



LEVINE•FRICKE

ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

September 27, 1994

LF-3018.00-11

Ms. Medula Logan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94501

Subject: Quarterly Ground-Water Monitoring Report for the
Period from April 1 through June 30, 1994, 5050
Coliseum Way and 750 50th Avenue, Oakland, California

Dear Ms. Logan:

This quarterly report is submitted by Levine-Fricke on behalf of Volvo GM Heavy Truck Corporation for the subject site. During this quarterly round, depth-to-water measurements were collected in all 18 monitoring wells and ground-water samples were collected from 8 wells. A complete round of samples will be collected during the third quarter sampling event.

If you have any questions regarding this report, please call me (510-652-4500) or Mr. Robert Whelen of Volvo GM (910-279-2544).

Sincerely,

Kathleen A. Isaacson, R.G.
Senior Hydrogeologist

Enclosure

cc: Lester Feldman, Regional Water Quality Control Board
Bob Whelen, Volvo GM Heavy Truck Corp.
Martha Boyd, Volvo GM Heavy Truck Corp.

1900 Powell Street, 12th Floor
Emeryville, California 94608
(510) 652-4500
Fax (510) 652-2246



Quarterly Ground-Water Monitoring Report for the Period
from April 1 through June 30, 1994
5050 Coliseum Way and 750-50th Avenue
Oakland, California

September 27, 1994
3018.00-11

Prepared for
Volvo GM Heavy Truck Corporation
7900 National Service Road
P.O. Box 26115
Greensboro, North Carolina 27402-6115



LEVINE·FRICKE

CONTENTS

	<u>PAGE</u>
LIST OF TABLES	ii
LIST OF FIGURES	ii
CERTIFICATION	iii
1.0 INTRODUCTION	1
2.0 MONTHLY WATER-LEVEL MEASUREMENTS AND GROUND-WATER FLOW DIRECTION	1
3.0 GROUND-WATER QUALITY	2
3.1 Sampling Procedures	2
3.2 Ground-Water Quality Results	3
3.2.1 Metals	3
3.2.2 Petroleum Hydrocarbons	4
3.2.3 Measurements of pH	4
3.2.4 Quality Assurance/Quality Control	4
5.0 REFERENCE	5

TABLES

FIGURES

APPENDICES

A LABORATORY CERTIFICATES

B WATER-QUALITY SAMPLING FORMS

LIST OF TABLES

Number	Title
1	Historical Summary of Ground-Water Elevation Data
2	Metals Detected in Ground-Water Samples
3	Gasoline Hydrocarbons and BTEX Detected in Ground-Water Samples
4	Petroleum Hydrocarbons Detected in Ground-Water Samples

LIST OF FIGURES

Number	Title
1	Site Location Map
2	Shallow Ground-Water Elevation Contour Map, May 24, 1994
3	Concentrations of Metals Detected in Shallow Ground-Water Samples, May 24, 1994

LEVINE-FRICKE

CERTIFICATION

All hydrogeologic and geologic information, conclusions, and recommendations have been prepared under the supervision of and reviewed by a Levine-Fricke California Registered Geologist.



Kathleen A. Isaacson
Senior Hydrogeologist
California Registered Geologist (5106)

9/27/94
Date

September 27, 1994

3018.00-11

**QUARTERLY GROUND-WATER MONITORING REPORT FOR
THE PERIOD FROM APRIL 1 THROUGH JUNE 30, 1994
5050 COLISEUM WAY AND 750-50TH AVENUE
OAKLAND, CALIFORNIA**

1.0 INTRODUCTION

This report presents results of quarterly ground-water monitoring activities conducted during the period from April 1 through June 30, 1994, for the properties located at 5050 Coliseum Way and 750-50th Avenue, Oakland, California (collectively referenced as "the Site"; Figure 1). This report was prepared on behalf of Volvo GM Heavy Truck Corporation ("Volvo GM") in accordance with our work plan dated January 6, 1993 and submitted to the Alameda County Health Care Services Agency (ACHCSA). This report includes graphic illustrations of potentiometric head (water-level) data and presents historical summaries of ground-water elevation and ground-water quality data collected at the Site.

Additional shallow ground-water wells LF-8 through LF-17 were installed on the Site in October, November, and December 1993, and fill well LF-F1 was installed in December 1993. The new wells were sampled in addition to existing wells during that time. All 18 wells were sampled again in February 1993. The results of those sampling rounds are included in the Remedial Investigation report submitted to the ACHCSA on September 19, 1994.

Because of the large number of wells on the Site and of the significant amount of ground-water data already collected for the Site, a modified quarterly sampling program has been implemented pending your approval. All 18 wells will be sampled during the first and third quarters of 1994, and wells LF-1, LF-2, LF-3, LF-5, LF-8, LF-12, LF-14, and MW-3 will be sampled during the second and fourth quarters of 1994. Well LF-13 will also be sampled if measurable free product is not present.

2.0 MONTHLY WATER-LEVEL MEASUREMENTS AND GROUND-WATER FLOW DIRECTION

The top of each well casing at the Site was surveyed relative to mean sea level by a state-licensed land surveyor in November 1991. Water-level measurements were collected from

all wells at the Site in May 1994. A historical summary of depth-to-water measurements and ground-water elevations for the Site is presented in Table 1.

Depth-to-water measurements collected at the Site in May 1994 indicated that ground-water elevations were similar or increased relative to elevations in February 1994. Ground-water elevation increases were variable across the Site and ranged from 0.03 foot in well LF-13 to 0.85 foot in well LF-4.

Approximately 0.06 foot of free product was measured in well LF-13. An accurate measurement could not be made because of the viscous nature of the petroleum hydrocarbons.

Ground-water elevation contours for May 24, 1994 are presented in Figure 2. Ground-water elevation data indicated that the general ground-water flow direction was toward the west and northwest consistent with historical ground-water data. Ground-water flow indicated a lateral hydraulic gradient which ranged from approximately 0.002 foot per foot (ft/ft; as calculated between wells LF-7 and LF-3) to 0.013 ft/ft (as calculated between wells LF-1 and LF-5).

3.0 GROUND-WATER QUALITY

Ground-water samples were collected from eight monitoring wells (LF-1, LF-2, LF-3, LF-5, LF-8, LF-12, LF-14, and MW-3) on May 24, 1994. Well LF-13 contained approximately 0.06 foot of free product and the well was not sampled. Analytical results for ground-water samples collected during the recent round of sampling were generally consistent with results reported previously for the Site.

Analytical results for metals analysis are presented in Figure 3 and Table 2. Analytical results for total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) are presented on Table 3, and results for total petroleum hydrocarbons as diesel (TPHd) and as motor oil (TPHo) are presented on Table 4. Laboratory certificates are presented in Appendix A.

3.1 Sampling Procedures

Before ground-water samples were collected, approximately 3 to 5 well casing volumes of water were removed from each well using a Teflon bailer. Specific conductance, pH, and temperature of the purged water were measured during this

purging process to aid in evaluating overall ground-water quality. These parameters were recorded in the field on water-quality sampling forms. Copies of these forms are included in Appendix B. Ground-water samples were collected after these parameters stabilized to within 15 percent of the previous measurement.

Ground-water samples were collected using the same Teflon bailer used to purge the well. Ground-water samples for metals analysis were filtered in the field and preserved with nitric acid. Samples were placed in an ice-chilled cooler immediately after collection for transportation to the analytical laboratory.

Samples were submitted to American Environmental Network, Inc. (formerly Quanteq Laboratories) of Pleasant Hill, California, a state-certified laboratory, for analysis of Title 22 metals. In addition, samples collected from wells LF-3 and LF-8 were analyzed for TPHg, TPHd, and TPHo. The pH values for ground-water samples collected from each monitoring well were measured and recorded in the field during sampling activities.

For quality assurance/quality control measures, a duplicate sample and a field blank were collected for well LF-3. The duplicate sample was submitted for Title 22 metals, TPHg, TPHd, and TPHo analyses and the field blank was submitted to the laboratory on a hold basis, pending analytical results.

3.2 Ground-Water Quality Results

3.2.1 Metals

Analytical results for Title 22 metals in ground-water samples collected during the recent round of sampling were generally consistent with results reported previously for those wells.

No antimony, chromium, or mercury was detected in samples collected during this round of sampling. Silver, barium, beryllium, molybdenum, selenium, thallium, and vanadium were reported at concentrations below 0.2 ppm when detected in samples.

Zinc was detected in all of the eight wells sampled at concentrations ranging from 0.015 ppm in well MW-8 to 5,000 ppm in well LF-1. The highest concentration of lead (0.79 ppm) was also detected in the sample from well LF-1. Of the downgradient wells that were sampled, only the sample from well LF-12 contained lead (0.49 ppm).

The highest concentrations of cadmium (12.0 ppm), cobalt (7 ppm), copper (25 ppm), and nickel (20 ppm) were detected in the sample collected from well LF-16. Of the downgradient wells that were sampled, well LF-12 contained the highest concentrations of those metals (cadmium, 3.6 ppm; cobalt, 2.4 ppm; copper, 1 ppm; nickel, 7.1 ppm).

Arsenic was detected in the samples from five of the eight wells, with the highest concentration of 2.8 ppm reported for well LF-3. The sample from downgradient well LF-12 contained 0.008 ppm of arsenic.

3.2.2 Petroleum Hydrocarbons

Samples collected from wells LF-3 and LF-8 were analyzed for TPHg, TPHd, and TPHo (Tables 3 and 4). Only low concentrations of TPHd (0.3 ppm) and TPHo (0.4 ppm) were detected in duplicate samples collected from well LF-3. Low concentrations of TPHg (0.7 ppm), TPHd (4.5 ppm), and TPHo (0.6 ppm) were detected in the sample collected from well LF-8.

3.2.3 Measurements of pH

Measurements of ground-water pH were generally consistent with values previously reported for the Site. Recent monitoring indicates that pH values for shallow ground water beneath the Site are variable. The lowest pH (3.95) was measured in the sample from well LF-1. Only samples from wells LF-3 and LF-8 had pH values above 6.4.

3.2.4 Quality Assurance/Quality Control

Analytical results for the duplicate sample collected from well LF-3 (LF-103) generally showed similar metals and TPH concentrations when compared to the primary sample collected from that well (LF-3). The bailer blank prepared with distilled water before sampling well LF-3 contained 0.015 ppm of zinc. Zinc concentrations reported for the wells sampled during this round greatly exceeded 0.015 ppm, except for well LF-8, for which 0.015 ppm was reported.

5.0 REFERENCE

Levine·Fricke, Inc. 1993. Quarterly Ground-Water Monitoring Report for the Period January 1 through March 31, 1993, 5050 Coliseum Way and 750-50th Avenue, Oakland, California. April 27.

TABLE 1
HISTORICAL SUMMARY OF GROUND-WATER ELEVATION DATA
5050 COLISEUM WAY AND 750-50TH AVENUE
OAKLAND, CALIFORNIA

Well Number	Top of PVC Casing Elevation (feet msl)	Date Measured	Depth to Water (feet msl)	Ground-Water Elevation (feet msl)
LF-1	7.56	07-Nov-91	6.79	0.77
		26-Oct-92	4.69	2.87
		04-Mar-93	3.94	3.62
		14-Apr-93	3.41	4.15
		24-May-93	3.07	4.49
		14-Jun-93	3.41	4.15
		30-Jul-93	3.46	4.10
		31-Aug-93	3.67	3.89
		27-Sep-93	3.76	3.80
		25-Oct-93	3.74	3.82
		02-Nov-93	4.26	3.30
		08-Dec-93	4.42	3.14
		28-Jan-94	4.06	3.50
		15-Feb-94	3.94	3.62
		24-May-94	3.81	3.75
LF-2	9.84	07-Nov-91	7.26	2.58
		26-Oct-92	6.28	3.56
		04-Mar-93	5.14	4.70
		14-Apr-93	4.95	4.89
		24-May-93	5.09	4.75
		14-Jun-93	5.21	4.63
		30-Jul-93	5.38	4.46
		31-Aug-93	5.57	4.27
		27-Sep-93	5.70	4.14
		25-Oct-93	5.80	4.04
		02-Nov-93	5.86	3.98
		08-Dec-93	6.21	3.63
		28-Jan-94	6.12	3.72
		15-Feb-94	6.07	3.77
		24-May-94	5.65	4.19
LF-3	10.98	07-Nov-91	7.55	3.43
		26-Oct-92	7.05	3.93
		04-Mar-93	5.83	5.15
		14-Apr-93	5.48	5.50
		24-May-93	5.61	5.37
		14-Jun-93	5.75	5.23
		30-Jul-93	5.96	5.02
		31-Aug-93	6.18	4.80
		27-Sep-93	6.33	4.65
		25-Oct-93	6.46	4.52
		02-Nov-93	6.62	4.36
		08-Dec-93	6.71	4.27
		28-Jan-94	6.72	4.26
		15-Feb-94	6.50	4.48
		24-May-94	6.15	4.83
LF-4	10.36	07-Nov-91	11.63	-1.27
		26-Oct-92	7.31	3.05
		04-Mar-93	5.58	4.78
		14-Apr-93	5.21	5.15
		24-May-93	5.48	4.88
		14-Jun-93	5.63	4.73
		30-Jul-93	5.92	4.44
		31-Aug-93	6.16	4.20
		27-Sep-93	6.36	4.00
		25-Oct-93	6.54	3.82
		02-Nov-93	7.00	3.36
		08-Dec-93	6.96	3.40
		28-Jan-94	7.04	3.32
		15-Feb-94	6.84	3.52
		24-May-94	5.99	4.37
LF-5	8.03	07-Nov-91	7.34	0.69

