Quarterly Ground-Water Monitoring Report for the Period from October 1 through December 31, 1994
5050 Coliseum Way and 750-50th Avenue
Oakland, California

April 26, 1995
3018.00-20

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

LEVINE·FRICKE

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

April 26, 1995

LF-3018.00-20

Ms. Madhulla 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 October 1 through December 31, 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 22 monitoring wells and ground-water samples were collected from 9 wells.

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 Associate Hydrogeologist

Enclosure

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

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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.

K A. Isaacson

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

4/26/95
Date

April 26, 1995 3018.00-20

QUARTERLY GROUND-WATER MONITORING REPORT FOR THE PERIOD FROM OCTOBER 1 THROUGH DECEMBER 31, 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 October 1 through December 31, 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.

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

The top of each well casing at the Site has been surveyed relative to mean sea level by a state-licensed land surveyor. Water-level measurements were collected from all wells at the Site on December 19, 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 December 1994 indicated that ground-water elevations generally had increased (up to 3.1 feet in well MW-4) relative to elevations in September 1994, although five wells showed a decrease relative to the September measurements.

Approximately 1 to 2 inches of free product was observed on ground water in well LF-13. Measurement of free product using an oil/water interface probe indicated approximately 1.9 feet of product. However, because of the viscous nature of the petroleum hydrocarbons, which tend to coat the oil/water interface probe and interfere with the measurement, the thickness of free product was estimated using a product thickness bailer. The bailer was lowered into the well approximately 2 feet below the product surface and withdrawn

from the well. Although the product coated the sides of the bailer, it appears that actual product thickness was 1 to 2 inches. The measurement anomaly using the oil/water interface probe is a likely explanation for the product thickness of 1.15 feet reported in September 1994.

Ground-water elevation contours for December 19, 1994 are presented in Figure 2. Ground-water elevation data indicated that the ground-water flow direction was generally toward the west. Ground-water flow indicated a lateral hydraulic gradient of approximately 0.009 foot per foot (ft/ft), as calculated between wells LF-5 and LF-6.

3.0 GROUND-WATER QUALITY

Ground-water samples were collected from nine monitoring wells (LF-1, LF-2, LF-3, LF-5, LF-8, LF-12, LF-14, LF-16, and MW-3) on December 19 and 20, 1994.

3.1 Sampling Procedures

Before ground-water samples were collected, approximately 3 to 5 well casing volumes of water was 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 A. 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.

The pH values for ground-water samples collected from each monitoring well were measured and recorded in the field on water-quality sampling forms, which are presented in Appendix A.

3.2 Laboratory Analysis

Samples were submitted to American Environmental Network, Inc. (formerly Quanteq Laboratories) of Pleasant Hill, California,

a state-certified laboratory. Ground-water samples collected from all wells were submitted to the laboratory for metals analysis using EPA Method 6010/7000 series. Samples collected from wells LF-3, LF-8, and LF-14 were submitted for analysis for total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 3550; benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8020; and TPH as diesel (TPHd) and oil (TPHo) by EPA Method 3510.

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, BTEX, TPHd, and TPHo analyses and the field blank was submitted to the laboratory on a hold basis, pending analytical results.

3.3 Ground-Water Quality Results

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 TPHg and BTEX are presented on Table 3, and results for TPHd and TPHo are presented on Table 4. Laboratory certificates are contained in Appendix B.

3.3.1 Metals

No mercury was detected in samples collected during this round of sampling. Chromium was detected at a concentration of 0.005 parts per million (ppm) in well LF-3 and 0.003 ppm in well LF-5. Silver, barium, beryllium, molybdenum, selenium, thallium, and vanadium were generally reported at concentrations below 0.2 ppm when detected in samples.

Zinc was detected in all wells sampled at concentrations ranging from 0.015 ppm in well LF-8 to 3,700 ppm in well LF-1. The highest concentration of lead (0.6 ppm) was detected in the sample from well LF-1. Of the downgradient wells that were sampled, only the sample from well LF-12 contained lead (0.01 ppm).

The highest concentrations of cadmium (10 ppm), cobalt (6 ppm), copper (22 ppm), and nickel (17 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, 3.5 ppm; cobalt, 2.3 ppm; copper, 1.1 ppm; nickel, 6.9 ppm).

Arsenic was detected in the samples from four of the wells, with the highest concentration of 4.5 ppm reported for the duplicate sample from well LF-3. Arsenic was not reported above laboratory detection limits in downgradient wells LF-5, LF-12, or MW-3.

3.3.2 Petroleum Hydrocarbons

No TPHg or BTEX were detected in well LF-3. TPHg and benzene were reported for wells LF-8 (0.4 ppm and 0.003 ppm, respectively) and LF-14 (1.0 ppm and 0.001 ppm, respectively). Concentrations of toluene, ethylbenzene, and xylene are summarized in Tables 3 and 4. TPHd was detected in all three wells at concentrations ranging from 0.89 ppm (LF-3) to 5.6 ppm (LF-8). TPHo was detected in wells LF-3 (0.2 ppm) and LF-8 (0.4 ppm).

3.3.3 Measurements of pH

Measurements of ground-water pH were generally consistent with values previously reported for the Site and indicate that pH values for shallow ground water beneath the Site are variable across the Site. The lowest pH (3.91) was measured in the sample from well LF-16. A pH value above 6.5 was measured for samples from three of the nine wells sampled (LF-2, LF-3, and LF-8).

3.3.4 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). However, the concentration of copper reported for duplicate sample LF-103 showed poor correlation with the primary sample.

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
		21-Sep-94	3.75	3.81
		19-Dec-94	3.51	4.05
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
		21-Sep-94	6.00	3.84
		19-Dec-94	5.91	3.93
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

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)
		21-Sep-94	6.56	4.42
		19-Dec-94	6.06	4.92
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
		21-Sep-94	6.62	3.74
		19-Dec-94	6.75	3.61
LF-5	8.03	07-Nov-91	7.34	0.69
		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
		21-Sep-94	7.05	0.98
		19-Dec-94	6.48	1.55
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

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)
		28-Jan-94	6.37	5.22
		15-Feb-94	5.98	5.61
		24-May-94	6.14	5.45
		21-Sep-94	7.39	4.20
		19-Dec-94	6.12	5.47
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
		21-Sep-94	6.40	4.25
		19-Dec-94	5.59	5.06
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
		21-Sep-94	6.33	4.58
		19-Dec-94	6.31	4.60
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	4.90
		24-May-94	6.80	4.90
		21-Sep-94	6.98	4.72
		19-Dec-94	6.34	5.36
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
		21-Sep-94	7.90	1.53
		19-Dec-94	7.21	2.22
LF-11	9.07	02-Nov-93	11.68	-2.61
		08-Dec-93	5.35	3.72
		28-Jan-94	5.27	3.80

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)
		15-Feb-94	5.04	4.03
		24-May-94	4.20	4.87
		21-Sep-94	4.70	4.37
		19-Dec-94	4.72	4.35
LF-12	8.70	02-Nov-93	7.87	0.83
		08-Dec-93	7.90	0.80
		28-Jan-94	7.46	1.24
		15-Feb-94	7.66	1.04
		21-Sep-94	7.80	0.90
		19-Dec-94	7.32	1.38
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
		21-Sep-94	6.32	4.41
		19-Dec-94	4.67	5.08
LF-14	11.72	08-Dec-93	7.96	3.76
		28-Jan-94	8.02	3.70
		15-Feb-94	7.85	3.87
		24-May-94	7.68	4.04
		21-Sep-94	7.69	4.03
		19-Dec-94	7.71	4.01
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
		21-Sep-94	8.58	3.04
		19-Dec-94	NM	NM
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
		21-Sep-94	7.64	3.92
		19-Dec-94	8.60	2.96
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
		21-Sep-94	6.88	2.83
		19-Dec-94	5.45	4.26
LF-F1	8.82	08-Dec-93	4.08	4.74
		28-Jan-94	4.03	4.79
		15-Feb-94	3.90	4.92
		24-May-94	3.60	5.22

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)
		21-Sep-94	4.05	4.77
		19-Dec-94	3.45	5.37
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
		21-Sep-94	6.35	3.86
		19-Dec-94	3.70	6.51
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
		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
		21-Sep-94	5.82	3.04
		12-Dec-94	4.75	4.11
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

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)
		24-May-94	5.59	3.42
		21-Sep-94	6.46	2.55
		19-Dec-94	5.46	3.55
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
		21-Sep-94	7.52	3.23
		19-Dec-94	4.42	6.33

Data entered by KAC/25 Jan 95. Data proofed by JCK

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
LF-13	9.75	21-Sep-94	6.32	5.17	1.15	4.41
LF-13	9.75	19-Dec-94	4.67	4.57	0.1	5.08

* Product thickness measurement is approximate due to the viscous nature of the product.
**Ground-water elevation corrected for the presence of free product using the following equation: G = W + [(PT*D) - DW] where G is the ground-water elevation, W is the well elevation, PT is the product thickness, D is the product density (g/ml), and DW is the depth to water. For purposes of this calculation, D = 0.85 will be used.

