	ND(0.01)	ND(0.005)
	10/27/94		mg/l	ND(0.05)	ND(5.0)	**0.45**		mg/l	ND(0.02)	**0.011**	**0.076**	ND(0.001)	**0.001**	ND(0.01)	ND(0.01)	ND(0.005)
	1/19/95		mg/l	ND(0.05)	ND(1.0)	ND(0.05)		mg/l	ND(0.02)	ND(0.005)	**0.075**	ND(0.001)	ND(0.001)	ND(0.05)	ND(0.01)	ND(0.005)
MW-2	7/27/94		mg/l	ND(0.05)	ND(1.0)	ND(0.05)		mg/l	ND(0.02)	ND(0.005)	**0.011**	ND(0.001)	ND(0.001)	ND(0.01)	ND(0.01)	ND(0.005)
	10/27/94		mg/l	ND(0.05)	ND(5.0)	ND(0.05)		mg/l	ND(0.02)	**0.005**	**0.12**	ND(0.001)	**0.003**	**0.02**	ND(0.01)	**0.02**
	1/19/95		mg/l	ND(0.05)	ND(1.0)	ND(0.05)		mg/l	ND(0.02)	ND(0.005)	**0.081**	ND(0.001)	**0.004**	**0.05**	ND(0.01)	**0.005**
MW-3	7/27/94		mg/l	ND(0.05)[a]	ND(1.0)	**0.13**		mg/l	ND(0.02)	ND(0.005)	**0.21**	ND(0.001)	ND(0.001)	ND(0.01)	ND(0.01)	ND(0.005)
	10/27/94		mg/l	ND(0.05)	ND(5.0)	**0.07**		mg/l	ND(0.02)	**0.009**	**0.15**	ND(0.001)	ND(0.001)	ND(0.01)	ND(0.01)	ND(0.005)
	1/19/95		mg/l	ND(0.05)	ND(1.0)	**2.9**		mg/l	ND(0.02)	ND(0.005)	**0.18**	ND(0.001)	ND(0.001)	ND(0.05)	ND(0.01)	ND(0.005)

a = Unknown hydrocarbon identified in gasoline/kerosene range, quantified as 0.062 mg/l

ND (0.05) Not Detected at or above reporting limit, reporting limit in parentheses.

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Table 3: Analytical Results, 505 Cedar Street, Oakland, California

		6010 Metals (mg/l)									8240 VOCs (ug/l)						
Monitoring Well	Date	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury	8240 VOC's	Detection Limit	Acetone	Benzene	Bromodichloromethane	Bromoform	Bromomethane
MW-1	7/27/94	ND(0.01)	**0.0059**	ND(0.02)	ND(0.01)	ND(0.005)	**0.04**	ND(0.01)	**0.38**	ND(0.001)		ug/L	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	10/27/94	ND(0.01)	ND(0.005)	ND(0.02)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.001)		ug/L	ND(5.0)	**37**	ND(2.0)	ND(2.0)	ND(2.0)
	1/19/95	ND(0.01)	ND(0.005)	ND(0.05)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.01)	**0.15**	**0.001**		ug/L	ND(5.0)	**16**	ND(2.0)	ND(2.0)	ND(2.0)
MW-2	7/27/94	ND(0.01)	**0.0066**	ND(0.02)	ND(0.01)	ND(0.005)	**0.017**	ND(0.01)	**0.012**	ND(0.001)		ug/L	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	10/27/94	**0.01**	ND(0.005)	**0.02**	ND(0.01)	ND(0.005)	ND(0.01)	**0.01**	**0.03**	ND(0.001)		ug/L	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	1/19/95	ND(0.01)	ND(0.005)	ND(0.05)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.01)	**0.14**	ND(0.001)		ug/L		ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
MW-3	7/27/94	ND(0.01)	ND(0.005)	ND(0.02)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.01)	**0.17**	ND(0.001)		ug/L	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	10/27/94	ND(0.01)	ND(0.005)	ND(0.02)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.001)		ug/L	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	1/19/95	ND(0.01)	ND(0.005)	ND(0.05)	ND(0.01)	ND(0.005)	ND(0.01)	ND(0.01)	**0.04**	ND(0.001)		ug/L		**7.3**	ND(2.0)	ND(2.0)	ND(2.0)

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Table 3: Analytical Results, 505 Cedar Street, Oakland, California

Monitoring Well	Date	8240 VOCs (ug/l)																
		2-Butanone (MEK)	Carbon Tetrachloride	Chlorobenzene	Chloroethane	2-Chloroethyl Vinyl Ether	Chloroform	Chloromethane	Dibromochloromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene
MW-1	7/27/94	**3.4**	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	**43**	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	10/27/94	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	**37**	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	1/19/95	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	**26**	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
MW-2	7/27/94	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	10/27/94	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	1/19/95	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
MW-3	7/27/94	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	10/27/94	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	1/19/95	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)

