LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

October 29, 1993

LF 2407.00-14

Mr. Paul Smith
Hazardous Materials Division
Department of Environmental Health
Alameda County Health Care Services Agency
80 Swan Way
Oakland, California 94621

Subject: Quarterly Ground-Water Monitoring Report for the Period from July 1 through September 30, 1993, 5050 Coliseum Way and 750-50th Avenue, Oakland, California

Dear Mr. Smith:

On behalf of Volvo GM, and in accordance with our work plan dated January 6, 1993 and submitted to the Alameda County Health Care Services Agency, we have prepared this quarterly monitoring report presenting results of recent ground-water sampling and analysis conducted at the properties located at 5050 Coliseum Way and 750-50th Avenue (collectively referenced as "the Site"; Figure 1).

Levine•Fricke collected water-level measurements in July, August, and September, and collected ground-water samples from 11 on-site wells on August 31 and September 1, 1993. Ground-water samples were submitted to a state-certified analytical laboratory for analysis of Title 22 metals.

If you have any questions or comments concerning the results presented in this report, please do not hesitate to call me or Jenifer Beatty.

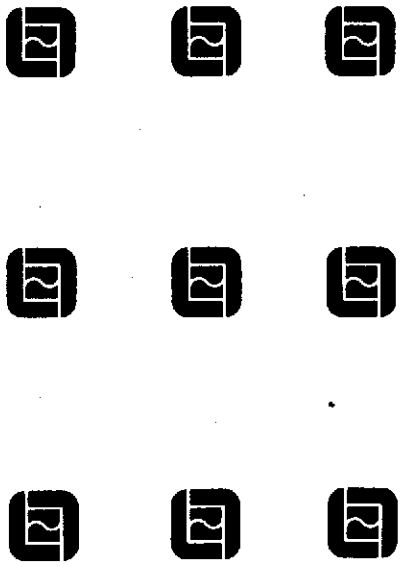
Sincerely,

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.
Larry Bazel, Beveridge & Diamond

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



Quarterly Ground-Water Monitoring Report for the Period
from July 1 through September 30, 1993
5050 Coliseum Way and 750-50th Avenue
Oakland, California

October 29, 1993
2407.00-14

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

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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.

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

10/29/93
Date

October 29, 1993 2407.00-14

QUARTERLY GROUND-WATER MONITORING REPORT FOR THE PERIOD FROM JULY 1 THROUGH SEPTEMBER 30, 1993 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 July 1 through September 30, 1993, 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 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 July, August, and September 1993. 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 July 1993 indicated a general decrease in ground-water elevations in most wells relative to June 1993. Ground-water elevation decreases were variable across the Site and ranged from 0.05 foot in well LF-1 to 0.86 feet in well MW-1. Depth-to-water measurements in August and September 1993 indicated a further drop in ground-water elevations relative to June 1993.

Ground-water elevation contours for August 31, 1993 are presented in Figure 2. Ground-water elevation data for July and September were consistent with those for August 1993 and indicated that the general ground-water flow direction was toward the west and northwest during all three months. Ground-water flow indicated a lateral hydraulic gradient (calculated for August 1993) which ranged from approximately

0.002 foot per foot (ft/ft; as calculated between wells LF-3 and LF-2) to 0.014 ft/ft (as calculated between wells LF-1 and LF-5).

3.0 GROUND-WATER QUALITY

Ground-water samples were collected from 11 monitoring wells on August 31 and September 1, 1993. Analytical results for metals analysis are presented in Figure 3 and Table 2. Laboratory certificates are presented in Appendix B. Analytical results for ground-water samples collected during the recent round of sampling were generally consistent with results reported previously for the Site.

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 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.

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. 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-1. The duplicate sample was submitted for Title 22 metals analysis and the field blank was submitted to the laboratory on a hold basis, pending analytical results.

3.2 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.

No antimony, chromium, lead, mercury, or selenium was detected in samples collected from the Site. Concentrations of 0.5 parts per million (ppm) or less of barium, beryllium, copper, molybdenum, silver, thallium, and vanadium were detected in samples collected from various wells on the Site.

Zinc was detected in all of the 11 wells sampled at concentrations ranging from 0.016 ppm in well MW-4 to 13,000 ppm in well LF-1. The duplicate sample for that well contained 7,200 ppm zinc. Arsenic was also detected in all of the 11 wells. Concentrations of arsenic ranged from 0.009 ppm in MW-4 to 5.0 ppm in LF-2. Cobalt was detected in samples from 9 of the 11 wells sampled at concentrations ranging from 0.006 ppm in LF-4 to 2.3 ppm in LF-1. The highest concentration of cadmium (32.0 ppm) was detected in the sample collected from well LF-1. Cadmium was detected in six other monitoring wells with the lowest concentration (0.021 ppm) detected in LF-2.

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. Values of pH of 6.4 or less were measured for ground-water samples collected from six wells. The pH values recorded for the remaining five wells ranged from 6.58 to 7.17 (Figure 3).

Analytical results for the duplicate sample collected from well LF-1 (LF-101) generally showed lower concentrations of metals relative to the primary sample collected from that well (LF-1). These results are consistent with the analytical results for the second quarter sampling round (May 1993) for LF-1. Initially, it was thought possible that the variability between the primary and duplicate samples during that round was the result of using the same disposable filter for filtering the duplicate sample; however, a new filter was used to filter the duplicate sample during the recent sampling event and the variability still occurred.

4.0 PROJECT ACTIVITIES TO BE CONDUCTED DURING THE PERIOD FROM OCTOBER 1 THROUGH DECEMBER 30, 1993

The following activities will be conducted during the period from October 1 through December 31, 1993:

- Water-level measurements will be collected from all on-site monitoring wells on a monthly basis.
- Ground-water samples will be collected from all monitoring wells in November 1993 in accordance to Levine·Fricke's work plan dated January 6, 1993.
- Remedial investigation field activities as described in the January 15, 1993 work plan, including soil sampling, well installation, and ground-water sampling, will be conducted during the fourth quarter of 1993.
- Soil and ground-water samples will be submitted to American Environmental Network, Inc. (AEN), of Pleasant Hill, California, for analysis of Title 22 metals and other constituents as described in the RI work plan.