TABLE 1
 HISTORICAL SUMMARY OF GROUND-WATER ELEVATION DATA
 5050 COLISEUM WAY AND 750-50TH AVENUE
 OAKLAND, CALIFORNIA

Well Number	Top of PVC Casing Elevation (feet msl)	Date Measured	Depth to Water (feet msl)	Ground-Water Elevation (feet msl)
		26-Oct-92	7.05	0.98
		04-Mar-93	6.05	1.98
		14-Apr-93	6.25	1.78
		24-May-93	6.61	1.42
		14-Jun-93	6.97	1.06
		30-Jul-93	6.72	1.31
		31-Aug-93	6.84	1.19
		27-Sep-93	7.10	0.93
		25-Oct-93	7.11	0.92
		02-Nov-93	7.04	0.99
		08-Dec-93	7.27	0.76
		28-Jan-94	6.82	1.21
		15-Feb-94	6.85	1.18
		24-May-94	6.76	1.27
LF-6	11.59	07-Nov-91	8.59	3.00
		26-Oct-92	8.82	2.77
		04-Mar-93	5.79	5.80
		14-Apr-93	5.41	6.18
		24-May-93	6.05	5.54
		14-Jun-93	6.29	5.30
		30-Jul-93	6.83	4.76
		31-Aug-93	7.27	4.32
		27-Sep-93	7.61	3.98
		25-Oct-93	7.79	3.80
		02-Nov-93	8.07	3.52
		08-Dec-93	7.34	4.25
		28-Jan-94	6.37	5.22
		15-Feb-94	5.98	5.61
		24-May-94	6.14	5.45
LF-7	10.65	07-Nov-91	8.54	2.11
		26-Oct-92	7.98	2.67
		04-Mar-93	4.92	5.73
		14-Apr-93	4.80	5.85
		24-May-93	5.03	5.62
		14-Jun-93	5.18	5.47
		30-Jul-93	5.51	5.14
		31-Aug-93	5.82	4.83
		27-Sep-93	6.14	4.51
		25-Oct-93	6.39	4.26
		02-Nov-93	6.60	4.05
		08-Dec-93	6.74	3.91
		28-Jan-94	6.03	4.62
		15-Feb-94	5.59	5.06
		24-May-94	5.46	5.19
LF-8	10.91	02-Nov-93	6.18	4.73
		08-Dec-93	6.29	4.62
		28-Jan-94	6.38	4.53
		15-Feb-94	6.37	4.54
		24-May-94	6.15	4.76
LF-9	11.70	02-Nov-93	6.76	4.94
		08-Dec-93	6.91	4.79
		28-Jan-94	6.88	4.82
		15-Feb-94	6.80	4.9
		24-May-94	6.80	4.9
LF-10	9.43	02-Nov-93	8.14	1.29
		08-Dec-93	7.82	1.61
		28-Jan-94	NM	NM
		15-Feb-94	7.47	1.96
		24-May-94	7.11	2.32

TABLE 1
HISTORICAL SUMMARY OF GROUND-WATER ELEVATION DATA
5050 COLISEUM WAY AND 750-50TH AVENUE
OAKLAND, CALIFORNIA

Well Number	Top of PVC Casing Elevation (feet msl)	Date Measured	Depth to Water (feet msl)	Ground-Water Elevation (feet msl)
LF-11	9.07	02-Nov-93	11.68	-2.61
		08-Dec-93	5.35	3.72
		28-Jan-94	5.27	3.8
		15-Feb-94	5.04	4.03
		24-May-94	4.20	4.87
LF-12	8.70	02-Nov-93	7.87	0.83
		08-Dec-93	7.90	0.8
		28-Jan-94	7.46	1.24
		15-Feb-94	7.66	1.04
LF-13 (1)	9.75	08-Dec-93	5.94	3.81
		28-Jan-94	4.94	4.81
		15-Feb-94	4.84	4.91
		24-May-94	4.81	4.99
LF-14	11.72	08-Dec-93	7.96	3.76
		28-Jan-94	8.02	3.7
		15-Feb-94	7.85	3.87
		24-May-94	7.68	4.04
LF-15	11.62	08-Dec-93	7.91	3.71
		28-Jan-94	7.74	3.88
		15-Feb-94	7.58	4.04
		24-May-94	8.07	3.55
LF-16	11.56	08-Dec-93	8.35	3.21
		28-Jan-94	8.40	3.16
		15-Feb-94	8.21	3.35
		24-May-94	8.01	3.55
LF-17	9.71	08-Dec-93	6.72	2.99
		28-Jan-94	5.86	3.85
		15-Feb-94	5.87	3.84
		24-May-94	6.00	3.71
LF-F1	8.82	08-Dec-93	4.08	4.74
		28-Jan-94	4.03	5.68
		15-Feb-94	3.90	5.81
		24-May-94	3.60	6.11
MW-1	10.21	07-Nov-91	6.29	4.24
		26-Oct-92	6.38	2.63
		04-Mar-93	3.57	6.64
		14-Apr-93	3.57	6.64
		24-May-93	4.59	5.62
		14-Jun-93	4.86	5.35
		30-Jul-93	5.72	4.49
		31-Aug-93	6.38	3.83
		27-Sep-93	6.85	3.36
		25-Oct-93	7.03	3.18
		02-Nov-93	7.30	2.91
		08-Dec-93	6.51	3.70
		28-Jan-94	5.00	5.21
		15-Feb-94	4.46	5.75
24-May-94	4.65	5.56		
MW-2	8.86	07-Nov-91	5.93	2.93
		26-Oct-92	5.41	3.45
		04-Mar-93	4.26	4.60
		14-Apr-93	3.83	5.03
		24-May-93	3.78	5.08
		14-Jun-93	3.89	4.97
		30-Jul-93	4.10	4.76
		31-Aug-93	4.37	4.49

TABLE 1
 HISTORICAL SUMMARY OF GROUND-WATER ELEVATION DATA
 5050 COLISEUM WAY AND 750-50TH AVENUE
 OAKLAND, CALIFORNIA

Well Number	Top of PVC Casing Elevation (feet msl)	Date Measured	Depth to Water (feet msl)	Ground-Water Elevation (feet msl)
		27-Sep-93	4.72	4.14
		25-Oct-93	4.81	4.05
		02-Nov-93	4.96	3.90
		08-Dec-93	5.13	3.73
		28-Jan-94	5.18	3.68
		15-Feb-94	5.02	3.84
		24-May-94	4.43	4.43
MW-3	9.01	07-Nov-91	6.94	2.07
		26-Oct-92	7.29	1.72
		04-Mar-93	5.07	3.94
		14-Apr-93	5.21	3.80
		24-May-93	5.95	3.06
		14-Jun-93	6.23	2.78
		27-Sep-93	6.46	2.55
		25-Oct-93	6.47	2.54
		02-Nov-93	6.62	2.39
		08-Dec-93	6.23	2.78
		28-Jan-94	5.58	3.43
		15-Feb-94	5.70	3.31
		24-May-94	5.59	3.42
MW-4	10.75	07-Nov-91	10.26	0.49
		26-Oct-92	9.04	1.71
		04-Mar-93	5.77	4.98
		14-Apr-93	4.71	6.04
		24-May-93	5.60	5.15
		14-Jun-93	5.94	4.81
		30-Jul-93	6.72	4.03
		31-Aug-93	7.25	3.50
		27-Sep-93	7.66	3.09
		25-Oct-93	7.79	2.96
		02-Nov-93	7.97	2.78
		08-Dec-93	7.18	3.57
		28-Jan-94	5.50	5.25
		15-Feb-94	5.17	5.58
		24-May-94	5.46	5.29

Data entered by MEK/30 Aug 94 Data proofed by KAI

NOTES

All elevations are measured relative to the mean-sea-level (msl) datum. The top of casing elevations were measured from the north side of each PVC casing.

(1) Ground-water elevation corrected for the presence of free product as shown in Table 1A.

Table 1A

Well Number	Top of PVC Casing Elevation (feet msl)	Date Measured	Depth to Water (feet msl)	Depth to Product (feet msl)	Product Thickness (ft)	Ground-Water Elevation (feet msl)
LF-13	9.75	15-Feb-94	4.84	4.83	0.01	4.91
LF-13*	9.75	24-May-94	4.81	4.75	0.06	4.99

*Product thickness measurement is approximate due to viscous liquid.

TABLE 2
 METALS DETECTED IN GROUND-WATER SAMPLES
 5050 COLISEUM WAY AND 750-50TH AVENUE
 OAKLAND, CALIFORNIA
 (concentrations reported in parts per million [ppm])

Sample ID	Sample Date	Silver	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Chromium	Copper	Mercury	Molybdenum	Nickel	Lead	Antimony	Selenium	Thallium	Vanadium	Zinc
LF-1	04-Nov-91	0.054	0.004	0.046	0.11	130	5.7	<0.01	1.9	<0.0003	0.11	20	0.5	<0.2	<0.004	<1	<0.005	40000
LF-1	27-Oct-92	<0.5	0.007	<0.5	<0.2	57	4.1	<1	1	<0.0003	<1	19	<4	<2	0.027	<10	<0.5	16000
LF-1	05-Mar-93	<0.5	0.22	<0.05	<0.2	43	3.6	<1	0.47	<0.0003	<1	11	<4	<2	<0.01	<10	<0.5	14000
Duplicate	05-Mar-93	<0.5	0.26	<0.05	<0.2	44	3.9	<1	0.50	<0.0003	<1	11	<4	<2	<0.01	<10	<0.5	14000
LF-1	25-May-93	<0.5	0.12	<0.05	<0.2	40	4.7	<1	1	<0.0003	<1	16	<0.4	<2	<0.004	<10	<0.5	19000
Duplicate	25-May-93	<0.03	0.36	<0.05	0.02	9.6	0.81	<0.05	0.15	<0.0003	<0.05	3	0.3	<0.1	<0.004	<0.5	<0.03	4700
LF-1	31-Aug-93	<0.5	0.072	<0.05	<0.2	32	2.3	<1	<1	<0.0003	<1	9	<4	<2	<0.004	<10	<0.5	13000
Duplicate	31-Aug-93	<0.5	0.66	<0.05	<0.2	13	1	<1	<1	<0.0003	<1	5	<4	<2	<0.004	<10	<0.5	7200
LF-1	26-Oct-93	<0.05	0.4	<0.5	0.02	15	1.3	0.6	0.9	<0.0003	<0.1	4.9	0.4	<0.2	<0.04	<1	<0.05	7100
LF-101 (dup)	26-Oct-93	<0.1	1.3	<1	<0.04	12	1	<0.2	0.3	<0.0003	<0.2	3.7	<0.8	<0.4	<0.08	<2	<0.1	5900
LF-1	18-Feb-94	<0.05	0.57	<0.5	<0.02	2.6	0.33	<0.1	<0.1	<0.0002	<0.1	1.4	0.8	<0.2	<0.004	<1	<0.05	2600
LF-1	25-May-94	<0.05	0.49	<0.05	<0.2	7.9	0.9	<1	<1	<0.0002	<1	3	0.79	<3	<0.004	<10	<0.5	5000
LF-2	04-Nov-91	<0.002	0.028	0.026	<0.001	0.009	0.18	<0.01	0.008	<0.0003	<0.01	0.52	<0.005	<0.02	<0.004	<0.1	<0.005	4.2
LF-2	27-Oct-92	0.006	0.007	<0.05	<0.002	0.006	0.12	<0.01	0.02	<0.0003	<0.01	0.22	<0.04	<0.02	0.005	<0.1	<0.005	3.3
LF-2	04-Mar-93	<0.005	0.003	<0.05	<0.002	<0.005	0.10	<0.01	<0.01	<0.0003	<0.01	0.12	<0.04	<0.02	<0.004	<0.1	<0.005	1.9
LF-2	24-May-93	<0.005	0.005	<0.05	<0.002	<0.005	0.061	<0.01	<0.01	<0.0003	<0.01	0.08	<0.04	<0.02	<0.004	<0.1	<0.005	1.4
LF-2	31-Aug-93	<0.005	5	<0.05	0.003	0.021	0.016	<0.01	<0.01	<0.0003	0.14	<0.01	<0.04	<0.02	<0.004	<0.1	<0.005	8.6
LF-2	25-Oct-93	<0.005	0.004	<0.05	<0.002	0.009	0.055	<0.01	0.02	<0.0003	<0.01	0.11	<0.04	<0.02	<0.004	<0.1	<0.005	1.9
LF-2	16-Feb-94	<0.005	<0.002	<0.05	<0.002	<0.005	<0.005	<0.1	<0.01	<0.0002	<0.01	0.04	<0.04	<0.02	<0.004	<0.1	<0.005	0.41
LF-2	24-May-94	<0.001	<0.002	0.02	<0.0005	<0.001	0.037	<0.002	0.003	<0.0002	<0.002	0.024	<0.003	<0.005	<0.004	<0.02	<0.001	0.3
LF-3	04-Nov-91	<0.002	3.1	0.077	0.001	<0.005	0.016	<0.01	<0.004	<0.0003	0.16	0.012	<0.005	<0.02	<0.004	<0.1	0.006	3.1
LF-3	27-Oct-92	<0.005	3.6	0.11	0.004	0.013	0.029	<0.01	<0.01	<0.0003	0.22	0.02	<0.04	<0.02	0.018	<0.1	<0.005	12
LF-3	04-Mar-93	<0.005	4.9	0.07	0.003	0.012	0.023	<0.01	<0.01	<0.0003	0.18	0.04	<0.04	<0.02	<0.02	<0.1	<0.005	15
LF-3	25-May-93	<0.005	3.4	0.11	<0.002	0.04	0.01	<0.01	<0.01	<0.0003	0.13	0.01	<0.04	<0.02	<0.004	<0.1	<0.005	5.8
LF-3	31-Aug-93	<0.005	4.9	<0.05	0.003	0.023	0.019	<0.01	<0.01	<0.0003	0.15	0.01	<0.04	<0.02	<0.004	<0.1	<0.005	8.6
LF-3	25-Oct-93	<0.005	7.3	0.08	<0.002	0.005	0.013	<0.01	<0.01	<0.0003	0.13	0.02	<0.04	<0.02	<0.02	<0.1	<0.005	6.2
LF-3	16-Feb-94	<0.005	3.4	0.1	<0.002	<0.005	0.012	<0.01	<0.01	<0.0002	0.11	0.01	<0.04	<0.02	<0.01	<0.1	<0.005	5
LF-3	25-May-94	<0.001	2.4	0.08	0.0009	<0.001	0.009	0.002	<0.002	<0.0002	0.091	0.006	<0.003	<0.005	<0.02	<0.02	<0.001	4.1
LF-103 (dup)	25-May-94	0.001	2.8	0.08	0.0013	<0.001	0.011	<0.002	<0.002	<0.0002	0.11	0.008	<0.003	<0.005	<0.02	<0.02	<0.001	5.2
LF-4	04-Nov-91	<0.002	0.026	0.082	<0.001	<0.005	<0.005	<0.01	<0.004	<0.0003	<0.01	0.013	<0.005	0.03	<0.004	<0.1	0.01	0.034
LF-4	27-Oct-92	<0.005	0.034	<0.05	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	0.03	<0.04	<0.02	<0.004	<0.1	<0.005	0.012
LF-4	04-Mar-93	<0.005	0.017	0.11	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	0.05	<0.04	0.02	<0.004	<0.1	0.008	0.04
LF-4	24-May-93	<0.005	0.013	0.22	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	0.03	<0.04	<0.02	<0.004	<0.1	<0.005	0.035
LF-4	31-Aug-93	<0.005	0.052	0.08	<0.002	<0.005	0.006	<0.01	<0.01	<0.0003	<0.01	0.04	<0.04	<0.02	<0.004	<0.1	0.009	0.038
LF-4	25-Oct-93	<0.005	0.014	0.12	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	0.04	<0.04	<0.02	<0.004	<0.1	0.015	0.068
LF-4	16-Feb-94	<0.005	0.008	0.29	<0.002	<0.005	0.006	<0.01	<0.01	<0.0002	<0.01	0.04	<0.04	<0.02	<0.004	<0.1	<0.005	0.05
LF-5	04-Nov-91	0.004	<0.002	0.018	<0.001	0.049	0.03	<0.01	<0.005	0.0004	<0.01	0.23	<0.005	<0.02	<0.004	<0.1	<0.005	11
LF-5	27-Oct-92	0.022	0.005	<0.05	<0.002	0.24	1.4	<0.01	<0.01	<0.0003	<0.01	5.4	<0.04	<0.02	0.017	<0.1	<0.005	35
LF-5	04-Mar-93	0.021	<0.005	<0.05	<0.002	0.21	1.1	<0.01	<0.01	<0.0003	<0.01	5.0	<0.04	<0.02	<0.010	<0.1	<0.005	36
LF-5	25-May-93	0.01	<0.002	<0.05	<0.002	0.17	0.84	<0.01	<0.01	<0.0003	<0.01	3.2	<0.04	<0.02	<0.004	0.2	<0.005	23
LF-5	31-Aug-93	0.013	0.02	<0.05	<0.002	0.25	1.3	<0.01	<0.01	<0.0003	<0.01	4.6	<0.04	<0.02	<0.02	0.2	<0.005	38
LF-5	26-Oct-93	0.011	0.052	<0.05	<0.002	0.28	1.4	<0.01	0.01	<0.0003	<0.01	5.3	0.07	<0.02	<0.04	0.3	0.01	51
LF-5	16-Feb-94	0.009	<0.02	<0.05	<0.002	0.16	0.95	<0.01	<0.01	<0.0002	<0.01	3.3	<0.04	<0.02	<0.04	0.1	<0.005	28
LF-5	24-May-94	0.008	<0.005	0.01	<0.0005	0.14	0.71	<0.002	<0.002	<0.0002	<0.002	2.4	<0.010	<0.005	<0.01	0.09	0.002	23
LF-6	05-Nov-91	0.011	0.008	0.019	<0.001	0.079	0.58	<0.01	<0.005	0.0009	<0.01	2.1	0.009	<0.02	<0.004	<0.1	<0.005	8.1