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Table 3: Analytical Results, 505 Cedar Street, Oakland, California

		8240 VOCs (ug/l)														
Monitoring Well	Date	Ethylbenzene	2-Hexanone	Methylene Chloride	Methyl Isobutyl Ketone	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Trichlorofluoromethane	Vinyl Acetate	Vinyl Chloride	Total Xylenes
MW-1	7/27/94	ND(2.0)	ND(2.0)	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	10/27/94	ND(2.0)	ND(2.0)	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	1/19/95	ND(2.0)	ND(2.0)	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
MW-2	7/27/94	ND(2.0)	ND(2.0)	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	10/27/94	ND(2.0)	ND(2.0)	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	1/19/95	ND(2.0)	ND(2.0)	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
MW-3	7/27/94	ND(2.0)	ND(2.0)	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	10/27/94	ND(2.0)	ND(2.0)	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	1/19/95	20	ND(2.0)	ND(5.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	7.7

ENVIRONMENTAL SOLUTIONS

94-911rev. 2/95

LEGEND

USGS 1: 24,000 SCALE
OAKLAND WEST
QUADRANGLE TOPOGRAPHIC MAP

0 1/2

Statute Miles

FIGURE 1
SITE VICINITY MAP
505 Cedar Street
Oakland, California

ENVIRONMENTAL SOLUTIONS, INC.