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-1	22-Sep-94	<0.05	0.77	<0.05	<0.02	6.1	0.67	<0.1	<0.1	<0.0002	<0.1	2.5	0.91	<0.2	<0.02	<1	<0.05	4100
LF-1	20-Dec-94	<0.05	0.65	<0.5	<0.02	4.2	0.45	<0.1	<0.1	<0.0002	<0.1	1.7	0.6	<0.2	<0.04	<1	<0.05	3700
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-2	22-Sep-94	<0.001	<0.002	0.02	<0.0005	<0.001	0.038	<0.002	0.006	<0.0002	<0.002	0.038	<0.005	0.007	<0.004	<0.02	0.001	0.59
LF-2	20-Dec-94	0.001	<0.002	0.02	<0.0005	<0.001	0.04	<0.002	0.006	<0.0002	<0.002	0.03	<0.002	<0.005	<0.004	<0.02	<0.001	0.39
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-3	23-Sep-94	<0.001	2.2	0.05	0.0014	<0.001	0.011	0.002	<0.002	<0.0002	0.11	0.008	<0.005	<0.005	<0.2	<0.02	0.004	5.5
LF-103 (dup)	23-Sep-94	<0.001	2.3	0.06	0.0010	<0.001	0.009	0.004	0.007	<0.0002	0.095	0.007	<0.005	<0.005	<0.2	<0.02	0.003	4.1
LF-3	20-Dec-94	<0.001	3.6	0.09	0.0013	<0.001	0.012	0.005	0.026	<0.0002	0.11	0.011	<0.002	<0.005	<0.04	<0.02	0.012	6.2
LF-103 (dup)	20-Dec-94	<0.001	4.5	0.04	0.0017	<0.001	0.014	0.003	0.003	<0.0002	0.13	0.011	<0.002	<0.005	<0.04	0.02	0.01	8.5
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-4	22-Sep-94	<0.001	0.005	0.19	<0.0005	0.001	0.003	<0.002	0.003	<0.0002	<0.002	0.037	<0.005	0.007	<0.004	<0.02	0.007	0.067
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

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-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-5	21-Sep-94	0.006	<0.01	0.01	<0.0005	0.17	0.81	0.003	0.003	<0.0002	<0.002	2.5	<0.010	<0.005	<0.02	0.03	<0.001	25
LF-5	19-Dec-94	0.007	<0.01	0.01	<0.0005	0.25	1.2	0.003	0.004	<0.0002	<0.002	3.8	<0.008	<0.005	0.02	0.08	<0.001	58
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
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-6	21-Sep-94	0.004	<0.002	0.01	0.0023	0.099	0.84	<0.002	0.011	<0.0002	<0.002	2.8	<0.005	<0.005	<0.004	0.02	<0.001	11
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-7	21-Sep-94	<0.001	<0.002	0.10	<0.0005	<0.001	<0.001	<0.002	<0.002	<0.0002	0.006	0.010	<0.005	0.005	<0.004	<0.02	0.006	0.012
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-8	23-Sep-94	<0.001	3.4	0.32	<0.0005	0.002	<0.001	<0.002	<0.002	<0.0002	<0.002	0.003	<0.005	0.005	<0.004	<0.02	0.005	0.024
LF-8	20-Dec-94	<0.001	2	0.39	<0.0005	<0.001	<0.001	<0.002	<0.002	<0.0002	<0.002	0.004	<0.002	<0.005	<0.04	<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-9	21-Sep-94	<0.001	0.18	0.02	<0.0005	0.008	0.023	<0.002	<0.002	<0.0002	0.004	0.072	<0.005	0.006	<0.01	<0.02	0.002	20
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-10	22-Sep-94	0.001	<0.005	0.02	<0.0005	0.002	0.008	<0.002	0.005	<0.0002	<0.002	0.083	<0.010	<0.005	<0.01	<0.02	0.006	0.075
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-11	23-Sep-94	0.5	<0.02	<0.01	0.2	130	7.1	<1	5	<0.0002	<1	32	0.41	<2	<0.04	<10	<0.5	33000
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

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-12	22-Sep-94	<0.05	<0.005	<0.05	0.02	3.4	2.2	<0.1	1.1	<0.0002	<0.1	6.7	0.02	<0.2	0.02	<1	<0.05	3100
LF-12	19-Dec-94	<0.05	<0.005	<0.5	0.02	3.5	2.3	<0.1	1.1	<0.0002	<0.1	6.9	0.01	<0.2	0.03	<1	<0.05	3200
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-14	21-Sep-94	<0.005	<0.002	<0.05	<0.002	0.065	0.59	<0.01	1.1	<0.0002	<0.01	1.4	0.022	<0.02	<0.004	<0.1	<0.005	240
LF-14	19-Dec-94	<0.005	0.004	<0.05	0.004	0.12	0.96	<0.01	2.9	<0.0002	<0.01	2.3	0.03	<0.02	<0.004	<0.1	0.042	370
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-15	21-Sep-94	0.020	<0.01	<0.05	0.027	2.0	11	<0.01	<0.01	<0.0002	<0.01	29	0.21	<0.02	<0.02	1.1	<0.005	620
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	<0.1	25	<0.0002	<0.1	20	<0.01	<0.3	<0.004	<1	<0.05	4100
LF-16	21-Sep-94	<0.05	<0.005	<0.05	0.03	11	6.2	<0.1	22	<0.0002	<0.1	17	<0.05	<0.2	<0.01	<1	<0.05	3700
LF-16	19-Dec-94	<0.05	<0.005	<0.5	0.03	10	6	<0.1	22	<0.0002	<0.1	17	<0.2	<0.2	<0.01	<1	0.08	3300
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-17	22-Sep-94	<0.001	<0.002	0.06	<0.0005	<0.001	0.005	<0.002	<0.002	<0.0002	0.003	0.015	<0.005	0.005	<0.004	<0.02	0.006	0.035
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
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
	23-Sep-94	0.002	0.21	0.02	<0.0005	<0.005	0.2	<0.002	<0.002	<0.0002	0.006	0.13	<0.005	<0.02	<0.004	<0.1	<0.005	39
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-1	22-Sep-94	<0.001	0.029	0.08	<0.0005	0.005	0.009	<0.002	<0.002	<0.0002	0.007	0.051	<0.005	0.017	<0.01	<0.02	0.010	5.0
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	<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	<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	<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	<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	<1	<0.05	2600
MW-2	22-Sep-94	<0.05	2.1	<0.05	<0.02	5.0	0.65	<0.1	0.1	<0.0002	<0.1	2	<0.010	<0.2	<0.2	<1	<0.05	2300
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	<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

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
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-3	22-Sep-94	<0.005	<0.002	<0.05	<0.002	0.21	0.25	<0.01	0.2	<0.0002	<0.01	0.75	<0.005	<0.02	<0.004	<0.1	<0.005	230
MW-3	19-Dec-94	<0.005	<0.002	<0.05	<0.002	0.094	0.089	<0.01	0.06	<0.0002	<0.01	0.36	<0.002	<0.02	<0.004	<0.1	<0.005	100
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
MW-4	22-Sep-94	<0.001	<0.002	0.02	<0.0005	<0.001	<0.001	<0.002	<0.002	<0.0002	<0.002	0.025	<0.005	<0.005	<0.004	<0.02	0.004	0.039
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 DLM/20 Oct 94 Data proofed by JCK QA/QC by SXS

(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
	25-May-94	<0.05	NA	NA	NA	NA
LF-103 (dup)	25-May-94	<0.05	NA	NA	NA	NA
LF-3	23-Sep-94	<0.05	NA	NA	NA	NA
LF-103 (dup)	23-Sep-94	<0.05	NA	NA	NA	NA
LF-3	20-Dec-94	<0.05	<0.0005	<0.0005	<0.0005	<0.002
LF-103(dup)	20-Dec-94	<0.05	<0.0005	<0.0005	<0.0005	<0.002
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-8	23-Sep-94	0.4	NA	NA	NA	NA
LF-8	20-Dec-94	0.4	0.003	0.0065	0.0009	0.004
LF-9	01-Nov-93	<0.1	NA	NA	NA	NA
LF-109 (dup)	01-Nov-93	<0.1	NA	NA	NA	NA
LF-9	23-Sep-94	NA	<0.005	<0.005	<0.005	<0.01
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
LF-14	21-Sep-94	1.4	NA	NA	NA	NA
LF-14	19-Dec-94	1.0	0.001	<0.0005	0.002	0.012
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
Trip Blank	26-Sep-94	<0.05	NA	NA	NA	NA

Data entered by KAC/25 Jan 95. Data proofed by JCK QA/QC by SXS

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 or by EPA Method 8240.