TABLE 2
 METALS DETECTED IN GROUND-WATER SAMPLES
 5050 COLISEUM WAY AND 750-50TH AVENUE
 OAKLAND, CALIFORNIA
 (concentrations reported in parts per million [ppm])

Sample ID	Sample Date	Silver	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Chromium	Copper	Mercury	Molybdenum	Nickel	Lead	Antimony	Selenium	Thallium	Vanadium	Zinc
LF-6	27-Oct-92	0.020	0.022	<0.05	<0.002	0.17	1.6	<0.01	<0.01	<0.0003	<0.01	5.5	<0.04	<0.02	0.012	<0.1	<0.005	23
LF-6	04-Mar-93	0.013	0.007	<0.05	0.003	0.13	1.2	<0.01	<0.01	<0.0003	<0.01	4.2	<0.04	<0.02	<0.004	<0.1	<0.005	17
LF-6	24-May-93	0.008	<0.002	<0.05	<0.002	0.13	0.97	<0.01	0.01	<0.0003	<0.01	3.4	<0.04	<0.02	<0.004	0.1	<0.005	13
LF-6	31-Aug-93	0.009	0.014	<0.05	0.003	0.13	1	<0.01	0.01	<0.0003	<0.01	3.7	<0.04	<0.02	<0.004	0.1	<0.005	14
LF-6	26-Oct-93	0.005	<0.002	<0.05	0.003	0.15	1	<0.01	0.02	<0.0003	<0.01	3.7	<0.04	<0.02	<0.004	0.1	<0.005	17
LF-6	16-Feb-94	0.007	0.016	<0.05	0.003	0.11	0.97	<0.01	<0.01	<0.0002	<0.01	3.4	<0.04	<0.02	<0.004	0.1	<0.005	13
LF-7	05-Nov-91	<0.002	0.004	0.13	<0.001	<0.005	<0.005	<0.01	0.006	0.0011	<0.01	0.01	<0.005	<0.02	<0.004	<0.1	0.006	<0.005
LF-7	27-Oct-92	<0.005	0.03	0.11	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	0.01	0.01	<0.04	<0.02	<0.004	<0.1	0.008	0.021
LF-7	04-Mar-93	<0.005	0.025	0.08	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	0.01	0.01	<0.04	<0.02	<0.010	<0.1	0.009	0.01
LF-7	24-May-93	<0.005	0.003	0.08	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	<0.01	<0.04	<0.02	<0.004	<0.1	0.006	0.007
LF-7	31-Aug-93	<0.005	0.013	0.08	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	<0.01	<0.04	<0.02	<0.004	<0.1	0.006	0.021
LF-7	25-Oct-93	<0.005	<0.002	0.09	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	<0.01	<0.04	<0.02	<0.004	<0.1	0.006	0.011
LF-7	16-Feb-94	<0.005	0.014	0.12	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0002	<0.01	0.02	<0.04	<0.02	<0.004	<0.1	0.005	0.01
LF-8	27-Oct-93	<0.005	2.6	0.16	<0.002	<0.005	0.005	<0.01	<0.01	<0.0003	<0.01	0.01	<0.04	<0.02	<0.004	<0.1	<0.005	0.022
LF-8	16-Feb-94	<0.005	2.3	0.33	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0002	<0.01	<0.01	<0.04	<0.02	<0.004	<0.1	<0.005	<0.01
LF-8	24-May-94	<0.001	2.5	0.2	<0.0005	<0.001	<0.001	<0.002	<0.002	<0.0002	0.004	<0.003	<0.003	<0.005	<0.02	<0.02	0.004	0.015
LF-9	01-Nov-93	<0.005	0.009	<0.05	<0.002	0.041	0.56	<0.01	0.02	<0.0003	<0.01	0.86	<0.04	<0.02	<0.02	<0.1	<0.005	14
LF-109 (dup)	01-Nov-93	<0.005	0.015	<0.05	<0.002	0.034	0.46	<0.01	<0.01	<0.0003	<0.01	0.71	<0.04	<0.02	<0.02	<0.1	<0.005	14
LF-9	17-Feb-94	<0.005	0.064	<0.05	<0.002	0.12	0.016	<0.01	<0.01	<0.0002	<0.01	0.1	<0.04	<0.02	<0.004	<0.1	<0.005	31
LF-10	28-Oct-93	<0.005	0.04	0.77	<0.002	0.02	0.019	0.07	0.04	<0.0003	<0.01	0.17	<0.04	<0.02	<0.04	<0.1	0.048	2
LF-10	16-Feb-94	<0.005	<0.005	<0.05	<0.002	0.005	0.018	<0.01	<0.01	<0.0002	<0.01	0.12	<0.04	<0.02	<0.01	<0.1	0.008	0.21
LF-11	28-Oct-93	<0.005	0.07	0.1	<0.002	120	5.9	<0.01	3	<0.0003	<0.01	28	6	<0.02	<0.04	<0.1	2	47000
LF-11	18-Feb-94	<0.5	<0.02	<5	<0.2	140	8.4	<1	4	<0.0002	<1	37	<4	<2	<0.02	<10	<0.5	44000
LF-111 (dup)	18-Feb-94	<0.5	<0.02	<5	<0.2	140	9.4	<1	4	<0.0002	<1	40	<4	<2	<0.02	<10	<0.5	46000
LF-12	01-Nov-93	<0.05	0.022	<0.5	<0.02	3.7	2.7	<0.1	0.9	<0.0003	<0.1	8.1	<0.4	<0.2	0.014	<1	<0.05	3400
LF-12	17-Feb-94	<0.05	0.004	<0.5	<0.02	2.9	1.9	<0.1	0.7	<0.0002	<0.1	5.9	<0.4	<0.2	0.014	<1	<0.05	2700
LF-12	24-May-94	<0.05	0.008	<0.05	<0.02	3.6	2.4	<0.1	1	<0.0002	<0.1	7.1	0.049	<0.3	0.017	<1	<0.05	3100
LF-13	06-Dec-93	<0.005	3.3	0.24	<0.002	<0.005	0.007	<0.01	<0.01	<0.0003	0.04	0.03	<0.04	<0.02	<0.2	<0.1	0.061	0.03
LF-14	08-Dec-93	<0.005	0.005	<0.05	<0.002	0.12	0.67	<0.01	0.68	0.0016	<0.01	1.6	<0.04	<0.02	<0.02	<0.1	<0.005	230
LF-14	17-Feb-94	<0.005	<0.002	<0.05	0.002	0.16	0.96	<0.01	2.1	<0.0002	<0.01	2.4	<0.04	<0.02	<0.004	<0.1	<0.005	300
LF-14	25-May-94	<0.005	0.004	<0.05	0.002	0.14	1	<0.01	3.5	<0.0002	<0.01	2.4	0.027	<0.03	<0.004	0.1	<0.005	340
LF-15	06-Dec-93	0.032	<0.05	0.28	0.017	1.7	8.1	<0.01	0.14	<0.0003	<0.01	23	1.1	<0.02	<0.1	0.9	<0.005	640
LF-15	18-Feb-94	<0.05	0.006	<0.5	<0.02	1.7	7.4	<0.1	<0.1	<0.0002	<0.1	20	0.6	<0.2	<0.04	<1	<0.05	660
LF-16	07-Dec-93	<0.05	<0.05	<0.5	<0.02	10	5.9	<0.1	0.4	<0.003	<0.1	16	<0.4	<0.2	<0.1	<1	<0.05	3400
LF-16	17-Feb-94	<0.05	<0.002	<0.5	0.04	15	8.3	<0.1	21	<0.0002	<0.1	24	<0.4	<0.2	<0.04	<1	<0.05	5200
LF-16	25-May-94	<0.05	<0.002	<0.5	0.02	12	7.0	<0.1	25	<0.0002	<0.1	20	<0.01	<0.3	<0.004	<1	<0.05	4100
LF-17	08-Dec-93	<0.005	0.004	0.11	<0.002	<0.005	0.011	<0.01	<0.01	<0.0003	<0.01	0.04	<0.04	<0.02	<0.004	<0.1	0.008	0.1
LF-17	15-Feb-94	<0.005	<0.002	0.05	<0.002	<0.005	0.009	<0.01	<0.01	<0.0002	<0.01	0.03	<0.04	<0.02	<0.004	<0.1	0.007	0.05
LF-F1	08-Dec-93	<0.005	0.012	0.07	<0.002	0.049	0.055	<0.01	<0.01	<0.0003	<0.01	0.07	<0.04	<0.02	<0.04	<0.1	0.008	13

TABLE 2
 METALS DETECTED IN GROUND-WATER SAMPLES
 5050 COLISEUM WAY AND 750-50TH AVENUE
 OAKLAND, CALIFORNIA
 (concentrations reported in parts per million [ppm])