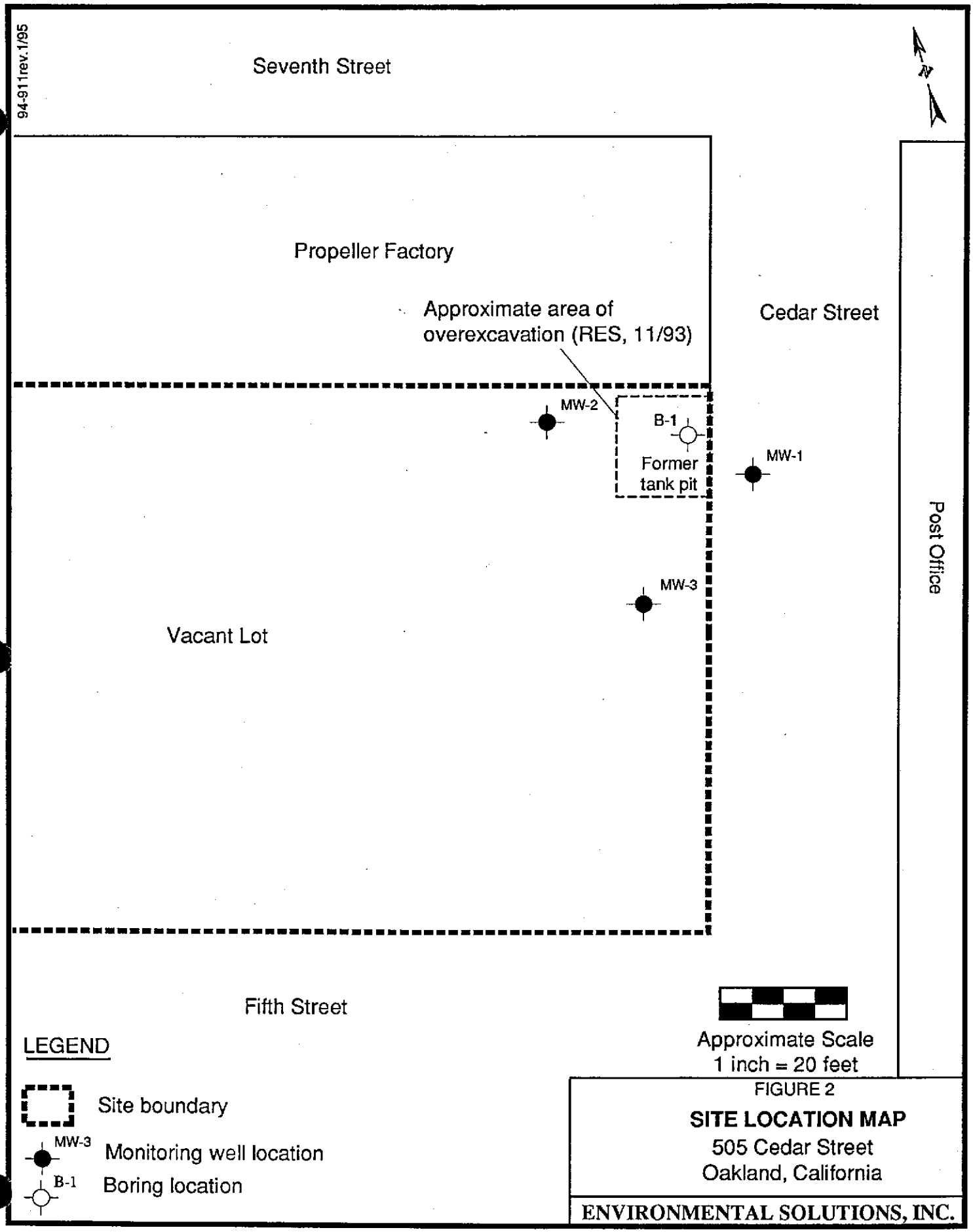

FIGURE 2

SITE LOCATION MAP

505 Cedar Street
Oakland, California

ENVIRONMENTAL SOLUTIONS, INC.

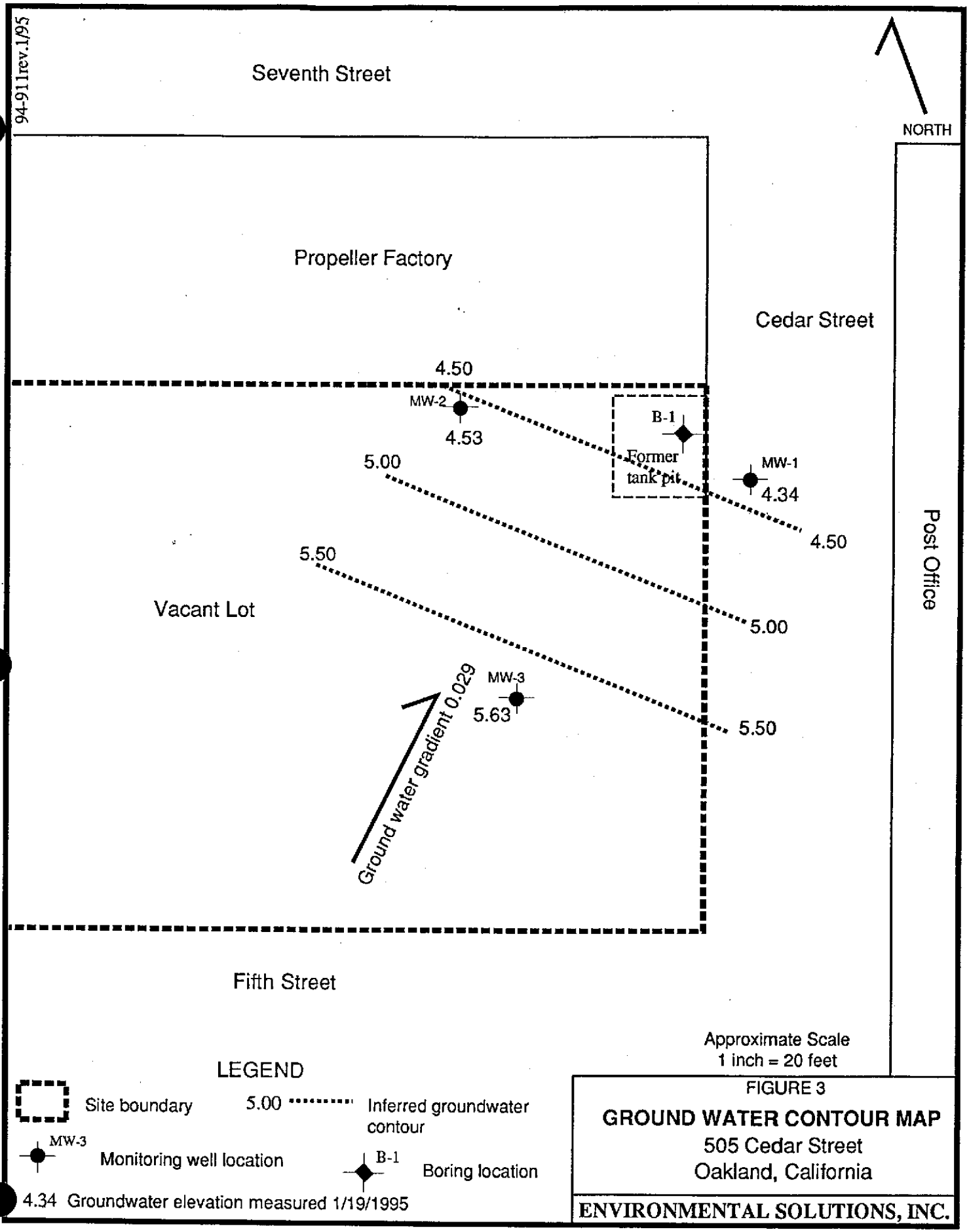

FIGURE 3

GROUND WATER CONTOUR MAP

505 Cedar Street
Oakland, California

ENVIRONMENTAL SOLUTIONS, INC.