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
SHALLOW 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
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
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
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
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
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
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

TABLE 1
SHALLOW 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)
		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
MW-1	10.21	07-Nov-91	6.13	4.24
		26-Oct-92	7.58	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
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
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
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

Data entered by MEK/4 Oct 93 Data proofed by NPDG

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

TABLE 2
CONCENTRATIONS OF METALS IN GROUND-WATER SAMPLES
5050 COLISEUM WAY AND 750-50TH AVENUE
(All results in milligrams per liter [mg/l]*)

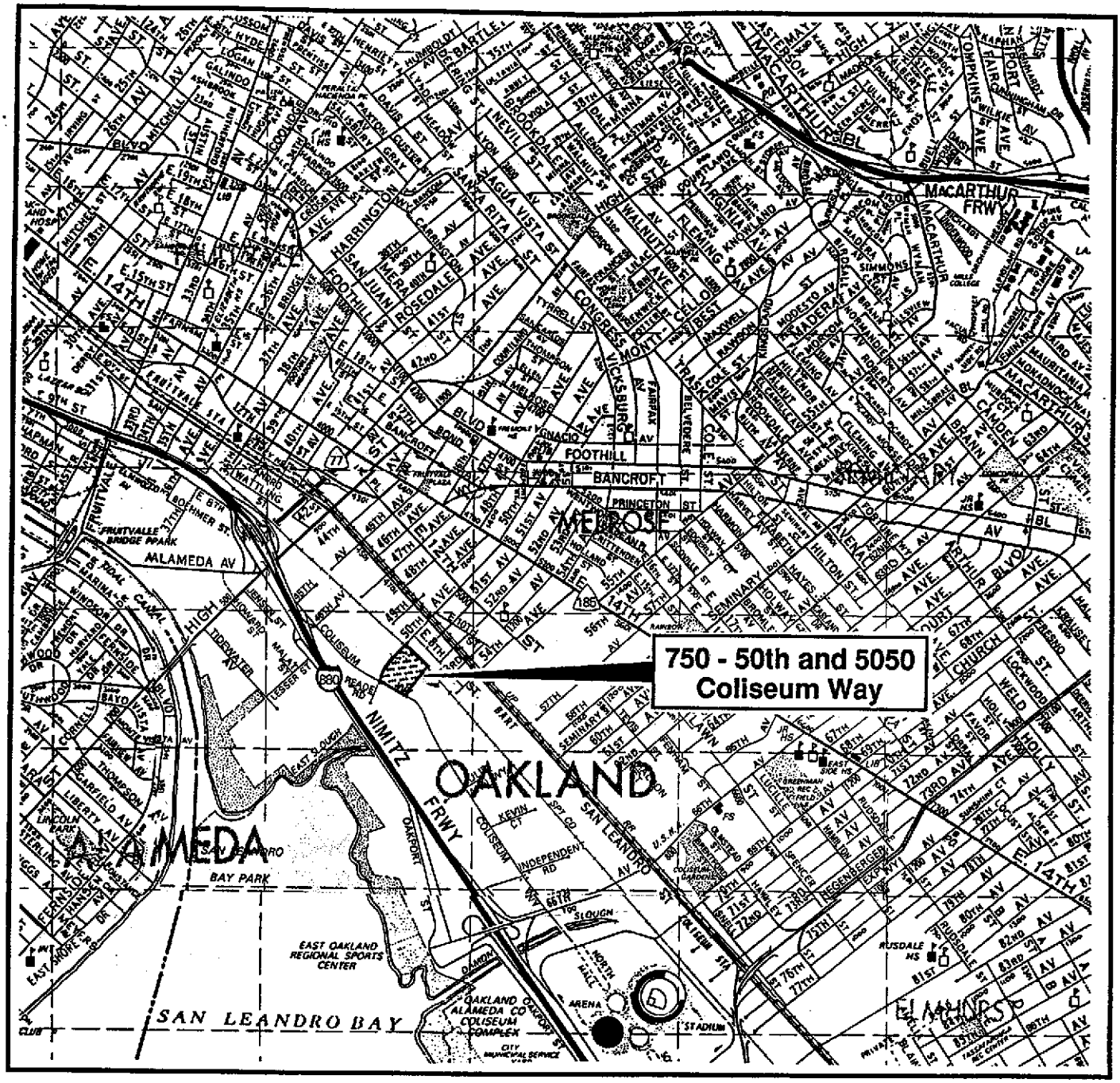
Well ID	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
LF-1	04-Nov-91	<0.2	0.004	0.046	0.11	130	<0.01	5.7	1.9	0.5	<0.0003	0.11	20	<0.004	0.054	<1	<0.005	40000
	27-Oct-92	<2	0.007	<0.5	<0.2	57	<1	4.1	1	<4	<0.0003	<1	19	0.027	<0.5	<10	<0.5	16000
	05-Mar-93	<2	0.22	<0.05	<0.2	43	<1	3.6	0.47	<4	<0.0003	<1	11	<0.01	<0.5	<10	<0.5	14000
Duplicate	05-Mar-93	<2	0.26	<0.05	<0.2	44	<1	3.9	0.50	<4	<0.0003	<1	11	<0.01	<0.5	<10	<0.5	14000
	25-May-93	<2	0.12	<0.05	<0.2	40	<1	4.7	1	<0.4	<0.0003	<1	16	<0.004	<0.5	<10	<0.5	19000
Duplicate	25-May-93	<0.1	0.36	<0.05	0.02	9.6	<0.05	0.81	0.15	0.3	<0.0003	<0.05	3	<0.004	<0.03	<0.5	<0.03	4700
	31-Aug-93	<2	0.072	<0.05	<0.2	32	<1	2.3	<1	<4	<0.0003	<1	9	<0.004	<0.5	<10	<0.5	13000
Duplicate	31-Aug-93	<2	0.66	<0.05	<0.2	13	<1	1	<1	<4	<0.0003	<1	5	<0.004	<0.5	<10	<0.5	7200
LF-2	04-Nov-91	<0.02	0.028	0.026	<0.001	0.009	<0.01	0.18	0.008	<0.005	<0.0003	<0.01	0.52	<0.004	<0.002	<0.1	<0.005	4.2
	27-Oct-92	<0.02	0.007	<0.05	<0.002	0.006	<0.01	0.12	0.02	<0.04	<0.0003	<0.01	0.22	0.005	0.006	<0.1	<0.005	3.3
	04-Mar-93	<0.02	0.003	<0.05	<0.002	<0.005	<0.01	0.10	<0.01	<0.04	<0.0003	<0.01	0.12	<0.004	<0.005	<0.1	<0.005	1.9
	24-May-93	<0.02	0.005	<0.05	<0.002	<0.005	<0.01	0.061	<0.01	<0.04	<0.0003	<0.01	0.08	<0.004	<0.005	<0.1	<0.005	1.4
	31-Aug-93	<0.02	5	<0.05	0.003	0.021	<0.01	0.016	<0.01	<0.04	<0.0003	0.14	<0.01	<0.004	<0.005	<0.1	<0.005	8.6
LF-3	04-Nov-91	<0.02	3.1	0.077	0.001	<0.005	<0.01	0.016	<0.004	<0.005	<0.0003	0.16	0.012	<0.004	<0.002	<0.1	0.006	3.1
	27-Oct-92	<0.02	3.6	0.11	0.004	0.013	<0.01	0.029	<0.01	<0.04	<0.0003	0.22	0.02	0.018	<0.005	<0.1	<0.005	12
	04-Mar-93	<0.02	4.9	0.07	0.003	0.012	<0.01	0.023	<0.01	<0.04	<0.0003	0.18	0.04	<0.02	<0.005	<0.1	<0.005	15
	25-May-93	<0.02	3.4	0.11	<0.002	0.04	<0.01	0.01	<0.01	<0.04	<0.0003	0.13	0.01	<0.004	<0.005	<0.1	<0.005	5.8