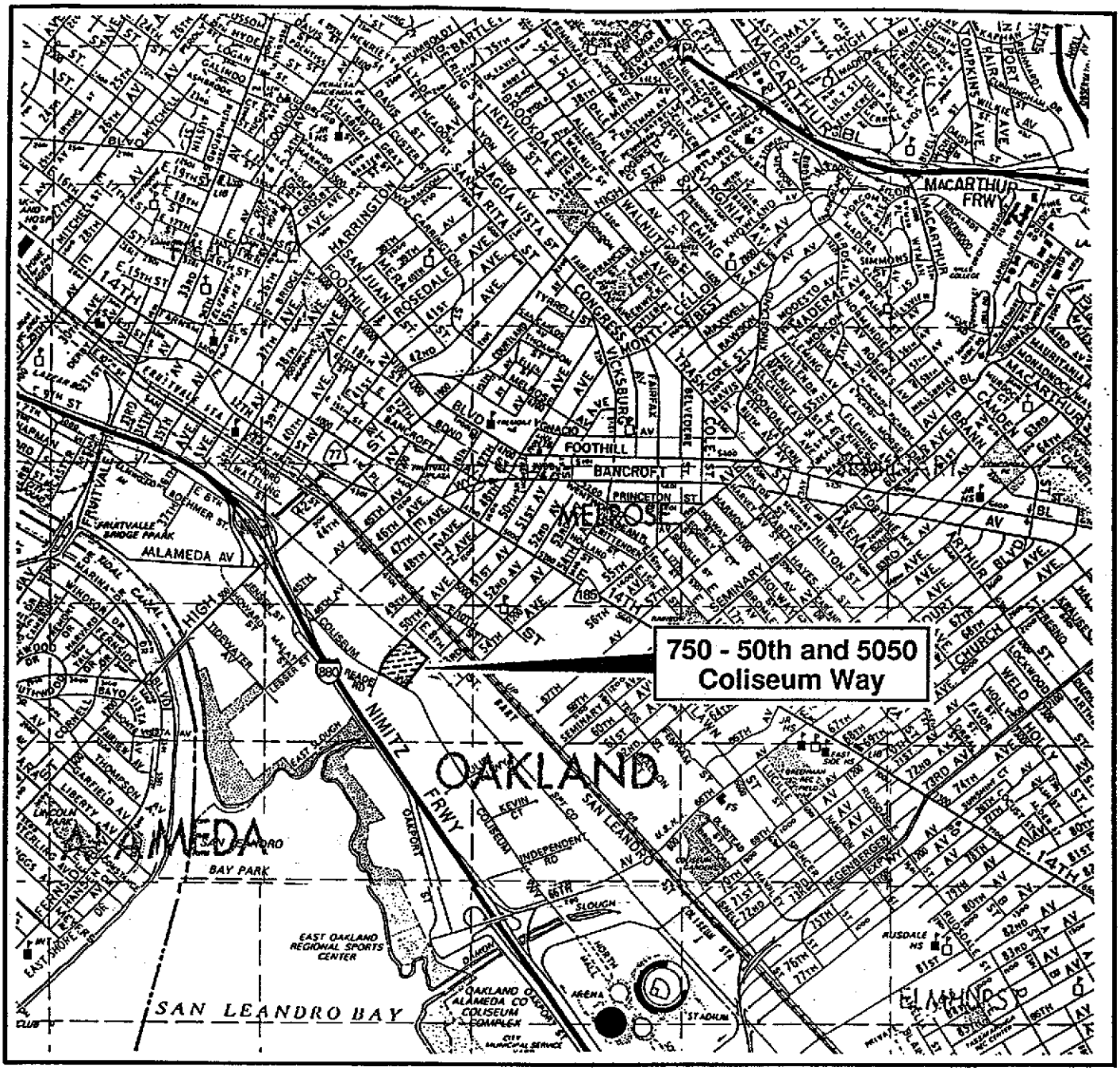
TABLE 4
PETROLEUM HYDROCARBONS DETECTED IN GROUND-WATER SAMPLES
5050 COLISEUM WAY AND 750-50TH AVENUE
OAKLAND, CALIFORNIA
(concentrations reported in parts per million [ppm])

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-3	23-Sep-94	1.2	<0.2	NA	NA
LF-103 (dup)	23-Sep-94	1.0	<0.2	NA	NA
LF-3	20-Dec-94	0.89	0.2	NA	NA
LF-103 (dup)	20-Dec-94	0.88	0.2	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
	23-Sep-94	6.7	<0.2	NA	NA
	20-Dec-94	5.6	0.4	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
LF-14	21-Sep-94	<0.3	<0.2	NA	NA
	19-Dec-94	0.65	<0.2	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 KAC/25 Jan 95. Data proofed by JCK QA/QC by SXS

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 petroluem 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

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Figure 1 : SITE LOCATION MAP

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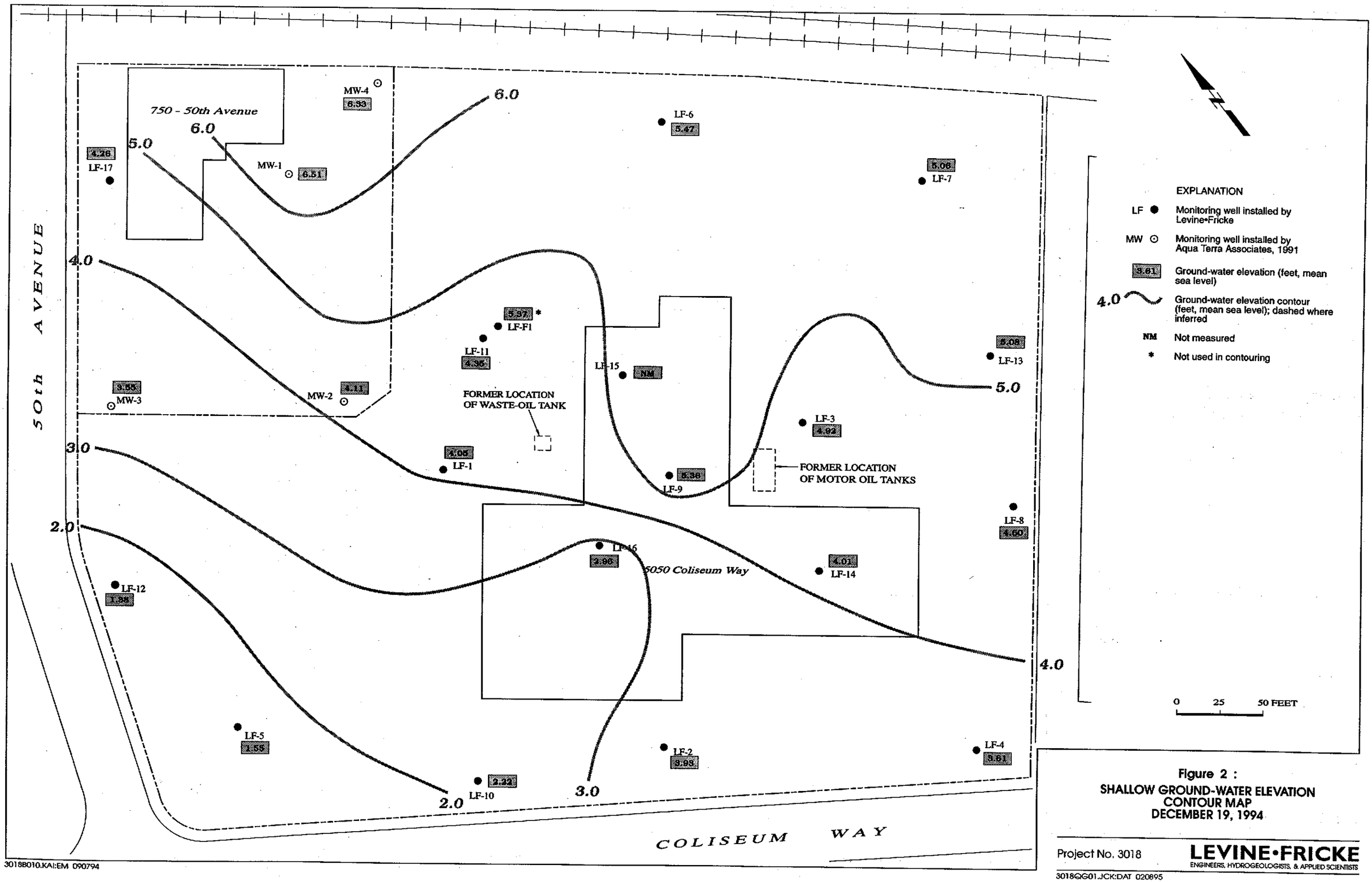