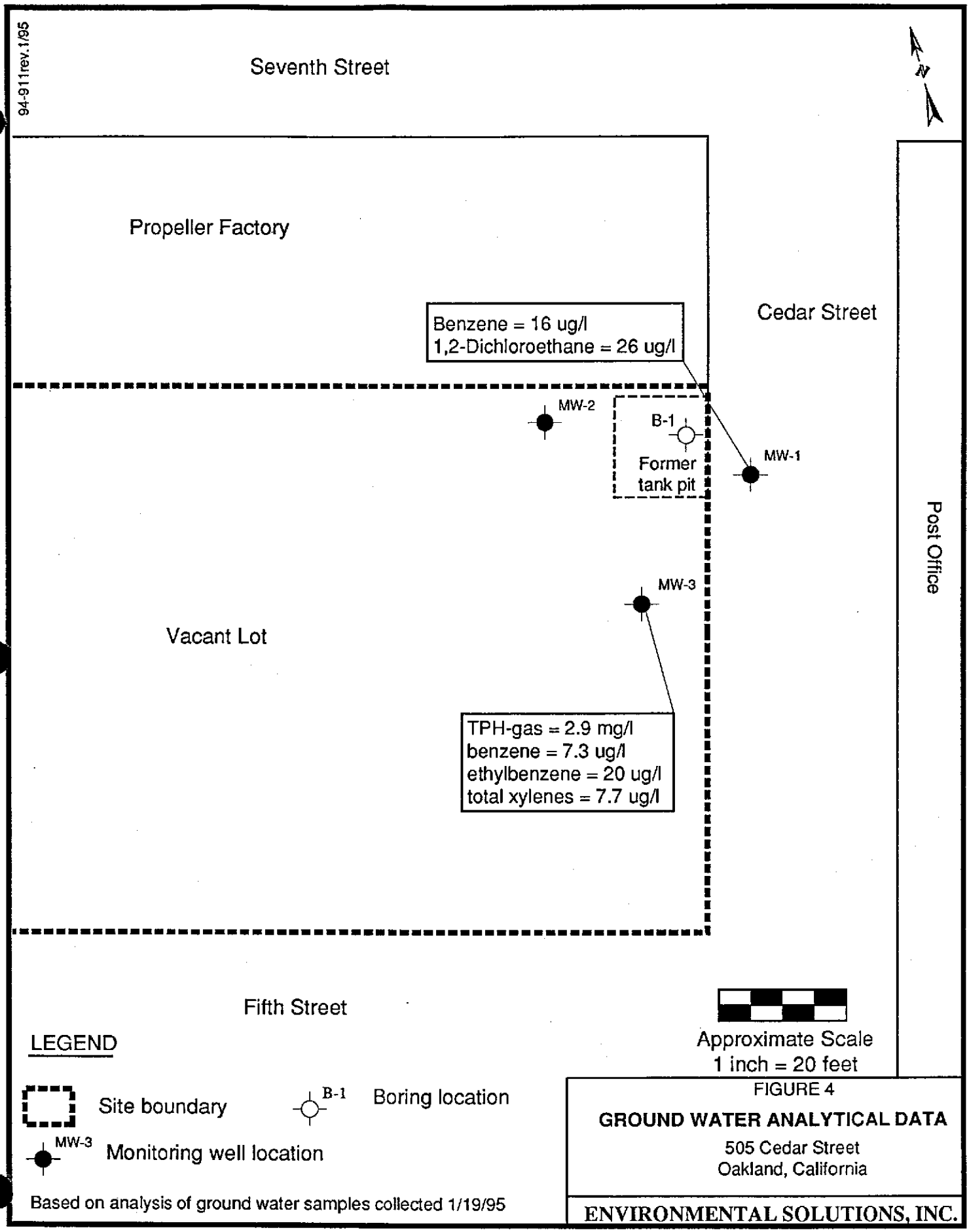

FIGURE 4

GROUND WATER ANALYTICAL DATA

505 Cedar Street
Oakland, California

ENVIRONMENTAL SOLUTIONS, INC.

APPENDIX A

CHAIN-OF-CUSTODY DOCUMENTATION
AND
ANALYTICAL DATA SHEETS

CHROMALAB, INC.

Environmental Services (SDB)

RECEIVED

JAN 30 1995

January 25, 1995

ENV. SOLUTIONS - PETALUMA *Submission #:* 9501166

Atten: Jed Douglas

Project: CALTRANS 505 CEDAR *Project#:* 94-911

REPORTING INFORMATION

Sample(s) were received cold and in good condition on **January 19, 1995.** They were refrigerated on receipt, and analyzed on the date shown on the attached report. ChromaLab followed EPA or equivalent methods for all analyses reported.