	31-Aug-93	<0.02	4.9	<0.05	0.003	0.023	<0.01	0.019	<0.01	<0.04	<0.0003	0.15	0.01	<0.004	<0.005	<0.1	<0.005	8.6
LF-4	04-Nov-91	0.03	0.026	0.082	<0.001	<0.005	<0.01	<0.005	<0.004	<0.005	<0.0003	<0.01	0.013	<0.004	<0.002	<0.1	0.01	0.034
	27-Oct-92	<0.02	0.034	<0.05	<0.002	<0.005	<0.01	<0.005	<0.01	<0.04	<0.0003	<0.01	0.03	<0.004	<0.005	<0.1	<0.005	0.012
	04-Mar-93	0.02	0.017	0.11	<0.002	<0.005	<0.01	<0.005	<0.01	<0.04	<0.0003	<0.01	0.05	<0.004	<0.005	<0.1	0.008	0.04
	24-May-93	<0.02	0.013	0.22	<0.002	<0.005	<0.01	<0.005	<0.01	<0.04	<0.0003	<0.01	0.03	<0.004	<0.005	<0.1	<0.005	0.035
	31-Aug-93	<0.02	0.052	0.08	<0.002	<0.005	<0.01	0.006	<0.01	<0.04	<0.0003	<0.01	0.04	<0.004	<0.005	<0.1	0.009	0.038
LF-5	04-Nov-91	<0.02	<0.002	0.018	<0.001	0.049	<0.01	0.03	<0.005	<0.005	0.0004	<0.01	0.23	<0.004	0.004	<0.1	<0.005	11
	27-Oct-92	<0.02	0.005	<0.05	<0.002	0.24	<0.01	1.4	<0.01	<0.04	<0.0003	<0.01	5.4	0.017	0.022	<0.1	<0.005	35
	04-Mar-93	<0.02	<0.005	<0.05	<0.002	0.21	<0.01	1.1	<0.01	<0.04	<0.0003	<0.01	5.0	<0.010	0.021	<0.1	<0.005	36
	25-May-93	<0.02	<0.002	<0.05	<0.002	0.17	<0.01	0.84	<0.01	<0.04	<0.0003	<0.01	3.2	<0.004	0.01	0.2	<0.005	23
	31-Aug-93	<0.02	0.02	<0.05	<0.002	0.25	<0.01	1.3	<0.01	<0.04	<0.0003	<0.01	4.6	<0.02	0.013	0.2	<0.005	38
LF-6	05-Nov-91	<0.02	0.008	0.019	<0.001	0.079	<0.01	0.58	<0.005	0.009	0.0009	<0.01	2.1	<0.004	0.011	<0.1	<0.005	8.1
	27-Oct-92	<0.02	0.022	<0.05	<0.002	0.17	<0.01	1.6	<0.01	<0.04	<0.0003	<0.01	5.5	0.012	0.020	<0.1	<0.005	23
	04-Mar-93	<0.02	0.007	<0.05	0.003	0.13	<0.01	1.2	<0.01	<0.04	<0.0003	<0.01	4.2	<0.004	0.013	<0.1	<0.005	17
	24-May-93	<0.02	<0.002	<0.05	<0.002	0.13	<0.01	0.97	0.01	<0.04	<0.0003	<0.01	3.4	<0.004	0.008	0.1	<0.005	13
	31-Aug-93	<0.02	0.014	<0.05	0.003	0.13	<0.01	1	0.01	<0.04	<0.0003	<0.01	3.7	<0.004	0.009	0.1	<0.005	14
LF-7	05-Nov-91	<0.02	0.004	0.13	<0.001	<0.005	<0.01	<0.005	0.006	<0.005	0.0011	<0.01	0.01	<0.004	<0.002	<0.1	0.006	<0.005
	27-Oct-92	<0.02	0.03	0.11	<0.002	<0.005	<0.01	<0.005	<0.01	<0.04	<0.0003	0.01	0.01	<0.004	<0.005	<0.1	0.008	0.021
	04-Mar-93	<0.02	0.025	0.08	<0.002	<0.005	<0.01	<0.005	<0.01	<0.04	<0.0003	0.01	0.01	<0.010	<0.005	<0.1	0.009	0.01
	24-May-93	<0.02	0.003	0.08	<0.002	<0.005	<0.01	<0.005	<0.01	<0.04	<0.0003	<0.01	<0.01	<0.004	<0.005	<0.1	0.006	0.007
	31-Aug-93	<0.02	0.013	0.08	<0.002	<0.005	<0.01	<0.005	<0.01	<0.04	<0.0003	<0.01	<0.01	<0.004	<0.005	<0.1	0.006	0.021
MW-1	05-Nov-91	<0.02	0.073	0.085	<0.001	<0.005	<0.01	0.008	<0.005	<0.005	<0.0003	0.02	0.032	<0.004	<0.002	<0.1	<0.005	2.7
	27-Oct-92	<0.02	0.084	0.09	<0.002	0.031	<0.01	0.052	<0.01	<0.04	<0.0003	<0.01	0.3	<0.004	<0.005	<0.1	0.007	42
	05-Mar-93	<0.02	0.024	0.05	<0.002	0.008	<0.01	0.015	<0.01	<0.04	<0.0003	<0.01	0.11	<0.004	<0.005	<0.1	0.006	16
	25-May-93	0.03	0.064	0.06	<0.002	<0.005	<0.01	0.008	<0.01	<0.04	<0.0003	0.02	0.02	<0.004	<0.005	<0.1	0.007	1.6
	01-Sep-93	<0.02	0.097	0.07	<0.002	<0.005	<0.01	0.009	<0.01	<0.04	<0.0003	0.02	0.02	<0.004	<0.005	<0.1	0.005	2.3