Sample ID	Sample Date	Silver	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Chromium	Copper	Mercury	Molybdenum	Nickel	Lead	Antimony	Selenium	Thallium	Vanadium	Zinc
LF-F1	18-Feb-94	<0.005	0.004	<0.05	<0.002	0.065	0.062	<0.01	<0.01	<0.0002	0.02	0.07	<0.04	<0.02	<0.004	<0.1	<0.005	20
MW-1	05-Nov-91	<0.002	0.073	0.085	<0.001	<0.005	0.008	<0.01	<0.005	<0.0003	0.02	0.032	<0.005	<0.02	<0.004	<0.1	<0.005	2.7
MW-1	27-Oct-92	<0.005	0.084	0.09	<0.002	0.031	0.052	<0.01	<0.01	<0.0003	<0.01	0.3	<0.04	<0.02	<0.004	<0.1	0.007	42
MW-1	05-Mar-93	<0.005	0.024	0.05	<0.002	0.008	0.015	<0.01	<0.01	<0.0003	<0.01	0.11	<0.04	<0.02	<0.004	<0.1	0.006	16
MW-1	25-May-93	<0.005	0.064	0.06	<0.002	<0.005	0.008	<0.01	<0.01	<0.0003	0.02	0.02	<0.04	0.03	<0.004	<0.1	0.007	1.6
MW-1	01-Sep-93	<0.005	0.097	0.07	<0.002	<0.005	0.009	<0.01	<0.01	<0.0003	0.02	0.02	<0.04	<0.02	<0.004	<0.1	0.005	2.3
MW-1	26-Oct-93	<0.005	0.03	0.08	<0.002	0.009	0.012	<0.01	<0.01	<0.0003	<0.01	0.1	<0.04	<0.02	<0.004	<0.1	<0.005	13
MW-1	18-Feb-94	<0.005	0.052	0.1	<0.002	<0.005	0.011	<0.01	<0.01	<0.0002	0.01	0.02	<0.04	<0.02	<0.004	<0.1	0.007	2.8
MW-2	05-Nov-92	0.008	2.1	0.013	0.002	7	0.42	<0.01	0.093	0.0055	0.01	1.2	<0.2	<0.2	<0.004	<0.1	<0.005	4200
MW-2	27-Oct-92	<0.05	1.5	<0.5	<0.02	10	1.5	<0.1	0.2	<0.0003	<0.1	4.9	<0.4	<0.2	0.014	<0.1	<0.05	6000
MW-2 (1)	05-Mar-93	<0.005	0.011	<0.05	<0.002	0.28	0.24	<0.01	0.14	<0.0003	<0.1	1.0	<0.04	<0.02	<0.01	<0.1	<0.005	290
MW-2	25-May-93	<0.05	1.8	<0.05	<0.02	5.2	0.85	<0.1	<0.1	<0.0003	<0.1	2.4	<0.4	<0.2	<0.004	<0.1	<0.05	3000
MW-2	01-Sep-93	<0.05	2.1	<0.05	<0.02	5.2	0.77	<0.1	<0.1	<0.0003	<0.1	2.3	<0.4	<0.2	<0.004	<0.1	<0.05	2700
MW-2	26-Oct-93	<0.05	4	<0.5	<0.02	5.1	0.73	0.3	0.3	<0.0003	<0.1	2.2	<0.4	<0.2	<0.04	<0.1	<0.05	2600
MW-2	18-Feb-94	<0.05	1.5	<0.5	<0.02	4.6	0.62	<0.1	<0.1	<0.0002	<0.1	2	<0.4	<0.2	<0.004	<0.1	<0.05	2600
MW-3	05-Nov-92	0.005	<0.002	0.017	0.001	0.57	0.42	<0.01	0.28	0.0028	<0.01	1.2	0.005	<0.02	<0.004	<0.1	<0.005	600
MW-3	27-Oct-92	0.009	0.004	<0.05	0.003	0.73	0.74	<0.01	0.3	<0.0003	<0.01	2.6	<0.04	<0.02	0.011	<0.1	<0.005	730
MW-3 (1)	05-Mar-93	<0.05	1.6	<0.05	<0.02	5.8	1.0	<0.1	0.07	<0.0003	<0.1	3.1	<0.4	<0.2	<0.02	<0.1	<0.05	3000
MW-3	25-May-93	<0.005	<0.002	<0.05	<0.002	0.28	0.24	<0.01	0.07	<0.0003	<0.01	0.83	<0.04	<0.02	<0.004	<0.1	<0.005	260
MW-3	01-Sep-93	<0.005	0.011	<0.05	<0.002	0.32	0.3	<0.01	0.2	<0.0003	<0.01	1.1	<0.04	<0.02	<0.004	<0.1	<0.005	360
MW-3	26-Oct-93	<0.005	<0.002	<0.05	0.002	0.44	0.49	<0.01	0.32	<0.0003	<0.01	1.7	<0.04	<0.02	<0.004	<0.1	<0.005	560
MW-3	18-Feb-94	<0.005	<0.002	<0.05	<0.002	0.22	0.25	<0.01	0.19	<0.0002	<0.01	0.77	<0.04	<0.02	<0.004	<0.1	<0.005	230
MW-3	24-May-94	<0.005	<0.002	<0.05	<0.002	0.1	0.14	<0.01	0.12	<0.0002	<0.01	0.42	<0.003	<0.03	<0.004	<0.1	<0.005	120
MW-4	05-Nov-92	<0.002	0.007	0.017	<0.001	<0.005	<0.005	<0.01	<0.005	0.0027	<0.01	0.012	<0.005	<0.02	<0.004	<0.1	<0.005	<0.005
MW-4	27-Oct-92	<0.005	<0.002	<0.05	<0.002	0.006	<0.005	<0.01	0.02	<0.0003	<0.01	0.02	<0.04	<0.02	0.004	<0.1	0.011	0.047
MW-4	04-Mar-93	<0.005	<0.002	<0.05	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	0.02	<0.04	<0.02	<0.004	<0.1	0.010	0.03
MW-4	25-May-93	<0.005	<0.002	<0.05	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	<0.01	<0.04	<0.02	<0.004	<0.1	0.006	0.008
MW-4	01-Sep-93	<0.005	0.009	<0.05	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	<0.01	<0.04	<0.02	<0.004	<0.1	<0.005	0.016
MW-4	26-Oct-93	<0.005	0.003	<0.05	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	<0.01	<0.04	<0.02	<0.004	<0.1	<0.005	0.15
MW-4	18-Feb-94	<0.005	<0.002	<0.05	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0002	<0.01	0.02	<0.04	<0.02	<0.004	<0.1	<0.005	0.17
LF-1-FB	26-Oct-93	<0.005	<0.002	<0.05	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	<0.01	<0.04	<0.02	<0.004	<0.1	<0.005	0.035
LF-9-FB	01-Nov-93	<0.005	<0.002	<0.05	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	<0.01	<0.04	<0.02	<0.004	<0.1	<0.005	0.038
LF-17-FB	08-Dec-93	<0.005	<0.002	<0.05	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0003	<0.01	<0.01	<0.04	<0.02	<0.004	<0.1	<0.005	0.1
LF-11-FB	18-Feb-94	<0.005	<0.002	<0.05	<0.002	<0.005	<0.005	<0.01	<0.01	<0.0002	<0.01	<0.01	<0.04	<0.02	<0.004	<0.1	<0.005	0.05
LF-3-BB	25-May-94	<0.001	<0.002	<0.01	<0.0005	<0.001	<0.001	<0.002	<0.002	<0.0002	<0.002	<0.002	<0.003	<0.005	<0.004	<0.02	<0.001	0.015

Data entered by MEK/30 Aug 94 Data proofed by KAS QA/QC by KAS

(1) Labeling errors in the field or laboratory may account for the anomalous data reported for wells MW-2 and MW-3.

Analyses performed by American Environmental Network, Pleasant Hill, California.
 FB/BB - Field Blank

TABLE 3
 GASOLINE HYDROCARBONS AND BTEX DETECTED IN GROUND-WATER SAMPLES
 5050 COLISEUM WAY AND 750-50TH AVENUE
 OAKLAND, CALIFORNIA
 (concentrations reported in parts per million [ppm])

Sample ID	Sample date	TPHg	Benzene	Ethyl- benzene	Toluene	Xylenes
LF-1	04-Nov-91	<0.05	<0.005	<0.005	<0.005	<0.01
LF-2	04-Nov-91	<0.05	<0.005	<0.005	<0.005	<0.01
LF-3	04-Nov-91	<0.05	<0.005	<0.005	<0.005	<0.01
LF-3	25-May-94	<0.05	NA	NA	NA	NA
LF-103 (dup)	25-May-94	<0.05	NA	NA	NA	NA
LF-4	04-Nov-91	0.59	<0.005	<0.005	<0.005	<0.01
LF-5	04-Nov-91	NA	<0.005	<0.005	<0.005	<0.01
LF-6	04-Nov-91	NA	<0.005	<0.005	<0.005	<0.01
LF-7	04-Nov-91	NA	<0.005	<0.005	<0.005	<0.01
LF-8	28-Oct-93	<1.0	NA	NA	NA	NA
LF-8	24-May-94	0.7	NA	NA	NA	NA
LF-9	01-Nov-93	<0.1	NA	NA	NA	NA
LF-109 (dup)	01-Nov-93	<0.1	NA	NA	NA	NA
LF-11	28-Oct-93	<0.1	NA	NA	NA	NA
LF-13	06-Dec-93	0.05	<0.0005	<0.0005	<0.0005	<0.002
LF-113 (dup)	06-Dec-93	0.06	<0.0005	<0.0005	<0.0005	<0.002
MW-2	05-Nov-91	NA	<0.0003	<0.0003	<0.0003	<0.001
LF-9-FB	01-Nov-93	<0.1	NA	NA	NA	NA
LF-4-BB	04-Nov-91	<0.05	<0.005	<0.005	<0.005	<0.01
LF-3-BB	25-May-94	<0.05	NA	NA	NA	NA

Data entered by MEK/30 Aug 94 Data proofed by KAC QA/QC by KAC

Samples analyzed by American Environmental Network, Pleasant Hill, California.

FB/BB - Field Blank

NA - not analyzed

TPHg - Total petroleum hydrocarbons as gasoline (EPA Method 5030)

Benzene, ethylbenzene, toluene, and xylenes (BTEX) analyzed using modified EPA Method 8015.

TABLE 4
 PETROLEUM HYDROCARBONS DETECTED IN GROUND-WATER SAMPLES
 5050 COLISEUM WAY AND 750-50TH AVENUE
 OAKLAND, CALIFORNIA
 (concentrations reported in parts per million [ppm])

Sample ID	Sample Date	TPHd	TPHo	TOG	Hydrocarbons
LF-1	04-Nov-91	0.09	NA	<0.5	<0.5
LF-2	04-Nov-91	0.3	NA	NA	NA
LF-3	04-Nov-91	0.2	NA	NA	NA
LF-3	25-May-94	0.3	0.4	NA	NA
LF-103 (dup)	25-May-94	0.3	0.4	NA	NA
LF-4	04-Nov-91	0.1	NA	NA	NA
LF-8	28-Oct-93	9.8	NA	2	1
	24-May-94	4.5	0.6	NA	NA
LF-9	01-Nov-93	0.2	NA	<0.5	<0.5
LF-109 (dup)	01-Nov-93	0.2	NA	<0.5	<0.5
LF-11	28-Oct-93	<0.05	NA	<0.5	<0.5
LF-13 (*)	06-Dec-93	0.5	0.4	1	<0.5
LF-113 (dup)	06-Dec-93	0.6	0.4	NA	NA
MW-2	04-Nov-91	<0.05	NA	NA	NA
LF-3-BB	25-May-94	<0.05	<0.2	NA	NA

Data entered by MEK/30 Aug 94 Data proofed by RAE QA/QC by RAE

Analyses performed by American Environmental Network, Pleasant Hill, CA

BB - Field Blank

NA - not analyzed

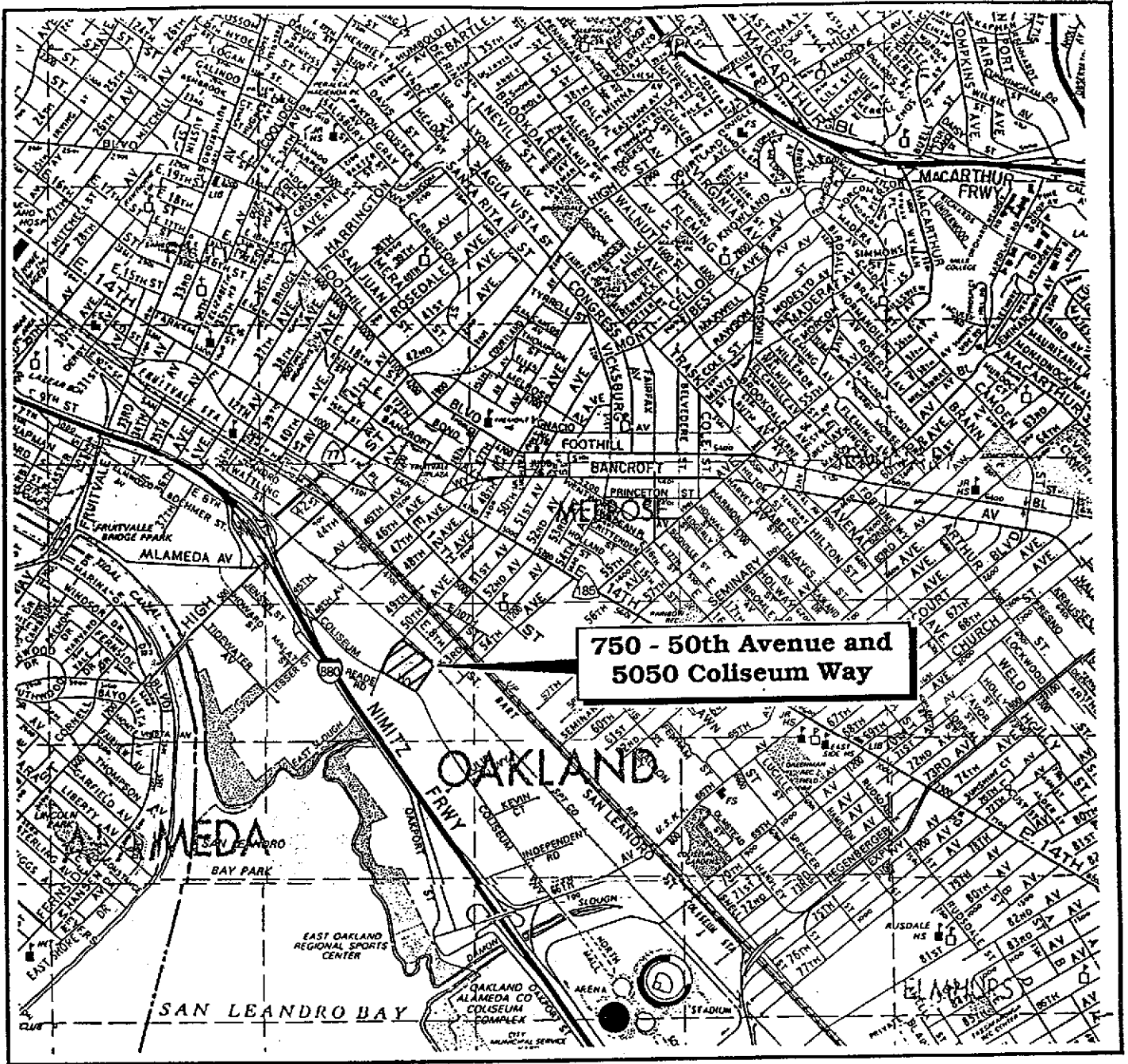
TPHd - Total petroleum hydrocarbons as diesel (EPA Method 3510)

TPHo - Total petroleum hydrocarbons as oil (EPA Method 3510)

TOG - Total oil and grease (Standard Method 5520bf)

Hydrocarbons - Total hydrocarbons (Standard Method 5520f)

(*) - Free product measured in February 1994.