Hydrocarbons in the Kerosene range were observed in sample MW-3. Hydrocarbons in the Motor Oil range were also observed in sample MW-2.

Jill Thomas
Quality Assurance Officer

Eric Tam
Laboratory Director

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

January 26, 1995 *Submission #:* 9501166

ENV. SOLUTIONS - PETALUMA

Atten: Jed Douglas

Project: CALTRANS 505 CEDAR *Project#:* 94-911
Received: January 19, 1995

re: 3 samples for Gasoline analysis.

Matrix: WATER
Sampled: January 19, 1995 *Run#:* 5196 *Analyzed:* January 26, 1995
Method: EPA 5030/8015M

Spl #	CLIENT SMPL ID	GASOLINE (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE RESULT (%)
75517	MW-3	2.9	0.05	N.D.	99
75518	MW-2	N.D.	0.05	N.D.	99
75519	MW-1	N.D.	0.05	N.D.	99

Jack Kelly
Chemist

Ali Kharrazi
Organic Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
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Federal ID #68-0140157

QC JACK 17:48:39

CHROMALAB, INC.

Environmental Services (SDB)

January 23, 1995 *Submission #:* 9501166

ENV. SOLUTIONS - PETALUMA

Atten: Jed Douglas

Project: CALTRANS 505 CEDAR *Project#:* 94-911
Received: January 19, 1995

re: 3 samples for Oil and Grease analysis.

Matrix: WATER *Extracted:* January 23, 1995
Sampled: January 19, 1995 *Run#:* 5176 *Analyzed:* January 20, 1995
Method: STANDARD METHODS 5520 B&F

Spl # CLIENT SMPL ID	OIL & GREASE (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE RESULT (%)
75517 MW-3	N.D.	1.0	N.D.	99
75518 MW-2	N.D.	1.0	N.D.	99
75519 MW-1	N.D.	1.0	N.D.	99

Carolyn House
Extractions Supervisor

Ali Kharrazi
Organic Manager

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QC CMH 12:56:26

CHROMALAB, INC.

Environmental Services (SDB)

January 25, 1995 *Submission #:* 9501166

ENV. SOLUTIONS - PETALUMA

Atten: Jed Douglas

Project: CALTRANS 505 CEDAR *Project #:* 94-911
Received: January 19, 1995

re: Three samples for Diesel analysis

Matrix: WATER *Extracted:* January 20, 1995
Sampled: January 19, 1995 *Analyzed:* January 23, 1995
Method: EPA 3510/8015

Sample #	Client Sample ID	Diesel (µg/L)
75517	MW-3	N.D.
75518	MW-2	N.D.
75519	MW-1	N.D.
Blank		N.D.
Spike Recovery		94%
Dup Spike Recovery		96%
Reporting Limit		50

ChromaLab, Inc.

Sirirat Chullakorn
Analytical Chemist

Ali Kharrazi
Organic Manager

cc

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

January 26, 1995 *Submission #:* 9501166

ENV. SOLUTIONS - PETALUMA

Atten: Jed Douglas

Project: CALTRANS 505 CEDAR *Project#:* 94-911
Received: January 19, 1995

re: One sample for CAM 17 Metals analysis.

Sample ID: **MW-3**
Spl#: 75517 *Matrix:* WATER *Extracted:* January 24, 1995
Sampled: January 19, 1995 *Run#:* 5185 *Analyzed:* January 26, 1995
Method: EPA 3010A M/6010/7470

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE RESULT (%)
ANTIMONY	N.D.	0.02	N.D.	97
ARSENIC	N.D.	0.005	N.D.	104
BARIUM	0.075	0.005	N.D.	102
BERYLLIUM	N.D.	0.001	N.D.	101
CADMIUM	N.D.	0.001	N.D.	102
CHROMIUM	N.D.	0.05	N.D.	122
COBALT	N.D.	0.01	N.D.	102
COPPER	N.D.	0.005	N.D.	104
LEAD	N.D.	0.01	N.D.	102
MOLYBDENUM	N.D.	0.005	N.D.	102
NICKEL	N.D.	0.05	N.D.	113
SELENIUM	N.D.	0.01	N.D.	104
SILVER	N.D.	0.005	N.D.	101
THALLIUM	N.D.	0.01	N.D.	103
VANADIUM	N.D.	0.01	N.D.	104
ZINC	0.04	0.01	N.D.	103
MERCURY	N.D.	0.001	N.D.	90

Note: MERCURY WAS PREPED AND RUN ON 1/24/95

Doina Danet
Chemist

John S. Labash
Inorganic Supervisor

2239 Omega Road,#1 • San Ramon, California 94583
(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

DC JOHN 16:14:02

CHROMALAB, INC.