TABLE 2
CONCENTRATIONS OF METALS IN GROUND-WATER SAMPLES
5050 COLISEUM WAY AND 750-50TH AVENUE
(All results in milligrams per liter [mg/l]*)

Well ID	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
MW-2	05-Nov-92	<0.2	2.1	0.013	0.002	7	<0.01	0.42	0.093	<0.2	0.0055	0.01	1.2	<0.004	0.008	<0.1	<0.005	4200
	27-Oct-92	<0.2	1.5	<0.5	<0.02	10	<0.1	1.5	0.2	<0.4	<0.0003	<0.1	4.9	0.014	<0.05	<1	<0.05	6000
	(1) 05-Mar-93	<0.02	0.011	<0.05	<0.002	0.28	<0.01	0.24	0.14	<0.04	<0.0003	<0.1	1.0	<0.01	<0.005	<0.1	<0.005	290
	25-May-93	<0.2	1.8	<0.05	<0.02	5.2	<0.1	0.85	<0.1	<0.4	<0.0003	<0.1	2.4	<0.004	<0.05	<1	<0.05	3000
	01-Sep-93	<0.2	2.1	<0.05	<0.02	5.2	<0.1	0.77	<0.1	<0.4	<0.0003	<0.1	2.3	<0.004	<0.05	<1	<0.05	2700
MW-3	05-Nov-92	<0.02	<0.002	0.017	0.001	0.57	<0.01	0.42	0.28	0.005	0.0028	<0.01	1.2	<0.004	0.005	<0.1	<0.005	600
	27-Oct-92	<0.02	0.004	<0.05	0.003	0.73	<0.01	0.74	0.3	<0.04	<0.0003	<0.01	2.6	0.011	0.009	<0.1	<0.005	730
	(1) 05-Mar-93	<0.2	1.6	<0.05	<0.02	5.8	<0.1	1.0	0.07	<0.4	<0.0003	<0.1	3.1	<0.02	<0.05	<1	<0.05	3000
	25-May-93	<0.02	<0.002	<0.05	<0.002	0.28	<0.01	0.24	0.07	<0.04	<0.0003	<0.01	0.83	<0.004	<0.005	<0.1	<0.005	260
	01-Sep-93	<0.02	0.011	<0.05	<0.002	0.32	<0.01	0.3	0.2	<0.04	<0.0003	<0.01	1.1	<0.004	<0.005	<0.1	<0.005	360
MW-4	05-Nov-92	<0.02	0.007	0.017	<0.001	<0.005	<0.01	<0.005	<0.005	<0.005	0.0027	<0.01	0.012	<0.004	<0.002	<0.1	<0.005	<0.005
	27-Oct-92	<0.02	<0.002	<0.05	<0.002	0.006	<0.01	<0.005	0.02	<0.04	<0.0003	<0.01	0.02	0.004	<0.005	<0.1	0.011	0.047
	04-Mar-93	<0.02	<0.002	<0.05	<0.002	<0.005	<0.01	<0.005	<0.01	<0.04	<0.0003	<0.01	0.02	<0.004	<0.005	<0.1	0.010	0.03
	25-May-93	<0.02	<0.002	<0.05	<0.002	<0.005	<0.01	<0.005	<0.01	<0.04	<0.0003	<0.01	<0.01	<0.004	<0.005	<0.1	0.006	0.008
	01-Sep-93	<0.02	0.009	<0.05	<0.002	<0.005	<0.01	<0.005	<0.01	<0.04	<0.0003	<0.01	<0.01	<0.004	<0.005	<0.1	<0.005	0.016

Data entered by MEK/23,24 Sep 93 Data proofed by MEIL 9/24/93 QA/QC by NPDG

* mg/l - milligrams per liter, equivalent to parts per million.
All metals analyzed using Method 6010, except arsenic (analyzed using Method 7060), mercury (analyzed using Method 7470), and selenium (analyzed using Method 7740
(1) Labeling errors in the field or laboratory may account for the anomalous data reported for wells MW-2 and MW-3.



SOURCE: Thomas Bros. map
Alameda and Contra Costa
1990

Figure 1 : SITE LOCATION MAP

Project No. 2407.02

LEVINE•FRICKE
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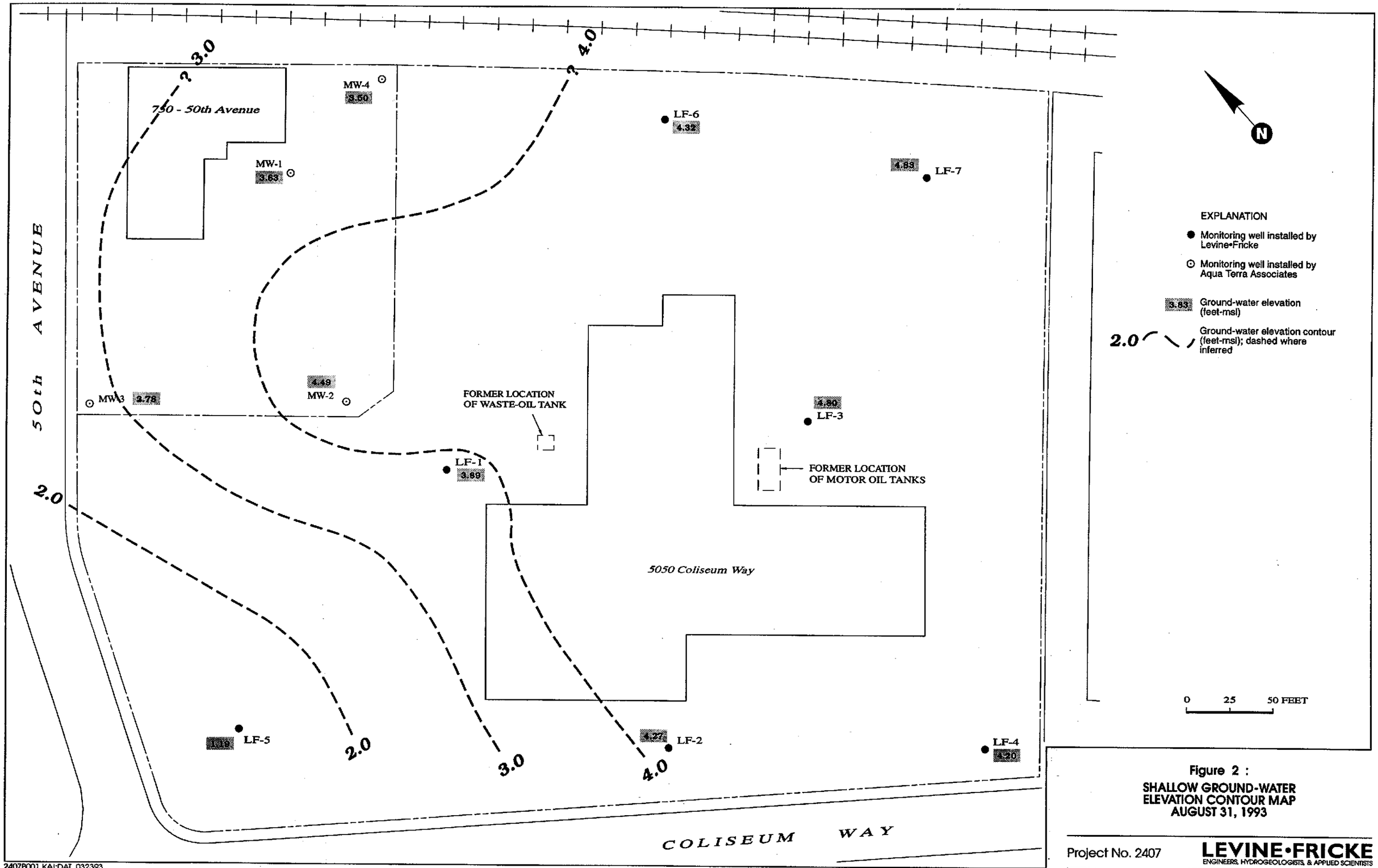
15OCT93•RYL