SOURCE: Thomas Bros. map
Alameda and Contra Costa
1990

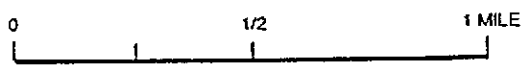


Figure 1 : SITE LOCATION MAP

Project No. 3018

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

KAI21SEPT94RYL

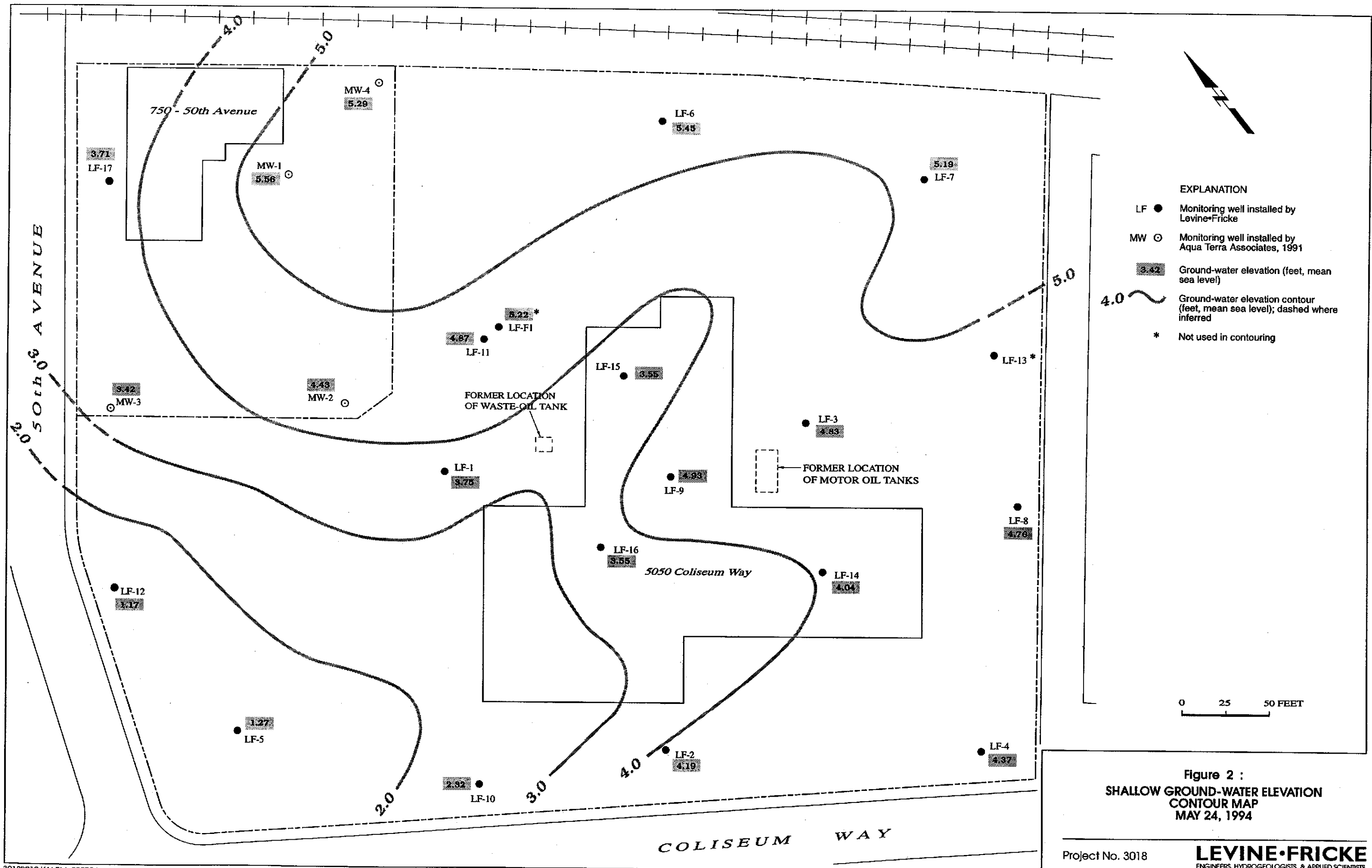


Figure 2 :
 SHALLOW GROUND-WATER ELEVATION
 CONTOUR MAP
 MAY 24, 1994

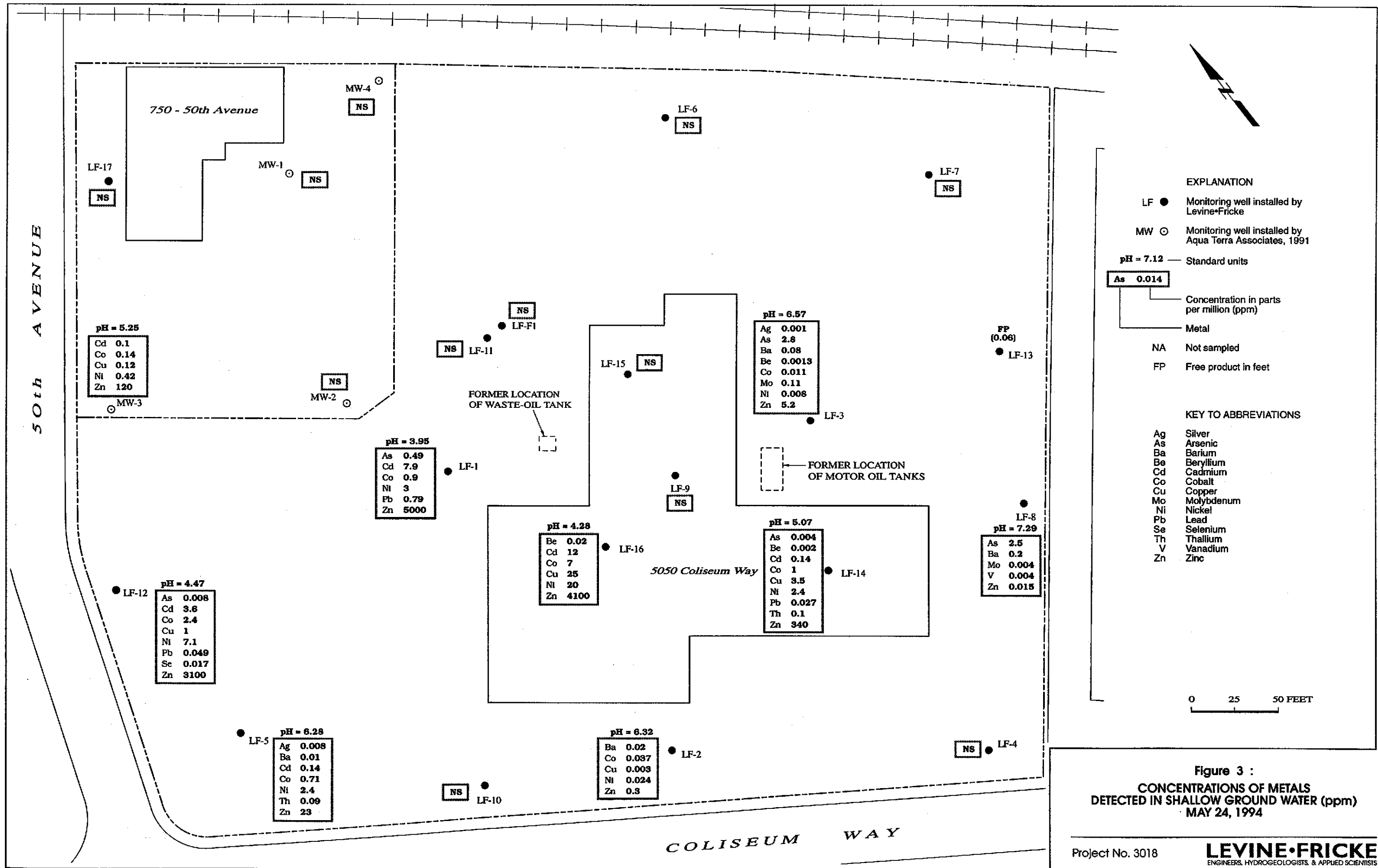


Figure 3 :
CONCENTRATIONS OF METALS
DETECTED IN SHALLOW GROUND WATER (ppm)
MAY 24, 1994

APPENDIX A
LABORATORY CERTIFICATES

3018.11

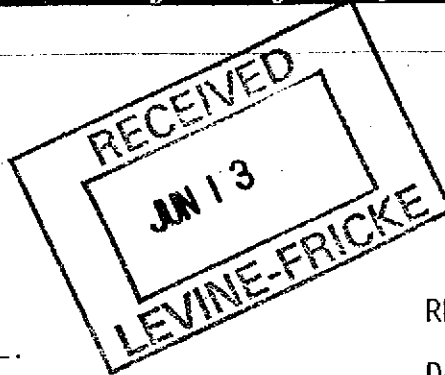
American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1



LEVINE-FRICKE
1900 POWELL ST. 12TH FL.
EMERYVILLE, CA 94608

REPORT DATE: 06/10/94

DATE(S) SAMPLED: 05/24/94-05/25/94

DATE RECEIVED: 05/25/94

AEN WORK ORDER: 9405330

ATTN: KATHLEEN ISAACSON
CLIENT PROJ. ID: 3018.11
CLIENT PROJ. NAME: VOLVO GM
C.O.C. NUMBER: 12083

PROJECT SUMMARY:

On May 25, 1994, this laboratory received 11 water sample(s).

Client requested samples be analyzed for inorganic and organic parameters. Sample identification, methodologies, results and dates analyzed are summarized on the following pages.

Please see quality control report for a summary of QC data pertaining to this project.

If you have any questions, please contact Client Services at (510) 930-9090.


Larry Klein
Laboratory Director

LEVINE-FRICKE

SAMPLE ID: LF-1
 AEN LAB NO: 9405330-01A
 AEN WORK ORDER: 9405330
 CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/25/94
 DATE RECEIVED: 05/25/94
 REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/01/94
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/01/94
CCR 17 Metals (Low Level)					
Ag	Silver	EPA 200.7	ND	0.5 mg/L	06/06/94
As	Arsenic	EPA 206.2	0.49 *	0.002 mg/L	06/08/94
Ba	Barium	EPA 200.7	ND	0.05 mg/L	06/06/94
Be	Beryllium	EPA 200.7	ND	0.2 mg/L	06/06/94
Cd	Cadmium	EPA 200.7	7.9 *	0.5 mg/L	06/06/94
Co	Cobalt	EPA 200.7	0.9 *	0.5 mg/L	06/06/94
Cr	Chromium	EPA 200.7	ND	1 mg/L	06/06/94
Cu	Copper	EPA 200.7	ND	1 mg/L	06/06/94
Hg	Mercury	EPA 245.1	ND	0.0002 mg/L	05/27/94
Mo	Molybdenum	EPA 200.7	ND	1 mg/L	06/06/94
Ni	Nickel	EPA 200.7	3 *	1 mg/L	06/06/94
Pb	Lead	EPA 239.2	0.79 *	0.003 mg/L	06/08/94
Sb	Antimony	EPA 200.7	ND	3 mg/L	06/06/94
Se	Selenium	EPA 270.2	ND	0.004 mg/L	06/06/94
Tl	Thallium	EPA 200.7	ND	10 mg/L	06/06/94
V	Vanadium	EPA 200.7	ND	0.5 mg/L	06/06/94
Zn	Zinc	EPA 200.7	5,000 *	1 mg/L	06/06/94

Reporting limits elevated for metals due to matrix interference.