Environmental Services (SDB)

January 26, 1995 *Submission #:* 9501166

ENV. SOLUTIONS - PETALUMA

Atten: Jed Douglas

Project: CALTRANS 505 CEDAR *Project#:* 94-911
Received: January 19, 1995

re: One sample for CAM 17 Metals analysis.

Sample ID: **MW-2**
Spl#: 75518 *Matrix:* WATER *Extracted:* January 24, 1995
Sampled: January 19, 1995 *Run#:* 5185 *Analyzed:* January 26, 1995
Method: EPA 3010A M/6010/7470

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE RESULT (%)
ANTIMONY	N.D.	0.02	N.D.	97
ARSENIC	N.D.	0.005	N.D.	104
BARIUM	0.081	0.005	N.D.	102
BERYLLIUM	N.D.	0.001	N.D.	101
CADMIUM	0.004	0.001	N.D.	102
CHROMIUM	0.05	0.05	N.D.	122
COBALT	N.D.	0.01	N.D.	102
COPPER	0.005	0.005	N.D.	104
LEAD	N.D.	0.01	N.D.	102
MOLYBDENUM	N.D.	0.005	N.D.	102
NICKEL	N.D.	0.05	N.D.	113
SELENIUM	N.D.	0.01	N.D.	104
SILVER	N.D.	0.005	N.D.	101
THALLIUM	N.D.	0.01	N.D.	103
VANADIUM	N.D.	0.01	N.D.	104
ZINC	0.14	0.01	N.D.	103
MERCURY	N.D.	0.001	N.D.	90

Note: MERCURY WAS PREPED AND RUN ON 1/24/95.

Doina Danet
Chemist

John S. Labash
Inorganic Supervisor

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QC JOHN 16:10:02

CHROMALAB, INC.

Environmental Services (SDB)

January 26, 1995 *Submission #:* 9501166

ENV. SOLUTIONS - PETALUMA

Atten: Jed Douglas

Project: CALTRANS 505 CEDAR *Project#:* 94-911
Received: January 19, 1995

re: One sample for CAM 17 Metals analysis.

Sample ID: **MW-1**
Spl#: 75519 *Matrix:* WATER *Extracted:* January 24, 1995
Sampled: January 19, 1995 *Run#:* 5185 *Analyzed:* January 26, 1995
Method: EPA 3010A M/6010/7470

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE RESULT (%)
ANTIMONY	N.D.	0.02	N.D.	97
ARSENIC	N.D.	0.005	N.D.	104
BARIUM	0.18	0.005	N.D.	102
BERYLLIUM	N.D.	0.001	N.D.	101
CADMIUM	N.D.	0.001	N.D.	102
CHROMIUM	N.D.	0.05	N.D.	122
COBALT	N.D.	0.01	N.D.	102
COPPER	N.D.	0.005	N.D.	104
LEAD	N.D.	0.01	N.D.	102
MOLYBDENUM	N.D.	0.005	N.D.	102
NICKEL	N.D.	0.05	N.D.	113
SELENIUM	N.D.	0.01	N.D.	104
SILVER	N.D.	0.005	N.D.	101
THALLIUM	N.D.	0.01	N.D.	103
VANADIUM	N.D.	0.01	N.D.	104
ZINC	0.15	0.01	N.D.	103
MERCURY	0.001	0.001	N.D.	90

Note: MERCURY WAS PREPED AND RUN ON 1/24/95.

Doina Danet
Chemist

John S. Labash
Inorganic Supervisor

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Federal ID #68-0140157

QC JOHN 16:14:02

CHROMALAB, INC.

Environmental Services (SDB)

January 23, 1995 *Submission #:* 9501166

ENV. SOLUTIONS - PETALUMA
Atten: Jed Douglas
Project: CALTRANS 505 CEDAR *Project#:* 94-911
Received: January 19, 1995
re: One sample for Volatile Organic Compounds analysis.