3018B010.KAI:EM 090794

Figure 2 :
SHALLOW GROUND-WATER ELEVATION CONTOUR MAP DECEMBER 19, 1994

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3018QG01.JCK:DAT 020895

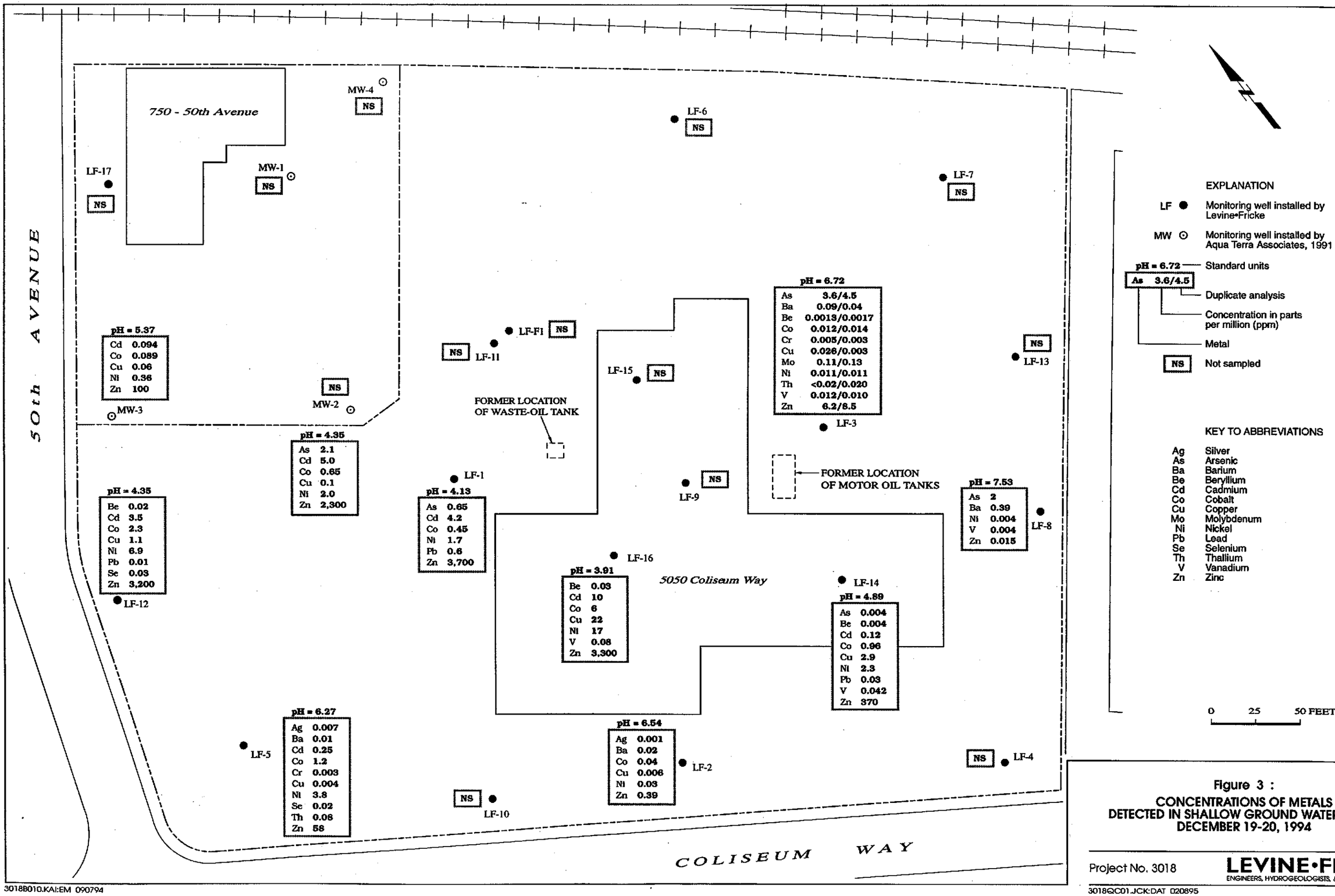

Figure 3 :
CONCENTRATIONS OF METALS
DETECTED IN SHALLOW GROUND WATER (ppm)
DECEMBER 19-20, 1994

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ENGINEERS, HYDROGEOLOGISTS, & APPLIED SCIENTISTS

3018B010.KAI:EM 090794

3018QC01.JCK:DAT 020895

APPENDIX A

WATER-QUALITY SAMPLING FORMS

WATER-QUALITY SAMPLING INFORMATION

Project No.: 3018

Project Name: Volvo 6M

Sample Location: LF-1

Samplers Name: BCC

Sampling Plan Prepared By: JJB

Sampling Method:

Date: 12-20-94

Sample No.: LF-1

☐ FB:

☐ DUP:

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☑ Teflon Bailer

☑ Hand Bail ☐ _____ (Other)

Analyses Requested: Metals

Number and Types of Bottle used: 1 QT Plastic, Field Filtered

Method of Shipment

_____ (Lab Name) ☐ Courier _____

☐ Hand Deliver:

Well Number:

Depth of Water: 3.51

Depth: 20.0

Height of Water Column: 16.49

Volume in Well: 2.64 gal

Well Diameter:

☑ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

16.49	16.49
.6	.2
9894	3.298
1649	3.51
26384	6808

30% DTW 6.81'

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
12:00	3.51	0						Start bailing
12:06		2.75		19.5	6.05	5390		clear/H.tan, sl. turbid
12:13		5.50		19.7	5.49	6760		clear/H.tan, "
12:19		8.25		20.1	5.10	7880		lt. tan "
12:25		11.00		20.1	4.13	29,000		" " " / Aquafor
13:20	6.40							Sample LF-1

...det Depth:

Comments:

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22JUL94RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 3018

Project Name: Volvo GM

Sample Location: LF-2

Samplers Name: BCC

Sampling Plan Prepared By: JJB

Sampling Method:

- ☐ Centrifugal Pump
- ☐ Submersible Pump
- ☒ Hand Bail
- ☐ Disposable Bailer
- ☒ Teflon Bailer
- ☐ _____ (Other)

Date: 12-20-94

Sample No.: LF-2

- ☐ FB:
- ☐ DUP:

Analyses Requested: Metals

Number and Types of Bottle used: 1 QT Plastic, Field Filtered

Method of Shipment

_____ (Lab Name)

- ☐ Courier _____
- ☐ Hand Deliver:

Well Number:

Depth of Water: 5.91

Total Depth: 14.75

Height of Water Column: 8.84

Volume in Well: 1.41 gal

Well Diameter:

- ☒ 2" (0.16 Gallon/Feet)
- ☐ 4" (0.65 Gallon/Feet
- ☐ 5" (1.02 Gallon/Feet)
- ☐ 6" (1.47 Gallon/Feet)

8.84	8.84
.16	.2
5304	1768
884	5.91
14144	7678

80% DTW 7.68'

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
13:44	5.91	0						Start bailing
13:46		1.5		20.7	6.16	4800		lt. tan/sl. turbid
13:48		3.0		20.9	6.59	4200		" "
13:51		4.5		21.0	6.54	4100		" " /dewatered
15:40	7.48							Sample LF-2

Inlet Depth:

Comments:

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22&8.SHRYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 3018

Project Name: Volvo GM

Sample Location: LF-3

Samplers Name: BCC

Sampling Plan Prepared By: JJB

Sampling Method:

Date: 12-20-94

Sample No.: LF-3

☑ FB: LF-3-FB

☑ DUP: LF-103

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☑ Teflon Bailer

☑ Hand Bail ☐ _____ (Other)

Analyses Requested	Number and Types of Bottle used
Metals	1QT Plastic, Field Filtered
TPHg	3 VOA
BTEX TPHd/o	2 L

Method of Shipment

AEN (Lab Name)

☑ Courier _____

☐ Hand Deliver:

8.87 / .16 / 5322 / 887 / 74192

8.87 / .2 / 1774 / 6.06 / 7.83

Note: alledgedly "Hot"

80% DTW 7.83'

Well Number: _____

Depth of Water: 6.06

Depth: 14.93

Height of Water Column: 8.87

Volume in Well: 1.42 gal

Well Diameter:

☑ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
14:02	6.06	0						start bailing
14:05		1.5		18.3	6.69	4000		lt. tan, sl. turbid
14:08		3.0		20.1	6.72	4200		" "
14:12		4.5		20.2	6.72	4300		" "
14:40								sample LF-3
15:40								sample LF-103
14:00								sample LF-3-FB

Inlet Depth: _____

Comments: _____

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22JUL94RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 3018.11

Date: 12/19/9

Project Name: VOLVO GM

Sample No.: LF-5

Sample Location: LF-5

☐ FB: ____

Samplers Name: JCK BCC

☐ DUP: ____

Sampling Plan Prepared By: JJB

Sampling Method: ____

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☒ Hand Bail ☐ ____ (Other)

21.10
6.48
14.62
16
8772
1462
2.3392

14.62 × .8 = 11.696

21.10 − 11.70 = 9.40

80% DTW 9.40

Analyses Requested

Title 22

Number and Types of Bottle used

1 QT PLASTIC

FIELD FILTERED

Method of Shipment

AEN (Lab Name)

☒ Courier ____

☐ Hand Deliver:

Well Number: ____

Depth of Water: 6.48

Total Depth: 21.10

Height of Water Column: 14.62

Volume in Well: 2.34

Well Diameter: ____

☒ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
4:01								START
14:06		2.5		20.0	6.11	21600		TURBID
4:09		5.0		20.2	6.20	21900		TURBID
14:12		7.5		20.5	627	22600		TURBID
4:20	6.45							SAMPLE

Insert Depth: ____

Comments: ____

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22JUL94RYL

LEVINE•FRICKE

Page ____ of ____

WATER-QUALITY SAMPLING INFORMATION

Project No.: 3018

Date: 12-20-94

Project Name: Volvo GM

Sample No.: LF-8

Sample Location: LF-8

☐ FB:

Samplers Name: BCC

☐ DUP:

Sampling Plan Prepared By: JJB

Sampling Method:

☑ Centrifugal Pump ☐ Disposable Bailer
☐ Submersible Pump ☑ Teflon Bailer
☐ Hand Bail ☐ ________ (Other)

8.34 × .65 = 4170 / 5004 / 5.4210
8.34 × 2 = 1.668; 6.31 → 7.978

Analyses Requested	Number and Types of Bottle used
Metals	1 QT Plastic, Field Filtered
TPHg	3 VOA
TPHd/o	2 L

Method of Shipment

________ (Lab Name) ☐ Courier ☐ Hand Deliver:

Note: allegedly "HOT"

Well Number:

Depth of Water: 6.31

Depth: 14.65

Height of Water Column: 8.34

Volume in Well: 5.42 gal.