2407B001.KAI:DAT 032393

Figure 2 :
SHALLOW GROUND-WATER ELEVATION CONTOUR MAP AUGUST 31, 1993

Project No. 2407

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2407G002.JJB:EM 092493

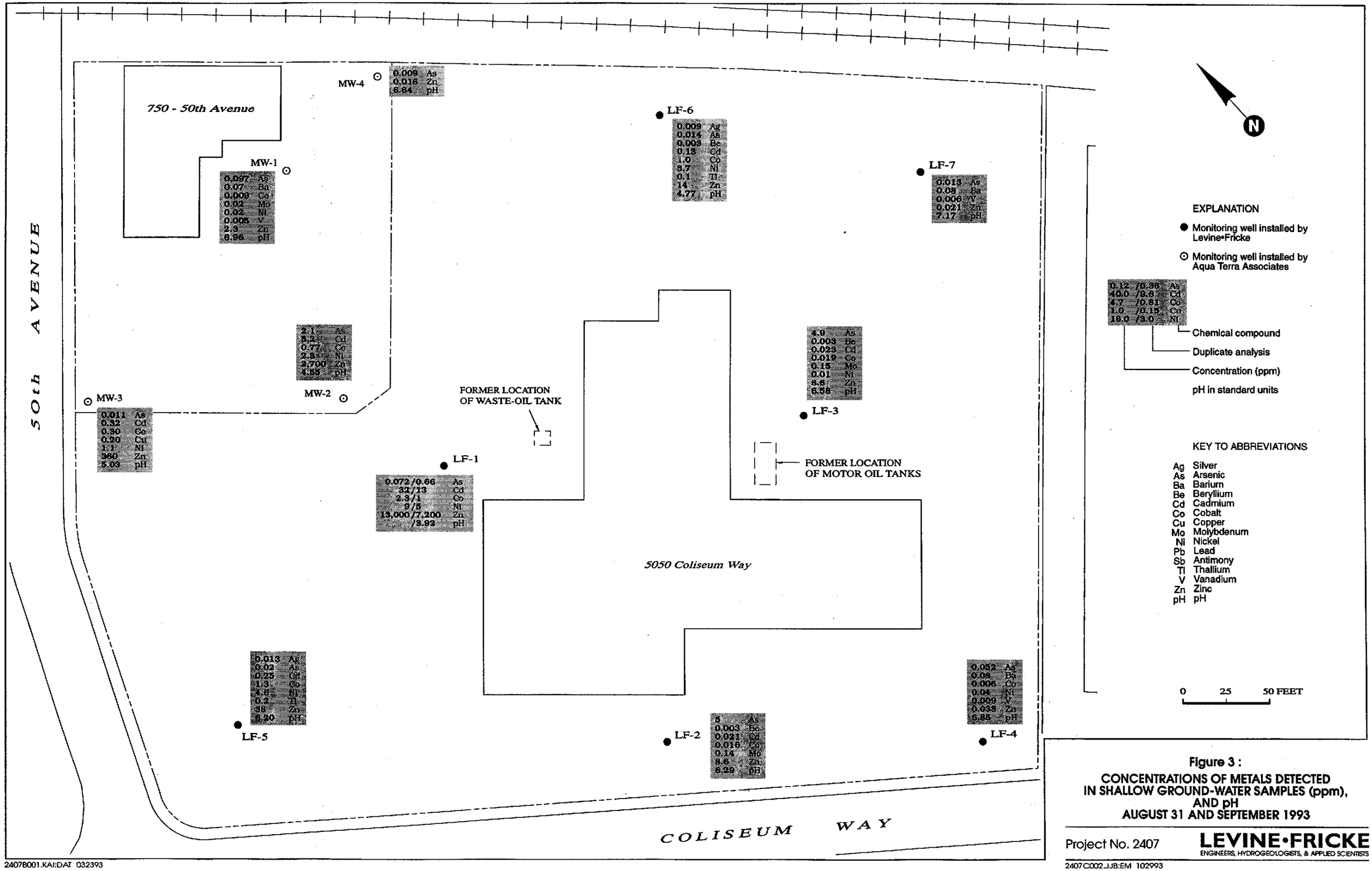

Figure 3 :
CONCENTRATIONS OF METALS DETECTED IN SHALLOW GROUND-WATER SAMPLES (ppm), AND pH AUGUST 31 AND SEPTEMBER 1993

Project No. 2407

LEVINE•FRICKE
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2407C002.JJB:EM 102993

2407B001.KAI:DAT 032393

APPENDIX A

WATER-QUALITY SAMPLING FORMS

FILTERED IN FIELD

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM

Project No. 2407.00-014

Date 8/31/93

Sample No. LF-1-FB
LF-1

Samplers Name NPD

Sampling Location Oakland; LF-1

Sampling Method Hand bail w/ Teflon bailer

Analyses Requested Title 22 Metals

Number and Types of Sample Bottles used 3 x 32 oz. plastic

Method of Shipment Courier (HNO_3)

GROUND WATER

Well No. LF-1

Well Diameter (in.) 2"

Depth to Water, Static (ft) 3.67

Water in Well Box NO

Well Depth (ft) 20.0

Height of Water Column in Well 16.33

Water Volume in Well 2.75 gal (2.61)

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

(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

LF-101

19.9
-20.00
-3.67
16.33
x .16
9798
16330
2.6128

16.33 / 2 = 8.16
3266
3.26
3.67
6.93
19.9
-20.00
-13.06
16.33
x .8
13.064
6.94

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1454								start bailing
1456		2.75	23.4	4.71	13,100			sl. turbid, orange
1459	DWTRING	5.50	22.9	4.56	15,200			sl. turbid
1507		8.25	23.0	4.35	18,600			turbid
1511	DWTRD	11.0	22.3	3.92	42,500			turbid
1516	DWTRD	12.0						stop
		* sample @ 80% (≈ 6.94')						
1623	6.94							
1625								sample LF-1
1725								sample LF-101
1500								sample LF-1-FB

Suggested Method for Purging Well

FILTERED IN FIELD

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM — Project No. 2407.00-014

Date 8/31/93 — Sample No. LF-2

Samplers Name NPD

Sampling Location Oakland

Sampling Method Hand bail w/ Teflon bailer

Analyses Requested Title 22 Metals

Number and Types of Sample Bottles used 1 x 32 oz. plastic

Method of Shipment Courier (HNO3)

14.75
- 5.57
9.18
x .16
5508
9180
vol. 14688

LOCATION MAP

GROUND WATER

Well No. LF-2

Well Diameter (in.) 2"

Depth to Water, Static (ft) 5.57

Water in Well Box NO

Well Depth (ft) 14.75

Height of Water Column in Well 9.18

Water Volume in Well 1.5 gal (1.46)

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently?

Other

(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

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1106								start bailing
1108		1.5	24.2	6.30	4070			sl. turbid
1110	DWTRING	3.0	23.3	6.09	4010			turbid
1113	"	4.5	23.1	6.22	3980			turbid / DWTRD
1123	DWTRD	6.0	23.3	6.33	3970			turbid / stop
1202								start
1203		7.5	23.5	6.29	4080			turbid / stop
1205	12.32							sample LF-2
1100	standardize cond/pH			kit	: pH = 4.00; cond = 1000 µS, 22°			10.04

Suggested Method for Purging Well

FILTERED IN FIELD

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM — Project No. 2407.00-014

Date 8/31/93 — Sample No. LF-3

Samplers Name NPD

Sampling Location Oakland; LF-3

Sampling Method Hand bail w/ Teflon bailer

Analyses Requested Title 22 Metals

Number and Types of Sample Bottles used 1 x 32 oz. plastic (HNO_3)

Method of Shipment Courier

GROUND WATER

Well No. LF-3

Well Diameter (in.) 2"

Depth to Water, Static (ft) 6.18

Water in Well Box NO

Well Depth (ft) 14.93

Height of Water Column in Well 8.75

Water Volume in Well 1.5 gal (1.40)

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently?