ND = Not detected at or above the reporting limit
 * = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-2
 AEN LAB NO: 9405330-02A
 AEN WORK ORDER: 9405330
 CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/24/94
 DATE RECEIVED: 05/25/94
 REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/01/94
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/07/94
CCR 17 Metals (Low Level)					
Ag	Silver	EPA 200.7	ND	0.001 mg/L	06/07/94
As	Arsenic	EPA 206.2	ND	0.002 mg/L	06/06/94
Ba	Barium	EPA 200.7	0.02 *	0.01 mg/L	06/07/94
Be	Beryllium	EPA 200.7	ND	0.0005 mg/L	06/07/94
Cd	Cadmium	EPA 200.7	ND	0.001 mg/L	06/07/94
Co	Cobalt	EPA 200.7	0.037 *	0.001 mg/L	06/07/94
Cr	Chromium	EPA 200.7	ND	0.002 mg/L	06/07/94
Cu	Copper	EPA 200.7	0.003 *	0.002 mg/L	06/07/94
Hg	Mercury	EPA 245.1	ND	0.0002 mg/L	05/27/94
Mo	Molybdenum	EPA 200.7	ND	0.002 mg/L	06/07/94
Ni	Nickel	EPA 200.7	0.024 *	0.002 mg/L	06/07/94
Pb	Lead	EPA 239.2	ND	0.003 mg/L	06/08/94
Sb	Antimony	EPA 200.7	ND	0.005 mg/L	06/07/94
Se	Selenium	EPA 270.2	ND	0.004 mg/L	06/06/94
Tl	Thallium	EPA 200.7	ND	0.02 mg/L	06/07/94
V	Vanadium	EPA 200.7	ND	0.001 mg/L	06/07/94
Zn	Zinc	EPA 200.7	0.30 *	0.005 mg/L	06/07/94

ND = Not detected at or above the reporting limit

* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-3-BB
 AEN LAB NO: 9405330-03A
 AEN WORK ORDER: 9405330
 CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/25/94
 DATE RECEIVED: 05/25/94
 REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/01/94
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/07/94
CCR 17 Metals (Low Level)					
Ag	Silver	EPA 200.7	ND	0.001 mg/L	06/07/94
As	Arsenic	EPA 206.2	ND	0.002 mg/L	06/06/94
Ba	Barium	EPA 200.7	ND	0.01 mg/L	06/07/94
Be	Beryllium	EPA 200.7	ND	0.0005 mg/L	06/07/94
Cd	Cadmium	EPA 200.7	ND	0.001 mg/L	06/07/94
Co	Cobalt	EPA 200.7	ND	0.001 mg/L	06/07/94
Cr	Chromium	EPA 200.7	ND	0.002 mg/L	06/07/94
Cu	Copper	EPA 200.7	ND	0.002 mg/L	06/07/94
Hg	Mercury	EPA 245.1	ND	0.0002 mg/L	05/27/94
Mo	Molybdenum	EPA 200.7	ND	0.002 mg/L	06/07/94
Ni	Nickel	EPA 200.7	ND	0.002 mg/L	06/07/94
Pb	Lead	EPA 239.2	ND	0.003 mg/L	06/08/94
Sb	Antimony	EPA 200.7	ND	0.005 mg/L	06/07/94
Se	Selenium	EPA 270.2	ND	0.004 mg/L	06/06/94
Tl	Thallium	EPA 200.7	ND	0.02 mg/L	06/07/94
V	Vanadium	EPA 200.7	ND	0.001 mg/L	06/07/94
Zn	Zinc	EPA 200.7	0.015 *	0.005 mg/L	06/07/94

ND = Not detected at or above the reporting limit

* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-3-BB
 AEN LAB NO: 9405330-03B
 AEN WORK ORDER: 9405330
 CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/25/94
 DATE RECEIVED: 05/25/94
 REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
TPH as Gas	5030/GC-FID	ND	0.05	mg/L	06/05/94

ND = Not detected at or above the reporting limit
 * = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-3-BB
AEN LAB NO: 9405330-03D
AEN WORK ORDER: 9405330
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/25/94
DATE RECEIVED: 05/25/94
REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Diesel/Oil	EPA 3510	-		Extrn Date	05/26/94
TPH as Diesel	GC-FID	ND	0.05	mg/L	05/29/94
TPH as Oil	GC-FID	ND	0.2	mg/L	05/29/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-3
 AEN LAB NO: 9405330-04A
 AEN WORK ORDER: 9405330
 CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/25/94
 DATE RECEIVED: 05/25/94
 REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/01/94
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/07/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	ND	0.001	mg/L	06/07/94
As Arsenic	EPA 206.2	2.4 *	0.01	mg/L	06/06/94
Ba Barium	EPA 200.7	0.08 *	0.01	mg/L	06/07/94
Be Beryllium	EPA 200.7	0.0009 *	0.0005	mg/L	06/07/94
Cd Cadmium	EPA 200.7	ND	0.001	mg/L	06/07/94
Co Cobalt	EPA 200.7	0.009 *	0.001	mg/L	06/07/94
Cr Chromium	EPA 200.7	0.002 *	0.002	mg/L	06/07/94
Cu Copper	EPA 200.7	ND	0.002	mg/L	06/07/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	05/27/94
Mo Molybdenum	EPA 200.7	0.091 *	0.002	mg/L	06/07/94
Ni Nickel	EPA 200.7	0.006 *	0.002	mg/L	06/07/94
Pb Lead	EPA 239.2	ND	0.003	mg/L	06/08/94
Sb Antimony	EPA 200.7	ND	0.005	mg/L	06/07/94
Se Selenium	EPA 270.2	ND	0.02	mg/L	06/08/94
Tl Thallium	EPA 200.7	ND	0.02	mg/L	06/07/94
V Vanadium	EPA 200.7	ND	0.001	mg/L	06/07/94
Zn Zinc	EPA 200.7	4.1 *	0.005	mg/L	06/07/94

Reporting limits elevated for Arsenic and Selenium due to matrix interference.

ND = Not detected at or above the reporting limit

* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-3
AEN LAB NO: 9405330-04B
AEN WORK ORDER: 9405330
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/25/94
DATE RECEIVED: 05/25/94
REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
TPH as Gas	5030/GC-FID	ND	0.05	mg/L	06/03/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-3
AEN LAB NO: 9405330.04D
AEN WORK ORDER: 9405330
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/25/94
DATE RECEIVED: 05/25/94
REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Diesel/Oil	EPA 3510	-		Extrn Date	05/26/94
TPH as Diesel	GC-FID	0.3 *	0.05	mg/L	05/29/94
TPH as Oil	GC-FID	0.4 *	0.2	mg/L	05/29/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-103
 AEN LAB NO: 9405330-05A
 AEN WORK ORDER: 9405330
 CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/25/94
 DATE RECEIVED: 05/25/94
 REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/01/94
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/07/94
CCR 17 Metals (Low Level)					
Ag	Silver	EPA 200.7	0.001 *	0.001	mg/L 06/07/94
As	Arsenic	EPA 206.2	2.8 *	0.01	mg/L 06/06/94
Ba	Barium	EPA 200.7	0.08 *	0.01	mg/L 06/07/94
Be	Beryllium	EPA 200.7	0.0013 *	0.0005	mg/L 06/07/94
Cd	Cadmium	EPA 200.7	ND	0.001	mg/L 06/07/94
Co	Cobalt	EPA 200.7	0.011 *	0.001	mg/L 06/07/94
Cr	Chromium	EPA 200.7	ND	0.002	mg/L 06/07/94
Cu	Copper	EPA 200.7	ND	0.002	mg/L 06/07/94
Hg	Mercury	EPA 245.1	ND	0.0002	mg/L 05/27/94
Mo	Molybdenum	EPA 200.7	0.11 *	0.002	mg/L 06/07/94
Ni	Nickel	EPA 200.7	0.008 *	0.002	mg/L 06/07/94
Pb	Lead	EPA 239.2	ND	0.003	mg/L 06/08/94
Sb	Antimony	EPA 200.7	ND	0.005	mg/L 06/07/94
Se	Selenium	EPA 270.2	ND	0.02	mg/L 06/08/94
Tl	Thallium	EPA 200.7	ND	0.02	mg/L 06/07/94
V	Vanadium	EPA 200.7	ND	0.001	mg/L 06/07/94
Zn	Zinc	EPA 200.7	5.2 *	0.005	mg/L 06/07/94

Reporting limits elevated for Arsenic and Selenium due to matrix interference.

ND = Not detected at or above the reporting limit

* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-103
AEN LAB NO: 9405330-05B
AEN WORK ORDER: 9405330
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/25/94
DATE RECEIVED: 05/25/94
REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
TPH as Gas	5030/GC-FID	ND	0.05	mg/L	06/03/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-103
AEN LAB NO: 9405330-05D
AEN WORK ORDER: 9405330
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/25/94
DATE RECEIVED: 05/25/94
REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Diesel/Oil	EPA 3510	-		Extrn Date	05/26/94
TPH as Diesel	GC-FID	0.3 *	0.05	mg/L	05/29/94
TPH as Oil	GC-FID	0.4 *	0.2	mg/L	05/29/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-5
 AEN LAB NO: 9405330-06A
 AEN WORK ORDER: 9405330
 CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/24/94
 DATE RECEIVED: 05/25/94
 REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/01/94
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/07/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	0.008 *	0.001	mg/L	06/07/94
As Arsenic	EPA 206.2	ND	0.005	mg/L	06/08/94
Ba Barium	EPA 200.7	0.01 *	0.01	mg/L	06/07/94
Be Beryllium	EPA 200.7	ND	0.0005	mg/L	06/07/94
Cd Cadmium	EPA 200.7	0.14 *	0.001	mg/L	06/07/94
Co Cobalt	EPA 200.7	0.71 *	0.001	mg/L	06/07/94
Cr Chromium	EPA 200.7	ND	0.002	mg/L	06/07/94
Cu Copper	EPA 200.7	ND	0.002	mg/L	06/07/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	05/27/94
Mo Molybdenum	EPA 200.7	ND	0.002	mg/L	06/07/94
Ni Nickel	EPA 200.7	2.4 *	0.002	mg/L	06/07/94
Pb Lead	EPA 239.2	ND	0.010	mg/L	06/08/94
Sb Antimony	EPA 200.7	ND	0.005	mg/L	06/07/94
Se Selenium	EPA 270.2	ND	0.01	mg/L	06/08/94
Tl Thallium	EPA 200.7	0.09 *	0.02	mg/L	06/07/94
V Vanadium	EPA 200.7	0.002 *	0.001	mg/L	06/07/94
Zn Zinc	EPA 200.7	23 *	0.005	mg/L	06/07/94

Reporting limits elevated for Arsenic, Lead and Selenium due to matrix interference.

ND = Not detected at or above the reporting limit

* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-8
 AEN LAB NO: 9405330-07A
 AEN WORK ORDER: 9405330
 CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/24/94
 DATE RECEIVED: 05/25/94
 REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/01/94
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/07/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	ND	0.001	mg/L	06/07/94
As Arsenic	EPA 206.2	2.5 *	0.01	mg/L	06/06/94
Ba Barium	EPA 200.7	0.20 *	0.01	mg/L	06/07/94
Be Beryllium	EPA 200.7	ND	0.0005	mg/L	06/07/94
Cd Cadmium	EPA 200.7	ND	0.001	mg/L	06/07/94
Co Cobalt	EPA 200.7	ND	0.001	mg/L	06/07/94
Cr Chromium	EPA 200.7	ND	0.002	mg/L	06/07/94
Cu Copper	EPA 200.7	ND	0.002	mg/L	06/07/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	05/27/94
Mo Molybdenum	EPA 200.7	ND	0.002	mg/L	06/07/94
Ni Nickel	EPA 200.7	0.004 *	0.002	mg/L	06/07/94
Pb Lead	EPA 239.2	ND	0.003	mg/L	06/08/94
Sb Antimony	EPA 200.7	ND	0.005	mg/L	06/07/94
Se Selenium	EPA 270.2	ND	0.02	mg/L	06/08/94
Tl Thallium	EPA 200.7	ND	0.02	mg/L	06/07/94
V Vanadium	EPA 200.7	0.004 *	0.001	mg/L	06/07/94
Zn Zinc	EPA 200.7	0.015 *	0.005	mg/L	06/07/94

Reporting limits elevated for Arsenic and Selenium due to matrix interference.

ND = Not detected at or above the reporting limit
 * = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-8
AEN LAB NO: 9405330-07B
AEN WORK ORDER: 9405330
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/24/94
DATE RECEIVED: 05/25/94
REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
TPH as Gas	5030/GC-FID	0.7 *	0.05	mg/L	06/05/94

ND = Not detected at or above the reporting limit
* = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-8
 AEN LAB NO: 9405330-07D
 AEN WORK ORDER: 9405330
 CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/24/94
 DATE RECEIVED: 05/25/94
 REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Diesel/Oil	EPA 3510	-		Extrn Date	05/26/94
TPH as Diesel	GC-FID	4.5 *	0.05	mg/L	05/29/94
TPH as Oil	GC-FID	0.6 *	0.2	mg/L	05/29/94

ND = Not detected at or above the reporting limit
 * = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-12
 AEN LAB NO: 9405330-08A
 AEN WORK ORDER: 9405330
 CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/24/94
 DATE RECEIVED: 05/25/94
 REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/01/94
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/01/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	ND	0.05	mg/L	06/06/94
As Arsenic	EPA 206.2	0.008 *	0.002	mg/L	06/06/94
Ba Barium	EPA 200.7	ND	0.05	mg/L	06/06/94
Be Beryllium	EPA 200.7	ND	0.02	mg/L	06/06/94
Cd Cadmium	EPA 200.7	3.6 *	0.05	mg/L	06/06/94
Co Cobalt	EPA 200.7	2.4 *	0.05	mg/L	06/06/94
Cr Chromium	EPA 200.7	ND	0.1	mg/L	06/06/94
Cu Copper	EPA 200.7	1.0 *	0.1	mg/L	06/06/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	05/27/94
Mo Molybdenum	EPA 200.7	ND	0.1	mg/L	06/06/94
Ni Nickel	EPA 200.7	7.1 *	0.1	mg/L	06/06/94
Pb Lead	EPA 239.2	0.049 *	0.003	mg/L	06/08/94
Sb Antimony	EPA 200.7	ND	0.3	mg/L	06/06/94
Se Selenium	EPA 270.2	0.017 *	0.004	mg/L	06/06/94
Tl Thallium	EPA 200.7	ND	1	mg/L	06/06/94
V Vanadium	EPA 200.7	ND	0.05	mg/L	06/06/94
Zn Zinc	EPA 200.7	3,100 *	0.1	mg/L	06/06/94

Reporting limits elevated for metals due to matrix interference.