Well Diameter:

☐ 2" (0.16 Gallon/Feet)
☑ 4" (0.65 Gallon/Feet)
☐ 5" (1.02 Gallon/Feet)
☐ 6" (1.47 Gallon/Feet)

80% DTW 7.98'.

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
15:50	6.31	0						Start purging
15:53	dwtd	6		18.5	7.29	3500		H tan, sl. turbid, vague petro odor
16:05	dwtd	12		18.4	7.49	3400		" " "
16:12	dwtd	18		18.1	7.53	3400		" " "
16:20								Sample LF-8

WTR.QLTY.SMPLNG.INFO.22JUL94RYL

Final Depth:

Comments:
(Recommended Method For Purging Well)

WATER-QUALITY SAMPLING INFORMATION

Project No.: 3018.11 Date: 12/19/94

oject Name: VOLVO GM Sample No.: LF-12

Sample Location: LF-12 ☐ FB: ____

Samplers Name: JCK BCC ☐ DUP: ____

Sampling Plan Prepared By: JJB

Sampling Method: ____

- ☒ Centrifugal Pump
- ☐ Submersible Pump
- ☐ Hand Bail
- ☐ Disposable Bailer
- ☒ Teflon Bailer
- ☐ ____ (Other)

Analyses Requested: TITLE 22 METALS

Number and Types of Bottle used: 1 QT PLASTIC; FIELD FILTERED

Method of Shipment: AEN (Lab Name) ☒ Courier ____ ☐ Hand Deliver:

Well Number: ____

Depth of Water: 7.32

Depth: 14.70

Height of Water Column: 7.38

Volume in Well: 4.28

Well Diameter:
- ☐ 2" (0.16 Gallon/Feet)
- ☐ 4" (0.65 Gallon/Feet)
- ☐ 5" (1.02 Gallon/Feet)
- ☐ 6" (1.47 Gallon/Feet)

14.70
7.32
7.38
.65
3690
4428
47770

7.38
.8
5904

14.70
5190
8.80

80% DTW 8.80

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
13:49								START
13:49	DEWATER	5		18.8	4.73	10160		TURBID / OFF
13:53	11.52							
13:54	DEWATER	10		20.1	4.35	12940		TURBID / OFF
14:35	8.68							SAMPLE

Bailer Depth: ____

Comments: ____

(Recommended Method For Purging Well)

WTRQLTY.SMPLNG.INFO.22JUL94RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 3018.11

Date: 12/19/94

Project Name: VOLVO GM

Sample No.: LF-14

Sample Location: LF-14

☐ FB:

Samplers Name: JCK BCC

☐ DUP:

Sampling Plan Prepared By: UJB

Sampling Method:

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☒ Hand Bail ☐ _____ (Other)

Analyses Requested	Number and Types of Bottle used
TPH-G BTEX	4 L. GL
TPH-D TPH-O	3 VOA
TITLE 22	1 PLASTIC QT.

Method of Shipment: AEN (Lab Name)

☒ Courier

☐ Hand Deliver:

Well Number:

Depth of Water: 7.71

Total Depth: 25.00

Height of Water Column: 17.29

Volume in Well: 2.77

Well Diameter:

☒ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

25.00
7.71
17.29
.16
10374
1729
2.7664

17.29
.80
13832

25.00
13.83
11.17

80% DTW 11.17

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
14:55								START
15:00		3		18.4	4.62	6950		TURB D
15:07		6		18.6	4.89	8790		TURB D
15:09	DEWATER	7						
15:35	11.02							SA - PCE

Product Depth: _____

Comments: _____

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22JUL94RYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 3018.11

Project Name: Volvo GM

Sample Location: LF-16

Samplers Name: JCK BCC

Sampling Plan Prepared By: JJB

Sampling Method:

Date: 12/13/94

Sample No.: LF-16

☐ FB:

☐ DUP:

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☒ Hand Bail ☐ _____ (Other)

Analyses Requested: TITLE 22 METALS

Number and Types of Bottle used: 1 QT PLASTIC

Method of Shipment: AEN (Lab Name)

☒ Courier

☐ Hand Deliver:

Well Number: LF-16

Depth of Water: 8.60

Depth: 24.50

Height of Water Column:

Volume in Well: 2.54

Well Diameter:

☒ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

24.50
8.60
15.90
.16
9540
1590
2.5440

15.90
.8
12720

25.50
1.272
12.78

80% DTW 12.78

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
15:14								START
15:18		82.75		18.5	4.07	18810		TURBID
15:22		5.50		18.7	3.90	22600		TURBID
15:27	DEWATER	8.06		18.9	3.91	22800		TURBID
16:10	11.72							SAMPLE

Inlet Depth:

Comments:

(Recommended Method For Purging Well)

WTR.QLTY.SMPLNG.INFO.22JUL94.FYL

WATER-QUALITY SAMPLING INFORMATION

Project No.: 3018 Date: 12/19/94

Project Name: Volvo GM Sample No.: MW-3

Sample Location: MW-3 ☐ FB: ____

Samplers Name: JCK BCC ☐ DUP: ____

Sampling Plan Prepared By: JJB

Sampling Method: ____

☐ Centrifugal Pump ☐ Disposable Bailer

☐ Submersible Pump ☒ Teflon Bailer

☒ Hand Bail ☐ ____ (Other)

Analyses Requested

~~EPA 8~~

TITLE 22 LETALS

Number and Types of Bottle used

1 QT PLAST

FIELD FILTERED

Method of Shipment

AEN (Lab Name) ☒ Courier ____

☐ Hand Deliver:

Well Number: ____

Depth of Water: 5.46

Well Depth: 27.00

Height of Water Column: 21.54

Volume in Well: 3.45

Well Diameter:

☐ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Feet

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Feet)

27.00
5.46
21.54
.16
12924
2154
3.4464

21.54
.8
17.232

27.00
17.23
9.77

80% DTW 9.77

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temparture °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
12:53								START
12:57		3.5		17.1	5.99	2460		TURBID
13:01		7.0		18.0	5.65	3680		TURBID
13:05		10.5		19.0	5.39	5080		TURBID
13:09		14.0		19.2	5.37	4890		TURBID
13:25	9.75							GALLE

Inlet Depth: ____

Comments: ____

(Recommended Method For Purging Well)

APPENDIX B

LABORATORY CERTIFICATES

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

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

ATTN: JENIFER BEATTY
CLIENT PROJ. ID: 3018.11
CLIENT PROJ. NAME: VOLVO GM
C.O.C. NUMBER: 013277

REPORT DATE: 02/08/95
DATE(S) SAMPLED: 12/19/94-12/20/94
DATE RECEIVED: 12/21/94
AEN WORK ORDER: 9412299

PROJECT SUMMARY:

On December 21, 1994, this laboratory received 11 water sample(s).

Client requested 10 sample(s) be analyzed for inorganic and organic parameters; one sample was placed on hold. Results of analysis are summarized on the following page(s).

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

Revision of report dated 12/31/94

LEVINE-FRICKE

SAMPLE ID: MW-3
AEN LAB NO: 9412299-01
AEN WORK ORDER: 9412299
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 12/19/94
DATE RECEIVED: 12/21/94
REPORT DATE: 02/08/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion/G. Furnace	EPA 200.0	-		Prep Date	12/27/94
#Digestion/ICP	EPA 200.0	-		Prep Date	12/27/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	ND	0.005	mg/L	12/29/94
As Arsenic	EPA 206.2	ND	0.002	mg/L	12/30/94
Ba Barium	EPA 200.7	ND	0.01	mg/L	12/29/94
Be Beryllium	EPA 200.7	ND	0.002	mg/L	12/29/94
Cd Cadmium	EPA 200.7	0.094 *	0.005	mg/L	12/29/94
Co Cobalt	EPA 200.7	0.089 *	0.005	mg/L	12/29/94
Cr Chromium	EPA 200.7	ND	0.01	mg/L	12/29/94
Cu Copper	EPA 200.7	0.06 *	0.01	mg/L	12/29/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	12/29/94
Mo Molybdenum	EPA 200.7	ND	0.01	mg/L	12/29/94
Ni Nickel	EPA 200.7	0.36 *	0.01	mg/L	12/29/94
Pb Lead	EPA 239.2	ND	0.001	mg/L	12/28/94
Sb Antimony	EPA 200.7	ND	0.02	mg/L	12/29/94
Se Selenium	EPA 270.2	ND	0.004	mg/L	12/30/94
Tl Thallium	EPA 200.7	ND	0.05	mg/L	12/29/94
V Vanadium	EPA 200.7	ND	0.005	mg/L	12/29/94
Zn Zinc	EPA 200.7	100 *	0.01	mg/L	12/29/94

Reporting limits elevated for metals due to matrix interference.