Other

(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

8
14.93
-6.18
8.75
x .16
5250
8750
1.4000

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1331								start bailing
1333		1.5	25.0	6.59	4280			sl. turbid
1335		3.0	24.2	6.55	4330			turbid
1336		4.5	24.0	6.58	4300			turbid / stop
1340	6.83	[illegible] @	1338	after	sampling)			sample LF-3

Suggested Method for Purging Well

FILTERED IN FIELD

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM
Project No. 2407.00-014
Date 8/31/93
Sample No. LF-4
Samplers Name NPD
Sampling Location Oakland; LF-4
Sampling Method Hand bail w/ Teflon bailer
Analyses Requested Title 22 Metals
Number and Types of Sample Bottles used 1 x 32 oz. plastic (HNO_3)
Method of Shipment Courier

18.25
- 6.16
12.09
x .16
1254
12090
1.934

2840
3276
3167

LOCATION MAP

GROUND WATER

Well No. LF-4
Well Diameter (in.) 2"
Depth to Water, Static (ft) 6.16
Water in Well Box NO
Well Depth (ft) 18.25
Height of Water Column in Well 12.09
Water Volume in Well 2.0 gal (1.93)

SURFACE WATER

Stream Width
Stream Depth
Stream Velocity
Rained recently?
Other

(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

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1133								start bailing
1134		2.0	23.6	6.69	2520			sl. clear
1137		4.0	22.4	6.70	2770			clear odor-metals?
1139		6.0	21.5	6.83	3270			clear odor-metals?
1142	DWTRD	7.0						stop
1145		8.0	21.7	6.85	2840			clear/stop
1150	17.55							sample LF-4

Suggested Method for Purging Well

FILTERED IN FIELD

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM — Project No. 2407.00-014

Date 8/31/93 — Sample No. LF-5

Samplers Name NPD

Sampling Location Oakland; LF-5

Sampling Method Hand bail w/ Teflon bailer

Analyses Requested Title 22 Metals

Number and Types of Sample Bottles used 1 x 32 oz. plastic (HNO_3)

Method of Shipment Courier

GROUND WATER		SURFACE WATER	
Well No.	LF-5	Stream Width	
Well Diameter (in.)	2"	Stream Depth	
Depth to Water, Static (ft)	6.84	Stream Velocity	
Water in Well Box	NO	Rained recently ?	
Well Depth (ft)	21.10	Other	
Height of Water Column in Well	14.26	(2)-inch casing = 0.16 gal/ft	
Water Volume in Well	2.5 gal (2.28)	4-inch casing = 0.65 gal/ft	
		5-inch casing = 1.02 gal/ft	
		6-inch casing = 1.47 gal/ft	

21.10
- 6.84
14.26
x .16
8556
14260
2.2816

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1421								start bailing
1424		2.5	22.9	6.22	19,900			turbid
1426		5.0	22.5	6.21	19,800			turbid
1428		7.5	22.2	6.20	20,600			turbid
1430	13.25							Sample LF-5

Suggested Method for Purging Well

FILTERED IN FIELD

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM — Project No. 2407.00-014

Date 8/31/93 — Sample No. LF-6

Samplers Name NPD

Sampling Location Oakland; LF-6

Sampling Method Hand bail w/ Teflon bailer

Analyses Requested Title 22 Metals

Number and Types of Sample Bottles used x 32 oz. plastic

Method of Shipment Courier (HNO3)

GROUND WATER

Well No. LF-6

Well Diameter (in.) 2"

Depth to Water, Static (ft) 7.27

Water in Well Box NO

Well Depth (ft) 20.00

Height of Water Column in Well 12.73

Water Volume in Well 2.0 gal (2.03)

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

(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

20.00
- 7.27
12.73
× .16
7638
12730
2.0368

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1357								start bailing
1359		2.0	22.0	4.82	6830			turbid
1401		4.0	21.9	4.68	6750			turbid
1403		6.0	21.5	4.77	6910			turbid
1405	12.58							sample LF-6

Suggested Method for Purging Well

FILTERED IN FIELD

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM — Project No. 2407.00-014

Date 8/31/93 — Sample No. LF-7

Samplers Name NPD

Sampling Location Oakland; LF-7

Sampling Method Hand bail w/ Teflon bailer

Analyses Requested Title 22 Metals

Number and Types of Sample Bottles used 1 x 32 oz. plastic

Method of Shipment Courier (HNO3)

GROUND WATER

Well No. LF-7

Well Diameter (in.) 2"

Depth to Water, Static (ft) 5.82

Water in Well Box NO

Well Depth (ft) 21.50

Height of Water Column in Well 15.68

Water Volume in Well 2.5 gal (2.508)

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently?

Other

(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

21.50
- 5.82
15.68
× .16
9408
15680
2.5088

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1305								start bailing
1307		2.5	22.6	7.19	1707			turbid
1309		5.0	22.2	7.14	1675			turbid
1312		7.5	21.9	7.17	1671			turbid
1315	14.45							sample LF-7

Suggested Method for Purging Well

FILTERED IN FIELD

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM — Project No. 2407.00-014

Date 9/1/93 — Sample No. MW-1

Samplers Name NPD

Sampling Location Oakland; MW-1

Sampling Method Hand bail w/ Teflon bailer

Analyses Requested Title 22 Metals

Number and Types of Sample Bottles used 1 x 32 oz. plastic

Method of Shipment Courier (HNO3)

28.50
6.40
22.10
.16
13260
22100
35360

LOCATION MAP

GROUND WATER

Well No. MW-1

Well Diameter (in.) 2"

Depth to Water, Static (ft) 6.40

Water in Well Box NO

Well Depth (ft) 28.50

Height of Water Column in Well 22.10

Water Volume in Well 3.5 gal (3.53)

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

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

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1030								start bailing
1032		3.5	21.4	6.89	867			Sl. tur. - tur.
1035		7.0	21.2	6.88	850			turbid
1039		10.5	20.7	6.96	850			turbid / stop
1040								sample MW-1
1042	21.46							

Suggested Method for Purging Well

FILTERED IN FIELD

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM — Project No. 2407.00-014

Date 9/1/93 — Sample No. MW-2

Samplers Name NPD

Sampling Location Oakland; MW-2

Sampling Method Hand bail w/ Teflon bailer

Analyses Requested Title 22 Metals

Number and Types of Sample Bottles used 1 x 32 oz. plastic

Method of Shipment Courier (CH_3NO_3)