Sample ID: **MW-1**
Spl#: 75519 *Matrix:* WATER
Sampled: January 19, 1995 *Run#:* 5180 *Analyzed:* January 20, 1995
Method: EPA 8240/8260

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
ACETONE	N.D.	5.0	N.D.	--
BENZENE	16	2.0	N.D.	119
BROMODICHLOROMETHANE	N.D.	2.0	N.D.	--
BROMOFORM	N.D.	2.0	N.D.	--
BROMOMETHANE	N.D.	2.0	N.D.	--
METHYL ETHYL KETONE	N.D.	2.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	2.0	N.D.	--
CHLOROBENZENE	N.D.	2.0	N.D.	109
CHLOROETHANE	N.D.	2.0	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	2.0	N.D.	--
CHLOROFORM	N.D.	2.0	N.D.	--
CHLOROMETHANE	N.D.	2.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	2.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	2.0	N.D.	--
1,2-DICHLOROETHANE	26	2.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	2.0	N.D.	126
CIS-1,2-DICHLOROETHENE	N.D.	2.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	2.0	N.D.	--
1,2-DICHLOROPROPANE	N.D.	2.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--
ETHYLBENZENE	N.D.	2.0	N.D.	--
2-HEXANONE	N.D.	2.0	N.D.	--
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
METHYL ISOBUTYL KETONE	N.D.	2.0	N.D.	--
STYRENE	N.D.	2.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	2.0	N.D.	--
TETRACHLOROETHENE	N.D.	2.0	N.D.	--
TOLUENE	N.D.	2.0	N.D.	106
1,1,1-TRICHLOROETHANE	N.D.	2.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	2.0	N.D.	--
TRICHLOROETHENE	N.D.	2.0	N.D.	106
TRICHLOROFLUOROMETHANE	N.D.	2.0	N.D.	--
VINYL ACETATE	N.D.	2.0	N.D.	--
VINYL CHLORIDE	N.D.	2.0	N.D.	--
TOTAL XYLENES	N.D.	2.0	N.D.	--

Aaron McMichael
Chemist

Ali Kharrazi
Organic Manager

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(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

QC AARON 16:48:14

CHROMALAB, INC.

Environmental Services (SDB)

January 23, 1995 *Submission #:* 9501166

ENV. SOLUTIONS - PETALUMA
Atten: Jed Douglas
Project: CALTRANS 505 CEDAR *Project#:* 94-911
Received: January 19, 1995
re: One sample for Volatile Organic Compounds analysis.

Sample ID: **MW-2**
Spl#: 75518 *Matrix:* WATER
Sampled: January 19, 1995 *Run#:* 5180 *Analyzed:* January 20, 1995
Method: EPA 8240/8260

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
ACETONE	N.D.	5.0	N.D.	--
BENZENE	N.D.	2.0	N.D.	119
BROMODICHLOROMETHANE	N.D.	2.0	N.D.	--
BROMOFORM	N.D.	2.0	N.D.	--
BROMOMETHANE	N.D.	2.0	N.D.	--
METHYL ETHYL KETONE	N.D.	2.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	2.0	N.D.	--
CHLOROBENZENE	N.D.	2.0	N.D.	109
CHLOROETHANE	N.D.	2.0	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	2.0	N.D.	--
CHLOROFORM	N.D.	2.0	N.D.	--
CHLOROMETHANE	N.D.	2.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	2.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	2.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	2.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	2.0	N.D.	126
CIS-1,2-DICHLOROETHENE	N.D.	2.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	2.0	N.D.	--
1,2-DICHLOROPROPANE	N.D.	2.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--
ETHYLBENZENE	N.D.	2.0	N.D.	--
2-HEXANONE	N.D.	2.0	N.D.	--
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
METHYL ISOBUTYL KETONE	N.D.	2.0	N.D.	--
STYRENE	N.D.	2.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	2.0	N.D.	--
TETRACHLOROETHENE	N.D.	2.0	N.D.	--
TOLUENE	N.D.	2.0	N.D.	106
1,1,1-TRICHLOROETHANE	N.D.	2.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	2.0	N.D.	--
TRICHLOROETHENE	N.D.	2.0	N.D.	106
TRICHLOROFLUOROMETHANE	N.D.	2.0	N.D.	--
VINYL ACETATE	N.D.	2.0	N.D.	--
VINYL CHLORIDE	N.D.	2.0	N.D.	--
TOTAL XYLENES	N.D.	2.0	N.D.	--

Aaron McMichael
Chemist

Ali Kharrazi
Organic Manager

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QC AARON 16:48:14

CHROMALAB, INC.

Environmental Services (SDB)

January 23, 1995 *Submission #:* 9501166

ENV. SOLUTIONS - PETALUMA
Atten: Jed Douglas
Project: CALTRANS 505 CEDAR *Project#:* 94-911
Received: January 19, 1995
re: One sample for Volatile Organic Compounds analysis.