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

LEVINE-FRICKE

SAMPLE ID: LF-5
AEN LAB NO: 9412299-02
AEN WORK ORDER: 9412299
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 12/19/94
DATE RECEIVED: 12/21/94
REPORT DATE: 02/08/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion/G. Furnace	EPA 200.0	-		Prep Date	12/27/94
#Digestion/ICP	EPA 200.0	-		Prep Date	12/27/94
CCR 17 Metals					
Ag Silver	EPA 200.7	0.007 *	0.001	mg/L	12/28/94
As Arsenic	EPA 206.2	ND	0.01	mg/L	12/29/94
Ba Barium	EPA 200.7	0.01 *	0.002	mg/L	12/28/94
Be Beryllium	EPA 200.7	ND	0.0005	mg/L	12/28/94
Cd Cadmium	EPA 200.7	0.25 *	0.001	mg/L	12/28/94
Co Cobalt	EPA 200.7	1.2 *	0.001	mg/L	12/28/94
Cr Chromium	EPA 200.7	0.003 *	0.002	mg/L	12/28/94
Cu Copper	EPA 200.7	0.004 *	0.002	mg/L	12/28/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	12/29/94
Mo Molybdenum	EPA 200.7	ND	0.002	mg/L	12/28/94
Ni Nickel	EPA 200.7	3.8 *	0.002	mg/L	12/28/94
Pb Lead	EPA 200.7	ND	0.008	mg/L	12/28/94
Sb Antimony	EPA 200.7	ND	0.005	mg/L	12/28/94
Se Selenium	EPA 270.2	0.02 *	0.02	mg/L	12/29/94
Tl Thallium	EPA 200.7	0.08 *	0.01	mg/L	12/28/94
V Vanadium	EPA 200.7	ND	0.001	mg/L	12/28/94
Zn Zinc	EPA 200.7	58 *	0.02	mg/L	12/29/94

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

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

LEVINE-FRICKE

SAMPLE ID: LF-12
AEN LAB NO: 9412299-03
AEN WORK ORDER: 9412299
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 12/19/94
DATE RECEIVED: 12/21/94
REPORT DATE: 02/08/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion/G. Furnace	EPA 200.0	-		Prep Date	12/27/94
#Digestion/ICP	EPA 200.0	-		Prep Date	12/27/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	ND	0.05	mg/L	12/28/94
As Arsenic	EPA 206.2	ND	0.005	mg/L	12/29/94
Ba Barium	EPA 200.7	ND	0.5	mg/L	12/28/94
Be Beryllium	EPA 200.7	0.02 *	0.02	mg/L	12/28/94
Cd Cadmium	EPA 200.7	3.5 *	0.05	mg/L	12/28/94
Co Cobalt	EPA 200.7	2.3 *	0.05	mg/L	12/28/94
Cr Chromium	EPA 200.7	ND	0.1	mg/L	12/28/94
Cu Copper	EPA 200.7	1.1 *	0.1	mg/L	12/29/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	12/29/94
Mo Molybdenum	EPA 200.7	ND	0.1	mg/L	12/28/94
Ni Nickel	EPA 200.7	6.9 *	0.1	mg/L	12/28/94
Pb Lead	EPA 239.2	0.01 *	0.010	mg/L	12/28/94
Sb Antimony	EPA 200.7	ND	0.2	mg/L	12/28/94
Se Selenium	EPA 270.2	0.03 *	0.01	mg/L	12/29/94
Tl Thallium	EPA 200.7	ND	1	mg/L	12/28/94
V Vanadium	EPA 200.7	ND	0.05	mg/L	12/28/94
Zn Zinc	EPA 200.7	3,200 *	0.1	mg/L	12/29/94

Reporting limits elevated for metals due to matrix interference.

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

LEVINE-FRICKE

SAMPLE ID: LF-14
AEN LAB NO: 9412299-04
AEN WORK ORDER: 9412299
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 12/19/94
DATE RECEIVED: 12/21/94
REPORT DATE: 02/08/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	1 *	0.5	ug/L	12/30/94
Toluene	108-88-3	2 *	0.5	ug/L	12/30/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	12/30/94
Xylenes, Total	1330-20-7	12 *	2	ug/L	12/30/94
Purgeable HCs as Gasoline	5030/GCFID	1.0 *	0.05	mg/L	12/30/94
#Digestion/G. Furnace	EPA 200.0	-		Prep Date	12/27/94
#Digestion/ICP	EPA 200.0	-		Prep Date	12/27/94
#Extraction for TPH	EPA 3510	-		Extrn Date	12/22/94
TPH as Diesel	GC-FID	0.65 *	0.05	mg/L	12/28/94
TPH as Oil	GC-FID	ND	0.2	mg/L	12/28/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	ND	0.005	mg/L	12/29/94
As Arsenic	EPA 206.2	0.004 *	0.002	mg/L	12/29/94
Ba Barium	EPA 200.7	ND	0.01	mg/L	12/29/94
Be Beryllium	EPA 200.7	0.004 *	0.002	mg/L	12/29/94
Cd Cadmium	EPA 200.7	0.12 *	0.005	mg/L	12/29/94
Co Cobalt	EPA 200.7	0.96 *	0.005	mg/L	12/29/94
Cr Chromium	EPA 200.7	ND	0.01	mg/L	12/29/94
Cu Copper	EPA 200.7	2.9 *	0.01	mg/L	12/29/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	12/29/94
Mo Molybdenum	EPA 200.7	ND	0.01	mg/L	12/29/94
Ni Nickel	EPA 200.7	2.3 *	0.01	mg/L	12/29/94
Pb Lead	EPA 239.2	0.03 *	0.007	mg/L	12/28/94
Sb Antimony	EPA 200.7	ND	0.02	mg/L	12/29/94
Se Selenium	EPA 270.2	ND	0.004	mg/L	12/29/94
Tl Thallium	EPA 200.7	ND	0.05	mg/L	12/29/94
V Vanadium	EPA 200.7	0.042 *	0.005	mg/L	12/29/94
Zn Zinc	EPA 200.7	370 *	0.01	mg/L	12/29/94

Reporting limits elevated for metals due to matrix interference.

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

LEVINE-FRICKE

SAMPLE ID: LF-16
AEN LAB NO: 9412299-05
AEN WORK ORDER: 9412299
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 12/19/94
DATE RECEIVED: 12/21/94
REPORT DATE: 02/08/95

ANALYTE	METHOD/ CAS#	RESULT		REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion/G. Furnace	EPA 200.0	-			Prep Date	12/27/94
#Digestion/ICP	EPA 200.0	-			Prep Date	12/27/94
CCR 17 Metals (Low Level)						
Ag Silver	EPA 200.7	ND		0.05	mg/L	12/28/94
As Arsenic	EPA 206.2	ND		0.005	mg/L	12/29/94
Ba Barium	EPA 200.7	ND		0.5	mg/L	12/28/94
Be Beryllium	EPA 200.7	0.03	*	0.02	mg/L	12/28/94
Cd Cadmium	EPA 200.7	10	*	0.05	mg/L	12/28/94
Co Cobalt	EPA 200.7	6.0	*	0.05	mg/L	12/28/94
Cr Chromium	EPA 200.7	ND		0.1	mg/L	12/28/94
Cu Copper	EPA 200.7	22	*	0.1	mg/L	12/29/94
Hg Mercury	EPA 245.1	ND		0.0002	mg/L	12/29/94
Mo Molybdenum	EPA 200.7	ND		0.1	mg/L	12/28/94
Ni Nickel	EPA 200.7	17	*	0.1	mg/L	12/28/94
Pb Lead	EPA 239.2	ND		0.2	mg/L	12/28/94
Sb Antimony	EPA 200.7	ND		0.2	mg/L	12/28/94
Se Selenium	EPA 270.2	ND		0.01	mg/L	12/29/94
Tl Thallium	EPA 200.7	ND		1	mg/L	12/28/94
V Vanadium	EPA 200.7	0.08	*	0.05	mg/L	12/28/94
Zn Zinc	EPA 200.7	3,300	*	0.1	mg/L	12/29/94

Reporting limits elevated for metals due to matrix interference.