ND = Not detected at or above the reporting limit
 * = Value above reporting limit

LEVINE - FRICKE

SAMPLE ID: LF-14
 AEN LAB NO: 9405330-09A
 AEN WORK ORDER: 9405330
 CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/25/94
 DATE RECEIVED: 05/25/94
 REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/01/94
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/01/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	ND	0.005	mg/L	06/06/94
As Arsenic	EPA 206.2	0.004 *	0.002	mg/L	06/06/94
Ba Barium	EPA 200.7	ND	0.05	mg/L	06/06/94
Be Beryllium	EPA 200.7	0.002 *	0.002	mg/L	06/06/94
Cd Cadmium	EPA 200.7	0.14 *	0.005	mg/L	06/06/94
Co Cobalt	EPA 200.7	1.0 *	0.005	mg/L	06/06/94
Cr Chromium	EPA 200.7	ND	0.01	mg/L	06/06/94
Cu Copper	EPA 200.7	3.5 *	0.01	mg/L	06/06/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	05/27/94
Mo Molybdenum	EPA 200.7	ND	0.01	mg/L	06/06/94
Ni Nickel	EPA 200.7	2.4 *	0.01	mg/L	06/06/94
Pb Lead	EPA 239.2	0.027 *	0.003	mg/L	06/08/94
Sb Antimony	EPA 200.7	ND	0.03	mg/L	06/06/94
Se Selenium	EPA 270.2	ND	0.004	mg/L	06/06/94
Tl Thallium	EPA 200.7	0.1 *	0.1	mg/L	06/06/94
V Vanadium	EPA 200.7	ND	0.005	mg/L	06/06/94
Zn Zinc	EPA 200.7	340 *	0.01	mg/L	06/06/94

Reporting limits elevated for metals due to matrix interference.

ND = Not detected at or above the reporting limit
 * = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: LF-16
 AEN LAB NO: 9405330-10A
 AEN WORK ORDER: 9405330
 CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/25/94
 DATE RECEIVED: 05/25/94
 REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/01/94
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/01/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	ND	0.05	mg/L	06/06/94
As Arsenic	EPA 206.2	ND	0.002	mg/L	06/06/94
Ba Barium	EPA 200.7	ND	0.05	mg/L	06/06/94
Be Beryllium	EPA 200.7	0.02 *	0.02	mg/L	06/06/94
Cd Cadmium	EPA 200.7	12 *	0.05	mg/L	06/06/94
Co Cobalt	EPA 200.7	7.0 *	0.05	mg/L	06/06/94
Cr Chromium	EPA 200.7	ND	0.1	mg/L	06/06/94
Cu Copper	EPA 200.7	25 *	0.1	mg/L	06/06/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	05/27/94
Mo Molybdenum	EPA 200.7	ND	0.1	mg/L	06/06/94
Ni Nickel	EPA 200.7	20 *	0.1	mg/L	06/06/94
Pb Lead	EPA 239.2	ND	0.010	mg/L	06/08/94
Sb Antimony	EPA 200.7	ND	0.3	mg/L	06/06/94
Se Selenium	EPA 270.2	ND	0.004	mg/L	06/06/94
Tl Thallium	EPA 200.7	ND	1	mg/L	06/06/94
V Vanadium	EPA 200.7	ND	0.05	mg/L	06/06/94
Zn Zinc	EPA 200.7	4.100 *	0.1	mg/L	06/06/94

Reporting limits elevated for metals due to matrix interference.

ND = Not detected at or above the reporting limit
 * = Value above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-3
 AEN LAB NO: 9405330-11A
 AEN WORK ORDER: 9405330
 CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 05/24/94
 DATE RECEIVED: 05/25/94
 REPORT DATE: 06/10/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion, Metals by GFAA	EPA 3020	-		Prep Date	06/01/94
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	06/01/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	ND	0.005	mg/L	06/06/94
As Arsenic	EPA 206.2	ND	0.002	mg/L	06/06/94
Ba Barium	EPA 200.7	ND	0.05	mg/L	06/06/94
Be Beryllium	EPA 200.7	ND	0.002	mg/L	06/06/94
Cd Cadmium	EPA 200.7	0.10 *	0.005	mg/L	06/06/94
Co Cobalt	EPA 200.7	0.14 *	0.005	mg/L	06/06/94
Cr Chromium	EPA 200.7	ND	0.01	mg/L	06/06/94
Cu Copper	EPA 200.7	0.12 *	0.01	mg/L	06/06/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	05/27/94
Mo Molybdenum	EPA 200.7	ND	0.01	mg/L	06/06/94
Ni Nickel	EPA 200.7	0.42 *	0.01	mg/L	06/06/94
Pb Lead	EPA 239.2	ND	0.003	mg/L	06/08/94
Sb Antimony	EPA 200.7	ND	0.03	mg/L	06/06/94
Se Selenium	EPA 270.2	ND	0.004	mg/L	06/06/94
Tl Thallium	EPA 200.7	ND	0.1	mg/L	06/06/94
V Vanadium	EPA 200.7	ND	0.005	mg/L	06/06/94
Zn Zinc	EPA 200.7	120 *	0.01	mg/L	06/06/94

Reporting limits elevated for metals due to matrix interference.

ND = Not detected at or above the reporting limit

* = Value above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9405330

CLIENT PROJECT ID: 3018.11

Quality Control Summary

Average Percent Recovery for Zinc matrix spike was outside laboratory quality control limits. This appears to be a matrix effect as method spike for this metal was within established laboratory quality control limits.

All other laboratory quality control parameters were found to be within established limits.

Definitions

The following abbreviations are found throughout the QC report:

- ND = Not Detected at or above the reporting limit
- RPD = Relative Percent Difference
- < = Less Than

QUALITY CONTROL DATA

DATE EXTRACTED: 05/26/94
 DATE ANALYZED: 05/29/94
 CLIENT PROJ. ID: 3018.11

AEN JOB NO: 9405330
 SAMPLE SPIKED: DI WATER
 INSTRUMENT: C

METHOD SPIKE RECOVERY SUMMARY
 TPH EXTRACTABLE WATER
 METHOD: EPA 3510 GCFID

ANALYTE	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Diesel	2.04	89	<1	63-109	10

METHOD BLANK RESULT

Lab Id.	Extractable Hydrocarbons as Diesel (mg/L)	Extractable Hydrocarbons as Oil (mg/L)
052694-METHOD BLANK	ND	ND
Reporting Limit	0.05	0.2

QUALITY CONTROL DATA

INSTRUMENT: F

AEN JOB NO: 9405330

CLIENT PROJ. ID: 3018.11

AEN LAB NO: 0603-BLANK

DATE ANALYZED: 06/03/94

HYDROCARBONS
METHOD: EPA 5030 GCFID
(WATER MATRIX)

	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)
<hr/>		
PURGEABLE HYDROCARBONS AS:		
Gasoline	ND	0.05

QUALITY CONTROL DATA

INSTRUMENT: F
CLIENT PROJ. ID: 3018.11

AEN JOB NO: 9405330
AEN LAB NO: 0605-BLANK
DATE ANALYZED: 06/05/94

HYDROCARBONS
METHOD: EPA 5030 GCFID
(WATER MATRIX)

	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)
<hr/>		
PURGEABLE HYDROCARBONS AS:		
Gasoline	ND	0.05

QUALITY CONTROL DATA

CLIENT PROJ. ID: 3018.11

AEN JOB NO: 9405330

INSTRUMENT: F

SURROGATE STANDARD RECOVERY SUMMARY
 METHOD: EPA 5030 GCFID
 (WATER MATRIX)

Date Analyzed	SAMPLE IDENTIFICATION		SURROGATE RECOVERY (PERCENT)
	Sample Id.	Lab Id.	Fluorobenzene
06/05/94	LF-3-BB	03	94
06/03/94	LF-3	04	95
06/03/94	LF-103	05	95
06/05/94	LF-8	07	94

CURRENT QC LIMITS

<u>ANALYTE</u>	<u>PERCENT RECOVERY</u>
Fluorobenzene	(70-115)

QUALITY CONTROL DATA

MATRIX: WATER

AEN JOB NO: 9405330

CLIENT PROJ. ID: 3018.11

DATE(S) ANALYZED: 05/27-06/07/94

MATRIX SPIKE RECOVERY SUMMARY

Compound	Inst./ Method	Sample Spiked	Sample Result (mg/L)	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits	
							% Rec. Limit	RPD Limit
Ag, Silver	ICP/200.7	9405330-02A	ND	0.05	83	<1	78-111	9
Ba, Barium	ICP/200.7	9405330-02A	0.02	0.4	92	<1	83-108	5
Be, Beryllium	ICP/200.7	9405330-02A	ND	0.01	78	1	64-104	7
Cd, Cadmium	ICP/200.7	9405330-02A	ND	0.05	92	1	64-128	15
Co, Cobalt	ICP/200.7	9405330-02A	0.037	0.1	89	<1	74-121	6
Cr, Chromium	ICP/200.7	9405330-02A	ND	0.04	82	7	75-114	7
Cu, Copper	ICP/200.7	9405330-02A	0.003	0.05	96	1	81-114	5
Hg, Mercury	Hg/245.1	9405330-03A	ND	2.0 ug/L	94	<1	80-120	15
Mo, Molybdenum	ICP/200.7	9405330-02A	ND	0.04	89	2	76-119	7
Ni, Nickel	ICP/200.7	9405330-02A	0.024	0.1	86	<1	77-113	5
Sb, Antimony	ICP/200.7	9405330-02A	ND	0.1	99	2	79-116	8
Tl, Thallium	ICP/200.7	9405330-02A	ND	0.1	92	1	67-116	7
V, Vanadium	ICP/200.7	9405330-02A	ND	0.1	87	1	77-114	6
Zn, Zinc	ICP/200.7	9405330-02A	0.305	0.1	118 *	1	68-116	7

* Outside laboratory quality control limits

QUALITY CONTROL DATA

MATRIX: WATER

AEN JOB NO: 9405330

CLIENT PROJ. ID: 3018.11

DATE(S) ANALYZED: 05/27-06/08/94

METHOD SPIKE AND BLANK RECOVERY SUMMARY

Compound	Inst./ Method	Blank Result (mg/L)	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits	
						% Rec. Limit	RPD Limit
Ag, Silver	ICP/200.7	ND	0.25	109	2	64-122	8
As, Arsenic	4000/206.2	ND	0.04	106	1	84-118	12
Ba, Barium	ICP/200.7	ND	2.0	104	2	85-116	5
Be, Beryllium	ICP/200.7	ND	0.05	97	1	76-107	6
Cd, Cadmium	ICP/200.7	ND	0.25	105	2	78-119	10
Co, Cobalt	ICP/200.7	ND	0.5	106	1	89-116	6
Cr, Chromium	ICP/200.7	ND	0.2	101	<1	87-117	8
Cu, Copper	ICP/200.7	ND	0.25	102	1	85-113	6
Hg, Mercury	Hg/245.1	ND	2.0 ug/L	95	2	80-120	15
Mo, Molybdenum	ICP/200.7	ND	0.2	107	2	86-120	6
Ni, Nickel	ICP/200.7	ND	0.5	107	1	88-116	6
Pb, Lead	4000/239.2	ND	0.02	99	2	80-120	15
Sb, Antimony	ICP/200.7	ND	0.5	110	1	82-123	8
Se, Selenium	4000/270.2	ND	0.08	103	5	80-114	14
Tl, Thallium	ICP/200.7	ND	0.5	108	5	77-119	9
V, Vanadium	ICP/200.7	ND	0.5	105	2	89-114	5
Zn, Zinc	ICP/200.7	ND	0.5	108	<1	87-117	7

*** END OF REPORT ***

QUALITY CONTROL DATA

DATE ANALYZED: 06/05/94
SAMPLE SPIKED: LCS
CLIENT PROJ. ID: 3018.11

AEN JOB NO: 9405330

INSTRUMENT: F

LABORATORY CONTROL SAMPLE
METHOD: EPA 5030 GCFID
(WATER MATRIX)

ANALYTE	Spike Added (ug/L)	Percent Recovery
Hydrocarbons as Gasoline	500	108

CURRENT QC LIMITS

<u>Analyte</u>	<u>Percent Recovery</u>
Gasoline	(60-125)

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

5-5
R-3, S-3
9405330

Project No.: 3018.11	Field Logbook No.:	Date: 5/25/94	Serial No.:
Project Name: Volvo GM	Project Location: Oakland	No. 12083	

Sampler (Signature): *[Signature]*

SAMPLERS: WPD

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CON-TAINERS	SAMPLE TYPE	ANALYSES							REMARKS	
						EPA 601	EPA 624	Metals*	PAHs	THC/dioxin	PH	MOBILION		HOLD
LF-1	5/25	1240	01A	1	H ₂ O		X							Normal TAT
LF-2	5/24	1225	02A	1										
LF-3- BB	5/25	1010	03A-D	4				X	X	X				Results to Kathleen Isaacson
LF-3	5/25	1025	04A-E	5				X	X	X				
LF-103	5/25	1030	05A-E	5				X	X	X				
LF-5	5/24	1155	06A	1										NOTE: Basin Plan
LF-8	5/24	1300	07A-E	5				X	X	X				Metals samples were field filtered
LF-12	5/24	1315	08A	1										
LF-14	5/25	1040	09A	1										
LF-16	5/25	1200	10A	1										* Metals = Basin Plan
MW-3	5/24	1440	11A	1										

* Per Kathleen Isaacson - metals are title 22 (CCR-17) w/ Basin Plan D.L.'s. - 5/24/94 - *[Signature]*

RELINQUISHED BY: <i>[Signature]</i>	DATE: 5/25/94	TIME: 16:35	RECEIVED BY: <i>[Signature]</i>	DATE: 5/25/94	TIME: 16:35
RELINQUISHED BY: <i>[Signature]</i>	DATE: 5/25/94	TIME: 17:20	RECEIVED BY: <i>[Signature]</i>	DATE: 5/25/94	TIME: 17:20
RELINQUISHED BY: <i>[Signature]</i>	DATE:	TIME:	RECEIVED BY: <i>[Signature]</i>	DATE:	TIME:

METHOD OF SHIPMENT: DATE: TIME: LAB COMMENTS:

Sample Collector: LEVINE-FRICKE
1900 Powell Street, 12th Floor
Emeryville, California 94608
(510) 652-4500

Analytical Laboratory: AEN

APPENDIX B

WATER-QUALITY SAMPLING FORMS

METALS SAMPLE FILTERED IN FIELD

LEVINE-FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo BM Project No. 3018.11

Date 5/25/94 Sample No. LF-1

Samplers Name NPD

Sampling Location Oakland;

Sampling Method Hand bail; Teflon bailer

Analyses Requested Basin Plan Metals

Number and Types of Sample Bottles used 1 x 32 oz (HNO₃) plus 1/2

Method of Shipment Courier 5/25/94

28.86	
3.77	
16.23	16.23
.16	.2
9738	3.246
16230	3.77
2.5968	7.01

GROUND WATER **SURFACE WATER**

Well No. LF-1 Stream Width _____

Well Diameter (in.) 2" Stream Depth _____

Depth to Water. Static (ft) 3.77 Stream Velocity _____

Water in Well Box YES Rained recently? _____

Well Depth (ft) 20.00 Other _____

Height of Water Column in Well 16.23

Water Volume in Well 2.5 gal (2.59)

- 2-inch casing = 0.16 gal/ft
- 4-inch casing = 0.65 gal/ft
- 5-inch casing = 1.02 gal/ft
- 6-inch casing = 1.47 gal/ft

LOCATION MAP

80% = 7.01

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1141								Start bailer
1143		2.5	20.2	4.34	12,420			sl. turb - clear
1145		5.0	20.0	4.56	11,640			" "
1148		7.5	19.8	4.27	22,000			" "
1153		10.0	20.0	3.95	31,500			" " / stop
1238	7.01							
1240								sample LF-1

Suggested Method for Purging Well _____

METALS SAMPLE FILTERED IN FIELD

19-20
LEVINE-FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM Project No. 3018.11

Date 5/24/94 Sample No. LF-2

Samplers Name NPD

Sampling Location Oakland; LF-2

Sampling Method Hand bail ; Teflon bailer

Analyses Requested Basin Plan Metals

Number and Types of Sample Bottles used 1X32oz (HNO₃) plastic

Method of Shipment Courier 5/25/94

14.75
5.65
<hr/> 9.10
.16
<hr/> 546
910
<hr/> 1456
1.820
<hr/> 5.65
7.47

GROUND WATER

SURFACE WATER

Well No. LF-2 Stream Width _____

Well Diameter (in.) 2" Stream Depth _____

Depth to Water, Static (ft) 5.65 Stream Velocity _____

Water in Well Box NO Rained recently? _____

Well Depth (ft) 14.75 Other _____

Height of Water Column in Well 9.10

Water Volume in Well (1.5 gal)
(1.45)

- ②-inch casing = 0.16 gal/ft
- 4-inch casing = 0.65 gal/ft
- 5-inch casing = 1.02 gal/ft
- 6-inch casing = 1.47 gal/ft

LOCATION MAP

8090 = 7.47

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1120								Start bailing
1122		1.5	21.0	6.40	3820 4000			st. tur - orange color
1125		3.0	20.4	6.34	3720			" "
1127		4.5	20.3	6.32	3700			" " / stop
1204	6.35							
1222	7.15							
1225								Sample LF-2

Suggested Method for Purging Well _____

METALS SAMPLE FILTERED IN FIELD

LEVINE-FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM Project No. 3018.11

Date 5/25/94 Sample No. LF-3-BB

Samplers Name NPD LF-3, LF-103

Sampling Location Oakland;

Sampling Method Hand bail; Teflon bailer

Analyses Requested Basin Plan Metals; TPN/gd/mo

Number and Types of Sample Bottles used 2 (100ml); 6 (100) use; 5 (100) amber

Method of Shipment Courier 5/25/94

14.93
6.11
8.82
.16
5292
8820
8.82
.2
1.4182
1.764
6.11
7.87

GROUND WATER

SURFACE WATER

Well No. LF-3 Stream Width _____

Well Diameter (in.) 2" Stream Depth _____

Depth to Water, Static (ft) 6.11 Stream Velocity _____

Water in Well Box YES Rained recently? _____

Well Depth (ft) 14.93 Other _____

Height of Water Column in Well 8.82

Water Volume in Well 1.5 gal (1.41)

- 2-inch casing = 0.16 gal/ft
- 4-inch casing = 0.65 gal/ft
- 5-inch casing = 1.02 gal/ft
- 6-inch casing = 1.47 gal/ft

LOCATION MAP

8090 = 7.87

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1015								start bail in
1017		1.5	20.6	6.56	3930			turbid
1019		3.0	20.4	6.56	3940			"
1021		4.5	20.4	6.57	3940			" / stop
1021	6.88							
1010								sample LF-3-BB
1025								" LF-3
1030								" LF-103

Suggested Method for Purging Well _____

METALS SAMPLE FILTERED IN FIELD

10-20
LEVINE-FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM Project No. 3018.11

Date 5/24/94 Sample No. LF-5

Samplers Name NPD

Sampling Location Oakland; LF-5

Sampling Method Hand bail; Teflon bailer

Analyses Requested Basin Plan Metals

Number and Types of Sample Bottles used 1 x 32 oz (HNO₃) plastic

Method of Shipment Courier 5/25/94

(a/b)

21.10	
6.76	14.34
14.34	2.858
.16	6.76
8604	9.62
14340	
22944	

GROUND WATER

SURFACE WATER

Well No. LF-5 Stream Width _____

Well Diameter (in.) 2" Stream Depth _____

Depth to Water, Static (ft) 6.76 Stream Velocity _____

Water in Well Box NO Rained recently? _____

Well Depth (ft) 21.10 Other _____

Height of Water Column in Well 14.34

Water Volume in Well 2.25 gal (2.29)

- ① 2-inch casing = 0.16 gal/ft
- 4-inch casing = 0.65 gal/ft
- 5-inch casing = 1.02 gal/ft
- 6-inch casing = 1.47 gal/ft

LOCATION MAP

8690 = 9.62

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1137								Start bailing
1139		2.25	20.1	6.22	18350			turbid
1141		4.5	19.9	6.25	18160			"
1144		6.75	19.7	6.28	17350			" / Stop
1150	9.62							
1155								sample LF-5

Suggested Method for Purging Well _____

METALS SAMPLE FILTERED IN FIELD

10-30-89
LEVINE-FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM Project No. 3018.11

Date 5/24/94 Sample No. LF-8

Samplers Name NPD

Sampling Location Oakland;

Sampling Method Cent pump; Teflon bailer

Analyses Requested Basin Plan Metals; TPH G/D/MO

Number and Types of Sample Bottles used 1 X 32oz (HNO₃) plastic; 2 (800L) vaa; 2 (1L) amber

Method of Shipment Courier 5/25/94

14.65
6.15
8.50
8.5
8.5
.65
.2
4.25
1.70
5.100
6.15
5.525
7.85

GROUND WATER

SURFACE WATER

Well No. LF-8 Stream Width _____

Well Diameter (in.) 4" Stream Depth _____

Depth to Water, Static (ft) 6.15 Stream Velocity _____

Water in Well Box NO Rained recently? _____

Well Depth (ft) 14.65 Other _____

Height of Water Column in Well 8.5

Water Volume in Well 5.5 gal (5.52)

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

LOCATION MAP

80% = 7.85'

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1244								start pump
1246		5.5	20.9	7.08	3490			turbid/odor/v. sl-shear
1250		11.0	21.5	7.28	3430			" / "
1253		16.5	21.0	7.29	3370			" / " / stop
1257	7.85							
1300								sample LF-8

Suggested Method for Purging Well _____

METALS SAMPLE FILTERED IN FIELD

10-30
LEVINE-FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM Project No. 3018.11

Date 5/24/94 Sample No. LF-12

Samplers Name NPD

Sampling Location Oakland;

Sampling Method Cent pump; Teflon bailer

Analyses Requested Basin Plan Metals

Number and Types of Sample Bottles used 1 x 32 oz (HNO₃) plastic

Method of Shipment Courier 5/25/94

14.70
7.53
7.17 7.17
65 .2
3585 1434
43020 7.53
4.6605 896

GROUND WATER

SURFACE WATER

Well No. LF-12 Stream Width _____

Well Diameter (in.) 4" Stream Depth _____

Depth to Water, Static (ft) 7.53 Stream Velocity _____

Water in Well Box NO Rained recently? _____

Well Depth (ft) 14.70 Other _____

Height of Water Column in Well 7.17

Water Volume in Well 4.75 gal

(4.66)

- 2-inch casing = 0.16 gal/ft
- 4-inch casing = 0.65 gal/ft
- 5-inch casing = 1.02 gal/ft
- 6-inch casing = 1.47 gal/ft

LOCATION MAP

80% = 8.96

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1213								start pump
1214	DWTRNG	4.75	20.2	4.54	9800			turbid
1216	DWTRD	9.5	20.3	4.47	10950			turbid/stop
		* Sample @		80% or 2 hrs *				
1314	8.51							
1315								sample LF-12

Suggested Method for Purging Well _____

METALS SAMPLE FILTERED IN FIELD

LEVINE-FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo BM

Project No. 3018.11

Date 5/25/94

Sample No. LF-14

Samplers Name NPD

Sampling Location Oakland;

Sampling Method Hand bail; Teflon bailer

Analyses Requested Basin Plan Metals

Number and Types of Sample Bottles used 1 x 32 oz (HDPE) plastic

Method of Shipment Courier 5/25/94

4.0
25.00
7.37

17.63 17.63
.16 .2

10578
17630 3526
28208 7.37

10.89

GROUND WATER

SURFACE WATER

Well No. LF-14 Stream Width _____

Well Diameter (in.) 2" Stream Depth _____

Depth to Water, Static (ft) 7.37 Stream Velocity _____

Water in Well Box NO Rained recently? _____

Well Depth (ft) 25.00 Other _____

Height of Water Column in Well 17.63

Water Volume in Well 3.0 gal

(2.82)

- 2-inch casing = 0.16 gal/ft
- 4-inch casing = 0.65 gal/ft
- 5-inch casing = 1.02 gal/ft
- 6-inch casing = 1.47 gal/ft

LOCATION MAP

80% = 10.89

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
0948								Start bailing
0950		3.0	18.5	4.75	6120			turbid
0954	DWNDRD	5.0	18.5	5.07	6870			turbid/stop
		* sample @ 80% *						
1032	9.42							
1040								Sample LF-14

Suggested Method for Purging Well _____

METALS SAMPLE FILTERED IN FIELD

LEVINE-FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM Project No. 3018.11

Date 5/25/94 Sample No. LF-16

Samplers Name NPD

Sampling Location Oakland;

Sampling Method Hand bail; Teflon bailer

Analyses Requested Basin Plan Metals

Number and Types of Sample Bottles used 1x 82oz (HDPE) plastic

Method of Shipment Courier 5/25/94

12.56
7.55
16.95 16.95
-16 -2
10170 3390
16950 7.55
27120 10.94

GROUND WATER

SURFACE WATER

Well No. LF-16 Stream Width _____

Well Diameter (in.) 2" Stream Depth _____

Depth to Water, Static (ft) 7.55 Stream Velocity _____

Water in Well Box NO Rained recently? _____

Well Depth (ft) 24.50 Other _____

Height of Water Column in Well 16.95 2-inch casing = 0.16 gal/ft

2.75 gal 4-inch casing = 0.65 gal/ft

Water Volume in Well (2.71) 5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

LOCATION MAP

80% = 10.94

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1056								Start hauling
1059		2.75	18.7	4.39	19,400			turbid
1102	DWTRNG	5.5	18.7	4.28	20,200			turbid
1106	DWTRD	7.5						stop
		* sample @ 80% *						
1157	10.13							
1200								sample LF-16

Suggested Method for Purging Well _____

METALS SAMPLE FILTERED IN FIELD

LEVINE-FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM Project No. 3018.11

Date 5/24/94 Sample No. MW-3

Samplers Name NPD

Sampling Location Oakland; MW-3

Sampling Method Hand bail; Teflon bailer

Analyses Requested Basin Plan Metals

Number and Types of Sample Bottles used 1 x 32oz (HNO₃) plastic

Method of Shipment Courier 5/25/94

$\begin{matrix} 27.00 \\ 5.59 \\ \hline 21.41 \end{matrix}$

$\begin{matrix} 21.41 & 21.42 \\ \hline 16 & .2 \\ \hline 12846 & 4284 \\ 21410 & 5.59 \\ \hline 34256 & 9.87 \end{matrix}$

GROUND WATER

SURFACE WATER

Well No. MW-3 Stream Width _____

Well Diameter (in.) 2" Stream Depth _____

Depth to Water, Static (ft) 5.59 Stream Velocity _____

Water in Well Box NO Rained recently? _____

Well Depth (ft) 27.00 Other _____

Height of Water Column in Well 21.41

Water Volume in Well 3.5 gal (3.42)

- 2-inch casing = 0.16 gal/ft
- 4-inch casing = 0.65 gal/ft
- 5-inch casing = 1.02 gal/ft
- 6-inch casing = 1.47 gal/ft

LOCATION MAP

80% = 9.87

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP. (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1408								Start filtering
1411		3.5	19.2	5.02	2760			turbid
1415		2	18.9	4.85	3690			turbid
1420		10.5	18.5	5.18	4950			turbid
1423		14.0	18.4	5.25	4690			turbid / stop
1439	9.87							
1440								sample MW-3

Suggested Method for Purging Well _____