Sample ID: **MW-3**
Spl#: 75517 *Matrix:* WATER
Sampled: January 19, 1995 *Run#:* 5180 *Analyzed:* January 20, 1995
Method: EPA 8240/8260

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
ACETONE	N.D.	5.0	N.D.	--
BENZENE	7.3	2.0	N.D.	119
BROMODICHLOROMETHANE	N.D.	2.0	N.D.	--
BROMOFORM	N.D.	2.0	N.D.	--
BROMOMETHANE	N.D.	2.0	N.D.	--
METHYL ETHYL KETONE	N.D.	2.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	2.0	N.D.	--
CHLOROBENZENE	N.D.	2.0	N.D.	109
CHLOROETHANE	N.D.	2.0	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	2.0	N.D.	--
CHLOROFORM	N.D.	2.0	N.D.	--
CHLOROMETHANE	N.D.	2.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	2.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	2.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	2.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	2.0	N.D.	126
CIS-1,2-DICHLOROETHENE	N.D.	2.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	2.0	N.D.	--
1,2-DICHLOROPROPANE	N.D.	2.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--
ETHYLBENZENE	20	2.0	N.D.	--
2-HEXANONE	N.D.	2.0	N.D.	--
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
METHYL ISOBUTYL KETONE	N.D.	2.0	N.D.	--
STYRENE	N.D.	2.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	2.0	N.D.	--
TETRACHLOROETHENE	N.D.	2.0	N.D.	--
TOLUENE	N.D.	2.0	N.D.	106
1,1,1-TRICHLOROETHANE	N.D.	2.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	2.0	N.D.	--
TRICHLOROETHENE	N.D.	2.0	N.D.	106
TRICHLOROFLUOROMETHANE	N.D.	2.0	N.D.	--
VINYL ACETATE	N.D.	2.0	N.D.	--
VINYL CHLORIDE	N.D.	2.0	N.D.	--
TOTAL XYLENES	7.7	2.0	N.D.	--

Aaron McMichael
Chemist

Ali Kharrazi
Organic Manager

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(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

QC AARON 16:48:14

1667 75517-75519

20165

CHAIN OF CUSTODY RECORD

Ship To: CHROMALAB

Attn:

Page 1 of 1

Project Name CALTRANS 505 CEDAR

Project No. 94-911

Site Location 505 CEDAR OAKLAND

Date 19 JAN 1995

SUBM #: 9501166
CLIENT: ENVSOL-PET
DUE: 01/26/95
REF #:20165

Sample ID	Depth	Date	Time	Sample Type: Water	Solid	Other	Comp	Grab	Sample Containers: Vol.	No.	Type	Pres.	Analysis: TPH-Diesel 8015-M	Oil & Grease 5520	TPH-Gasoline 8015-M	Metals * 6010	VOC's 8240	REMARKS
MW-3		19JAN1995	1320	X					4 x 40ml & 2 x 250ml	4 2 1	VOA AMBER BASIC	HCL NO NO	✓	✓	✓	✓	✓	* PLEASE FILTER
MW-2		"	1340	X					"	"	"	"	✓	✓	✓	✓	✓	& PRESERVE METALS
MW-1		"	1400	X					"	"	"	"	✓	✓	✓	✓	✓	SAMPLES.

Total Number of Samples Shipped: 21

Sampler's Signature: James W. Carlson

	Signature	Company	Date	Time
Relinquished by	James W. Carlson	ENVIRONMENTAL SOLUTIONS INC.	19 JAN 1995	1530
Received by		Chromalab	19 Jan 1995	1530
Relinquished by				
Received by				
Relinquished by				
Received by				

Special Instructions / Shipment / Handling / Storage Requirements:

☒ ENVIRONMENTAL SOLUTIONS, INC.
1201 North McDowell Boulevard
Petaluma, CA 94954

Please send signed copy with results to the ATTENTION OF: Jed Douglas
at the address ~~to the right~~ indicated by an ☒

☐ ~~ENVIRONMENTAL SOLUTIONS, INC.~~
~~21 Technology Drive~~
~~Irvine, CA 92718~~
~~(714) 727-9336 FAX (714) 727-7399~~

☐ ENVIRONMENTAL SOLUTIONS, INC.
2815 Mitchell Drive, Suite 103
Walnut Creek, CA 94598
~~(510) 935-3294~~ FAX (510) 935-5412

Received cold in good condition 1.1°C BM

ENVIRONMENTAL SOLUTIONS

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JANUARY 1995 QUARTERLY MONITORING AND SAMPLING REPORT 505 CEDAR STREET OAKLAND, CALIFORNIA

Caltrans Contract Number 53U495
Task Order Number 04-192211-05

Environmental Solutions, Inc. Project No. 94-911

March 8, 1995

California Department of Transportation (CALTRANS) — 5 Copies
Environmental Engineering Branch
111 Grand Avenue, 14th Floor
Oakland, California 94623

Attention: Mr. Chris Wilson

Environmental Solutions, Inc. — 4 Copies
1201 North McDowell Boulevard
Petaluma, CA 94954