27.00
- 4.35
22.65
x .16
13590
22650
3.6240

LOCATION MAP

GROUND WATER

Well No. MW-2

Well Diameter (in.) 2"

Depth to Water, Static (ft) 4.35

Water in Well Box NO

Well Depth (ft) 27.00

Height of Water Column in Well 22.65

Water Volume in Well 3.75 gal (3.62)

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

(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

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1130								start bailing
1132		3.75	25.2	4.70	6350			turbid
1135		7.50	24.5	4.66	6320			turbid
1139		11.25	23.0	4.55	6320			turbid / stop
1140								sample MW-2
1142	14.02							

Suggested Method for Purging Well

FILTERED IN FIELD

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM — Project No. 2407.00-014

Date 9/1/93 — Sample No. MW-3

Samplers Name NPD

Sampling Location Oakland; MW-3

Sampling Method Hand bail w/ Teflon bailer

Analyses Requested Title 22 Metals

Number and Types of Sample Bottles used 1 x 32 oz. plastic

Method of Shipment Courier (HNO3)

GROUND WATER		SURFACE WATER	
Well No.	MW-3	Stream Width	
Well Diameter (in.)	2"	Stream Depth	
Depth to Water, Static (ft)	6.22	Stream Velocity	
Water in Well Box	NO	Rained recently?	
Well Depth (ft)	27.00	Other	
Height of Water Column in Well	20.78		
Water Volume in Well	3.5 gal (3.32)		

(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

27.00
- 6.22
20.78
x .16
12468
20780
3.3248

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1100								start bailing
1103		3.5	21.5	5.07	4900			sl. turbid
1107		7.0	21.1	5.06	4880			turbid
1110		10.5	21.3	5.03	4830			turbid / stop
1115	15.43							sample MW-3

Suggested Method for Purging Well

FILTERED IN FIELD

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Volvo GM — Project No. 2407.00-014

Date 9/1/93 — Sample No. MW-4

Samplers Name NPD

Sampling Location Oakland; MW-4

Sampling Method Hand bail w/ Teflon bailer

Analyses Requested Title 22 Metals

Number and Types of Sample Bottles used 1 x 32 oz. plastic

Method of Shipment Courier (HNO_3)

28.50
- 7.27
21.23
× .16
12738
21230
3.3968

LOCATION MAP

GROUND WATER

Well No. MW-4

Well Diameter (in.) 2"

Depth to Water, Static (ft) 7.27

Water in Well Box NV

Well Depth (ft) 28.50

Height of Water Column in Well 21.23

Water Volume in Well 3.5 gal (3.39)

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently?

Other

(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

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
0957								start bailing
1000		3.5	21.9	6.60	1581			turbid
1003		7.0	21.6	6.61	1706			turbid
1006		10.5	21.4	6.62	2130			turbid
1010		14.0	21.0	6.64	2170			turbid/stop
1015	23.02							sample MW-4
0945	Standardize pH/cond Kit:				pH = 4.00, 10.05 ~~7.00~~ 21.29			
					cond = 1,000 µS			

Suggested Method for Purging Well

APPENDIX B

LABORATORY CERTIFICATES

AMERICAN ENVIRONMENTAL NETWORK (AEN)

(FORMERLY QUANTEQ)

FAX TRANSMISSION COVER

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DATE: 09/22/93 # OF PAGES (Including cover) 18

REPLY REQUESTED: (circle request) NO YES URGENT FAX REPLY PHONE REPLY FYI

TO: Noel De Guzman
LF

FROM: Roxy Sigua

AEN PROJ NO: 9309022

CLIENT PROJ NO: 2407.00.014

✓ FINAL RESULTS hard copy

____ PARTIAL RESULTS

____ PRELIMINARY RESULTS

COMMENTS:

Formerly Quanteq Laboratories

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation 94523-001

LEVINE-FRICKE
1900 POWELL STREET
12TH FLOOR
EMERYVILLE, CA 94608
ATTN: JENIFER BEATTY

REPORT DATE: 09/22/93

DATE SAMPLED: 08/31-09/01/93

DATE RECEIVED: 09/02/93

CLIENT PROJECT ID: 2407.00-014
C.O.C. NO: 11234
PROJECT NAME: VOLVO GM

AEN JOB NO: 9309022

PROJECT SUMMARY:

On September 2, 1993, this laboratory received thirteen (13) water samples.

Client requested twelve (12) samples be analyzed for CCR 17 Metals. One (1) sample was placed on hold. Sample identification, methodologies, results and dates analyzed are summarized on the following pages.

All laboratory quality control parameters were found to be within established limits. Batch QC is included at the end of this report.

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

Larry Klein
General Manager

Results FAXed 09/14-15/93

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: LF-1
CLIENT PROJ. ID: 2407.00-014
DATE RECEIVED: 09/02/93
REPORT DATE: 09/22/93

AEN LAB NO: 9309022-02A
AEN JOB NO: 9309022
DATE ANALYZED: 09/08-10/93
DIGESTION DATE: 09/07/93

CCR-17 METALS
(WATER MATRIX)

CODE	METAL	CONCENTRATION (mg/L)	LF-101	REPORTING LIMIT (mg/L)	METHOD REFERENCE	INST.
Ag	Silver	ND		0.5 *	6010	ICP
As	Arsenic	0.072	0.66	0.002	7060	4000
Ba	Barium	ND		0.05	6010	ICP
Be	Beryllium	ND		0.2 *	6010	ICP
Cd	Cadmium	32	13	0.5 *	6010	ICP
Co	Cobalt	2.3	1.0	0.5 *	6010	ICP
Cr	Chromium	ND		1 *	6010	ICP
Cu	Copper	ND		1 *	6010	ICP
Hg	Mercury	ND		0.0003	7470	Hg
Mo	Molybdenum	ND		1 *	6010	ICP
Ni	Nickel	9	5	1 *	6010	ICP
Pb	Lead	ND		4 *	6010	ICP
Sb	Antimony	ND		2 *	6010	ICP
Se	Selenium	ND		0.004	7740	4000
Tl	Thallium	ND		10 *	6010	ICP
V	Vanadium	ND		0.5 *	6010	ICP
Zn	Zinc	13,000	7,200	0.5 *	6010	ICP

ND = Not Detected

INST. = Instrument Number

* Reporting Limit elevated due to matrix interference

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: LF-101
CLIENT PROJ. ID: 2407.00-014
DATE RECEIVED: 09/02/93
REPORT DATE: 09/22/93

AEN LAB NO: 9309022-03A
AEN JOB NO: 9309022
DATE ANALYZED: 09/08-10/93
DIGESTION DATE: 09/07/93

CCR-17 METALS
(WATER MATRIX)