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

LEVINE-FRICKE

SAMPLE ID: LF-8
AEN LAB NO: 9412299-06
AEN WORK ORDER: 9412299
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 12/20/94
DATE RECEIVED: 12/21/94
REPORT DATE: 02/08/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	3 *	0.5	ug/L	12/29/94
Toluene	108-88-3	0.9 *	0.5	ug/L	12/29/94
Ethylbenzene	100-41-4	6.5 *	0.5	ug/L	12/29/94
Xylenes, Total	1330-20-7	4 *	2	ug/L	12/29/94
Purgeable HCs as Gasoline	5030/GCFID	0.4 *	0.05	mg/L	12/29/94
#Digestion/G. Furnace	EPA 200.0	-		Prep Date	12/27/94
#Digestion/ICP	EPA 200.0	-		Prep Date	12/27/94
#Extraction for TPH	EPA 3510	-		Extrn Date	12/22/94
TPH as Diesel	GC-FID	5.6 *	0.05	mg/L	12/28/94
TPH as Oil	GC-FID	0.4 *	0.2	mg/L	12/28/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	ND	0.001	mg/L	12/28/94
As Arsenic	EPA 206.2	2.0 *	0.002	mg/L	12/29/94
Ba Barium	EPA 200.7	0.39 *	0.01	mg/L	12/28/94
Be Beryllium	EPA 200.7	ND	0.0005	mg/L	12/28/94
Cd Cadmium	EPA 200.7	ND	0.001	mg/L	12/28/94
Co Cobalt	EPA 200.7	ND	0.001	mg/L	12/28/94
Cr Chromium	EPA 200.7	ND	0.002	mg/L	12/28/94
Cu Copper	EPA 200.7	ND	0.002	mg/L	12/29/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	12/29/94
Mo Molybdenum	EPA 200.7	ND	0.002	mg/L	12/28/94
Ni Nickel	EPA 200.7	0.004 *	0.002	mg/L	12/28/94
Pb Lead	EPA 239.2	ND	0.002	mg/L	12/28/94
Sb Antimony	EPA 200.7	ND	0.005	mg/L	12/28/94
Se Selenium	EPA 270.2	ND	0.04	mg/L	12/29/94
Tl Thallium	EPA 200.7	ND	0.02	mg/L	12/28/94
V Vanadium	EPA 200.7	0.004 *	0.001	mg/L	12/28/94
Zn Zinc	EPA 200.7	0.015 *	0.005	mg/L	12/29/94

Reporting limits elevated for Selenium due to matrix interference.

ND = Not detected at or above the reporting limit
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LEVINE-FRICKE

SAMPLE ID: LF-1
AEN LAB NO: 9412299-07
AEN WORK ORDER: 9412299
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 12/20/94
DATE RECEIVED: 12/21/94
REPORT DATE: 02/08/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion/G. Furnace	EPA 200.0	-		Prep Date	12/27/94
#Digestion/ICP	EPA 200.0	-		Prep Date	12/27/94
CCR 17 Metals					
Ag Silver	EPA 200.7	ND	0.05	mg/L	12/28/94
As Arsenic	EPA 206.2	0.65 *	0.002	mg/L	12/29/94
Ba Barium	EPA 200.7	ND	0.5	mg/L	12/28/94
Be Beryllium	EPA 200.7	ND	0.02	mg/L	12/28/94
Cd Cadmium	EPA 200.7	4.2 *	0.05	mg/L	12/28/94
Co Cobalt	EPA 200.7	0.45 *	0.05	mg/L	12/28/94
Cr Chromium	EPA 200.7	ND	0.1	mg/L	12/28/94
Cu Copper	EPA 200.7	ND	0.1	mg/L	12/28/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	12/29/94
Mo Molybdenum	EPA 200.7	ND	0.1	mg/L	12/28/94
Ni Nickel	EPA 200.7	1.7 *	0.1	mg/L	12/28/94
Pb Lead	EPA 200.7	0.6 *	0.4	mg/L	12/28/94
Sb Antimony	EPA 200.7	ND	0.2	mg/L	12/28/94
Se Selenium	EPA 270.2	ND	0.04	mg/L	12/29/94
Tl Thallium	EPA 200.7	ND	1	mg/L	12/28/94
V Vanadium	EPA 200.7	ND	0.05	mg/L	12/28/94
Zn Zinc	EPA 200.7	3,700 *	0.1	mg/L	12/29/94

Reporting limits elevated for metals due to matrix interference.

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LEVINE-FRICKE

SAMPLE ID: LF-3
AEN LAB NO: 9412299-09
AEN WORK ORDER: 9412299
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 12/20/94
DATE RECEIVED: 12/21/94
REPORT DATE: 02/08/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	12/29/94
Toluene	108-88-3	ND	0.5	ug/L	12/29/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	12/29/94
Xylenes, Total	1330-20-7	ND	2	ug/L	12/29/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	12/29/94
#Digestion/G. Furnace	EPA 200.0	-		Prep Date	12/27/94
#Digestion/ICP	EPA 200.0	-		Prep Date	12/27/94
#Extraction for TPH	EPA 3510	-		Extrn Date	12/22/94
TPH as Diesel	GC-FID	0.89 *	0.05	mg/L	12/28/94
TPH as Oil	GC-FID	0.2 *	0.2	mg/L	12/28/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	ND	0.001	mg/L	12/28/94
As Arsenic	EPA 206.2	3.6 *	0.002	mg/L	12/29/94
Ba Barium	EPA 200.7	0.09 *	0.002	mg/L	12/28/94
Be Beryllium	EPA 200.7	0.0013 *	0.0005	mg/L	12/28/94
Cd Cadmium	EPA 200.7	ND	0.001	mg/L	12/28/94
Co Cobalt	EPA 200.7	0.012 *	0.001	mg/L	12/28/94
Cr Chromium	EPA 200.7	0.005 *	0.002	mg/L	12/28/94
Cu Copper	EPA 200.7	0.026 *	0.002	mg/L	12/29/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	12/29/94
Mo Molybdenum	EPA 200.7	0.11 *	0.002	mg/L	12/28/94
Ni Nickel	EPA 200.7	0.011 *	0.002	mg/L	12/28/94
Pb Lead	EPA 239.2	ND	0.001	mg/L	12/28/94
Sb Antimony	EPA 200.7	ND	0.004	mg/L	12/28/94
Se Selenium	EPA 270.2	ND	0.04	mg/L	12/29/94
Tl Thallium	EPA 200.7	ND	0.01	mg/L	12/28/94
V Vanadium	EPA 200.7	0.012 *	0.001	mg/L	12/28/94
Zn Zinc	EPA 200.7	6.2 *	0.005	mg/L	12/28/94

Reporting limits elevated for Selenium due to matrix interference.

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LEVINE-FRICKE

SAMPLE ID: LF-103
AEN LAB NO: 9412299-10
AEN WORK ORDER: 9412299
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 12/20/94
DATE RECEIVED: 12/21/94
REPORT DATE: 02/08/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	12/30/94
Toluene	108-88-3	ND	0.5	ug/L	12/30/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	12/30/94
Xylenes, Total	1330-20-7	ND	2	ug/L	12/30/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	12/30/94
#Digestion/G. Furnace	EPA 200.0	-		Prep Date	12/27/94
#Digestion/ICP	EPA 200.0	-		Prep Date	12/27/94
#Extraction for TPH	EPA 3510	-		Extrn Date	12/22/94
TPH as Diesel	GC-FID	0.88 *	0.05	mg/L	12/28/94
TPH as Oil	GC-FID	0.2 *	0.2	mg/L	12/28/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	ND	0.001	mg/L	12/28/94
As Arsenic	EPA 206.2	4.5 *	0.002	mg/L	12/29/94
Ba Barium	EPA 200.7	0.04 *	0.002	mg/L	12/28/94
Be Beryllium	EPA 200.7	0.0017 *	0.0005	mg/L	12/28/94
Cd Cadmium	EPA 200.7	ND	0.001	mg/L	12/28/94
Co Cobalt	EPA 200.7	0.014 *	0.001	mg/L	12/28/94
Cr Chromium	EPA 200.7	0.003 *	0.002	mg/L	12/28/94
Cu Copper	EPA 200.7	0.003 *	0.002	mg/L	12/29/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	12/29/94
Mo Molybdenum	EPA 200.7	0.13 *	0.002	mg/L	12/28/94
Ni Nickel	EPA 200.7	0.011 *	0.002	mg/L	12/28/94
Pb Lead	EPA 239.2	ND	0.001	mg/L	12/28/94
Sb Antimony	EPA 200.7	ND	0.004	mg/L	12/28/94
Se Selenium	EPA 270.2	ND	0.04	mg/L	12/29/94
Tl Thallium	EPA 200.7	0.02 *	0.01	mg/L	12/28/94
V Vanadium	EPA 200.7	0.010 *	0.001	mg/L	12/28/94
Zn Zinc	EPA 200.7	8.5 *	0.005	mg/L	12/28/94

Reporting limits elevated for Selenium due to matrix interference.

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

LEVINE-FRICKE

SAMPLE ID: LF-2
AEN LAB NO: 9412299-11
AEN WORK ORDER: 9412299
CLIENT PROJ. ID: 3018.11

DATE SAMPLED: 12/20/94
DATE RECEIVED: 12/21/94
REPORT DATE: 02/08/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Digestion/G. Furnace	EPA 200.0	-		Prep Date	12/27/94
#Digestion/ICP	EPA 200.0	-		Prep Date	12/27/94
CCR 17 Metals (Low Level)					
Ag Silver	EPA 200.7	0.001 *	0.001	mg/L	12/28/94
As Arsenic	EPA 206.2	ND	0.002	mg/L	12/30/94
Ba Barium	EPA 200.7	0.02 *	0.01	mg/L	12/28/94
Be Beryllium	EPA 200.7	ND	0.0005	mg/L	12/28/94
Cd Cadmium	EPA 200.7	ND	0.001	mg/L	12/28/94
Co Cobalt	EPA 200.7	0.040 *	0.001	mg/L	12/28/94
Cr Chromium	EPA 200.7	ND	0.002	mg/L	12/28/94
Cu Copper	EPA 200.7	0.006 *	0.002	mg/L	12/29/94
Hg Mercury	EPA 245.1	ND	0.0002	mg/L	12/29/94
Mo Molybdenum	EPA 200.7	ND	0.002	mg/L	12/28/94
Ni Nickel	EPA 200.7	0.030 *	0.002	mg/L	12/28/94
Pb Lead	EPA 239.2	ND	0.002	mg/L	12/28/94
Sb Antimony	EPA 200.7	ND	0.005	mg/L	12/28/94
Se Selenium	EPA 270.2	ND	0.004	mg/L	12/29/94
Tl Thallium	EPA 200.7	ND	0.02	mg/L	12/28/94
V Vanadium	EPA 200.7	ND	0.001	mg/L	12/28/94
Zn Zinc	EPA 200.7	0.39 *	0.005	mg/L	12/28/94

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

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9412299

CLIENT PROJECT ID: 3018.11

Quality Control Summary

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

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9412299
DATE EXTRACTED: 12/22/94
INSTRUMENT: C
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
12/28/94	LF-14	04	68
12/28/94	LF-8	06	80
12/28/94	LF-3	09	61
12/28/94	LF-103	10	60
QC Limits:			30-120

DATE EXTRACTED: 12/21/94
DATE ANALYZED: 12/21/94
SAMPLE SPIKED: DI WATER
INSTRUMENT: C

Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Diesel	2.01	87	5	65-103	12

AEN LAB NO: 1222-BLANK
DATE EXTRACTED: 12/22/94
DATE ANALYZED: 12/22/94

Method Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9412299
AEN LAB NO: 1229-BLANK
DATE ANALYZED: 12/29/94
MATRIX: WATER

Method Blank

	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Benzene	71-43-2	ND	0.5
Toluene	108-88-3	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Xylenes	1330-20-7	ND	2
HCs as Gasoline		ND mg/L	0.05 mg/L

AEN LAB NO: 1230-BLANK
DATE ANALYZED: 12/30/94
MATRIX: WATER

Method Blank

	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Benzene	71-43-2	ND	0.5
Toluene	108-88-3	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Xylenes	1330-20-7	ND	2
HCs as Gasoline		ND mg/L	0.05 mg/L

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9412299
INSTRUMENT: H
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
12/30/94	LF-14	04	96
12/29/94	LF-8	06	96
12/29/94	LF-3	09	97
12/30/94	LF-103	10	97
QC Limits:			92-109

DATE ANALYZED: 12/30/94
SAMPLE SPIKED: 9412289-02
INSTRUMENT: H

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	16.7	105	4	85-109	17
Toluene	48.8	109	4	87-111	16
Hydrocarbons as Gasoline	500	88	8	66-117	19

QUALITY CONTROL DATA

AEN JOB NO: 9412299
SAMPLE SPIKED: DI WATER
DATE(S) ANALYZED: 12/28-29/94
MATRIX: WATER

Method Blank and Spike Recovery Summary

Analyte	Inst./ Method	Blank Result (mg/L)	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/200.7	ND	0.005	104	4	64-122	8
As, Arsenic	4000/206.2	ND	0.04	100	1	84-118	12
Ba, Barium	ICP/200.7	ND	0.20	107	<1	85-116	5
Be, Beryllium	ICP/200.7	ND	0.20	107	<1	85-116	5
Cd, Cadmium	ICP/200.7	ND	0.01	105	5	78-119	10
Co, Cobalt	ICP/200.7	ND	0.05	109	<1	89-116	6
Cr, Chromium	ICP/200.7	ND	0.02	108	3	87-117	8
Cu, Copper	ICP/200.7	ND	0.03	99	<1	85-113	6
Hg, Mercury	Hg/245.1	ND	2.00 ug/L	99	1	80-120	15
Mo, Molybdenum	ICP/200.7	ND	0.04	101	1	86-120	6
Ni, Nickel	ICP/200.7	ND	0.05	108	1	88-116	6
Pb, Lead	4000/239.2	ND	0.02	100	<1	80-120	15
Sb, Antimony	ICP/200.7	ND	0.10	103	2	82-123	8
Se, Selenium	4000/270.2	ND	0.08	100	3	80-114	14
Tl, Thallium	ICP/200.7	ND	0.10	100	6	77-119	9
V, Vanadium	ICP/200.7	ND	0.05	108	1	89-114	5
Zn, Zinc	ICP/200.7	ND	0.05	107	1	87-117	7

QUALITY CONTROL DATA

AEN JOB NO: 9412299
SAMPLE(S) SPIKED: 9412299-08 (ICP); 9412299-04 (4000); 9412299-03 (HG);
DATE ANALYZED: 12/28-29/94
MATRIX: WATER

Matrix Spike Recovery Summary

Analyte	Inst./ Method	Sample Result (mg/L)	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/200.7	ND	0.005	109	6	78-111	9
As, Arsenic	4000/206.2	0.004	0.04	88	1	75-125	20
Ba, Barium	ICP/200.7	ND	0.20	106	1	83-108	5
Be, Beryllium	ICP/200.7	ND	0.005	103	2	64-104	7
Cd, Cadmium	ICP/200.7	ND	0.01	110	2	64-128	15
Co, Cobalt	ICP/6010	ND	0.05	109	1	74-121	6
Cr, Chromium	ICP/200.7	ND	0.02	110	<1	75-114	7
Cu, Copper	ICP/200.7	ND	0.30	110	2	81-114	5
Hg, Mercury	Hg/245.1	ND	2.00 ug/L	93	5	80-120	15
Mo, Molybdenum	ICP/200.7	ND	0.04	100	1	76-119	7
Ni, Nickel	ICP/200.7	ND	0.05	106	2	77-113	5
Pb, Lead	4000/239.2	N/A	N/A	N/A	N/A	N/A	N/A
Sb, Antimony	ICP/200.7	ND	0.10	98	1	79-116	8
Se, Selenium	4000/270.2	ND	0.08	57	1	0-147	20
Tl, Thallium	ICP/200.7	ND	0.10	98	1	67-116	7
V, Vanadium	ICP/200.7	ND	0.05	107	<1	77-114	6
Zn, Zinc	ICP/200.7	ND	0.05	110	1	68-116	7

N/A: Not applicable; spike overwhelmed

*** END OF REPORT ***

G-1, S-1
R-1, S-A/C
R-3, S-2

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

94/2299

Project No.: 3018.11	Field Logbook No.:	Date: 12/19/94
Project Name: Volvo GM	Project Location: OAKLAND, CA.	Serial No.: Nº 013277
Sampler (Signature) :		Samplers: JCK

SAMPLES						ANALYSES							
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	TITLE 22 METALS	TPH-D	TPH-O	TPH-G	BTEX	HOLD	RUSH
MW-3	12/19/94	13:25	01A	1	H2O		X						
LF-5		14:20	02A				X						
LF-12		14:35	03A				X						
LF-14		15:35	04A-H	8			X	X	X	X	X		
LF-16		16:10	05A	1			X						
LF-8	12/21/94	1620	06A-F	6			X	X	X	X	X		
LF-1		1320	07A	1			X						
LF-3 FB		1400	08A-F	6			X	X	X	X	X	X	
LF-3		14:40	09A-F	6			X	X	X	X	X		
LF-103		15:40	10A-F	6			X	X	X	X	X		
LF-2		1540	11A	1			X						

REMARKS:

STD TAT

TITLE 22 METALS TO BASIN PLAN DETECTION LIMITS

~~[illegible]~~ SAMPLES FOR METAL ANALYSIS FIELD FILTERED

attn: Jennifer Beatty

RELINQUISHED BY: (Signature)	DATE 12/21/94	TIME 11:00	RECEIVED BY: (Signature)	DATE 12-21-94	TIME 11:00
RELINQUISHED BY: (Signature) Robert W. Mann	DATE 12-21-94	TIME 14:30	RECEIVED BY: (Signature)	DATE 12/21/94	TIME 14:30 FH
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature) Emily Hamit	DATE 12/21/94	TIME 1430
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
PLEASANT HILL, CA

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink)

FORM NO. 86/COC/ARF