CODE	METAL	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	METHOD REFERENCE	INST.
Ag	Silver	ND	0.5 *	6010	ICP
As	Arsenic	0.66	0.002	7060	4000
Ba	Barium	ND	0.05	6010	ICP
Be	Beryllium	ND	0.2 *	6010	ICP
Cd	Cadmium	13	0.5 *	6010	ICP
Co	Cobalt	1.0	0.5 *	6010	ICP
Cr	Chromium	ND	1 *	6010	ICP
Cu	Copper	ND	1 *	6010	ICP
Hg	Mercury	ND	0.0003	7470	Hg
Mo	Molybdenum	ND	1 *	6010	ICP
Ni	Nickel	5	1 *	6010	ICP
Pb	Lead	ND	4 *	6010	ICP
Sb	Antimony	ND	2 *	6010	ICP
Se	Selenium	ND	0.004	7740	4000
Tl	Thallium	ND	10 *	6010	ICP
V	Vanadium	ND	0.5 *	6010	ICP
Zn	Zinc	7,200	0.5 *	6010	ICP

ND = Not Detected

INST. = Instrument Number

* Reporting Limit elevated due to matrix interference

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: LF-2
CLIENT PROJ. ID: 2407.00-014
DATE RECEIVED: 09/02/93
REPORT DATE: 09/22/93

AEN LAB NO: 9309022-04A
AEN JOB NO: 9309022
DATE ANALYZED: 09/08-10/93
DIGESTION DATE: 09/07/93

CCR-17 METALS
(WATER MATRIX)

CODE	METAL	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	METHOD REFERENCE	INST.
Ag	Silver	ND	0.005	6010	ICP
As	Arsenic	5.0	0.002	7060	4000
Ba	Barium	ND	0.05	6010	ICP
Be	Beryllium	0.003	0.002	6010	ICP
Cd	Cadmium	0.021	0.005	6010	ICP
Co	Cobalt	0.016	0.005	6010	ICP
Cr	Chromium	ND	0.01	6010	ICP
Cu	Copper	ND	0.01	6010	ICP
Hg	Mercury	ND	0.0003	7470	Hg
Mo	Molybdenum	0.14	0.01	6010	ICP
Ni	Nickel	ND	0.01	6010	ICP
Pb	Lead	ND	0.04	6010	ICP
Sb	Antimony	ND	0.02	6010	ICP
Se	Selenium	ND	0.004	7740	4000
Tl	Thallium	ND	0.1	6010	ICP
V	Vanadium	ND	0.005	6010	ICP
Zn	Zinc	8.6	0.005	6010	ICP

ND = Not Detected

INST. = Instrument Number

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: LF-3
CLIENT PROJ. ID: 2407.00-014
DATE RECEIVED: 09/02/93
REPORT DATE: 09/22/93

AEN LAB NO: 9309022-05A
AEN JOB NO: 9309022
DATE ANALYZED: 09/08-10/93
DIGESTION DATE: 09/07/93

CCR-17 METALS
(WATER MATRIX)

CODE	METAL	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	METHOD REFERENCE	INST.
Ag	Silver	ND	0.005	6010	ICP
As	Arsenic	4.9	0.002	7060	4000
Ba	Barium	ND	0.05	6010	ICP
Be	Beryllium	0.003	0.002	6010	ICP
Cd	Cadmium	0.023	0.005	6010	ICP
Co	Cobalt	0.019	0.005	6010	ICP
Cr	Chromium	ND	0.01	6010	ICP
Cu	Copper	ND	0.01	6010	ICP
Hg	Mercury	ND	0.0003	7470	Hg
Mo	Molybdenum	0.15	0.01	6010	ICP
Ni	Nickel	0.01	0.01	6010	ICP
Pb	Lead	ND	0.04	6010	ICP
Sb	Antimony	ND	0.02	6010	ICP
Se	Selenium	ND	0.004	7740	4000
Tl	Thallium	ND	0.1	6010	ICP
V	Vanadium	ND	0.005	6010	ICP
Zn	Zinc	8.6	0.005	6010	ICP

ND = Not Detected

INST. = Instrument Number

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: LF-4
CLIENT PROJ. ID: 2407.00-014
DATE RECEIVED: 09/02/93
REPORT DATE: 09/22/93

AEN LAB NO: 9309022-06A
AEN JOB NO: 9309022
DATE ANALYZED: 09/08-10/93
DIGESTION DATE: 09/07/93

CCR-17 METALS
(WATER MATRIX)

CODE	METAL	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	METHOD REFERENCE	INST.
Ag	Silver	ND	0.005	6010	ICP
As	Arsenic	0.052	0.002	7060	4000
Ba	Barium	0.08	0.05	6010	ICP
Be	Beryllium	ND	0.002	6010	ICP
Cd	Cadmium	ND	0.005	6010	ICP
Co	Cobalt	0.006	0.005	6010	ICP
Cr	Chromium	ND	0.01	6010	ICP
Cu	Copper	ND	0.01	6010	ICP
Hg	Mercury	ND	0.0003	7470	Hg
Mo	Molybdenum	ND	0.01	6010	ICP
Ni	Nickel	0.04	0.01	6010	ICP
Pb	Lead	ND	0.04	6010	ICP
Sb	Antimony	ND	0.02	6010	ICP
Se	Selenium	ND	0.004	7740	4000
Tl	Thallium	ND	0.1	6010	ICP
V	Vanadium	0.009	0.005	6010	ICP
Zn	Zinc	0.038	0.005	6010	ICP

ND = Not Detected

INST. = Instrument Number

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: LF-5
CLIENT PROJ. ID: 2407.00-014
DATE RECEIVED: 09/02/93
REPORT DATE: 09/22/93

AEN LAB NO: 9309022-07A
AEN JOB NO: 9309022
DATE ANALYZED: 09/08-10/93
DIGESTION DATE: 09/07/93

CCR-17 METALS
(WATER MATRIX)

CODE	METAL	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	METHOD REFERENCE	INST.
Ag	Silver	0.013	0.005	6010	ICP
As	Arsenic	0.02	0.01 *	7060	4000
Ba	Barium	ND	0.05	6010	ICP
Be	Beryllium	ND	0.002	6010	ICP
Cd	Cadmium	0.25	0.005	6010	ICP
Co	Cobalt	1.3	0.005	6010	ICP
Cr	Chromium	ND	0.01	6010	ICP
Cu	Copper	ND	0.01	6010	ICP
Hg	Mercury	ND	0.0003	7470	Hg
Mo	Molybdenum	ND	0.01	6010	ICP
Ni	Nickel	4.6	0.01	6010	ICP
Pb	Lead	ND	0.04	6010	ICP
Sb	Antimony	ND	0.02	6010	ICP
Se	Selenium	ND	0.02 *	7740	4000
Tl	Thallium	0.2	0.1	6010	ICP
V	Vanadium	ND	0.005	6010	ICP
Zn	Zinc	38	0.005	6010	ICP

ND = Not Detected

INST. = Instrument Number

* Reporting Limit elevated due to matrix interference

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: LF-6
CLIENT PROJ. ID: 2407.00-014
DATE RECEIVED: 09/02/93
REPORT DATE: 09/22/93

AEN LAB NO: 9309022-08A
AEN JOB NO: 9309022
DATE ANALYZED: 09/08-10/93
DIGESTION DATE: 09/07/93

CCR-17 METALS
(WATER MATRIX)

CODE	METAL	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	METHOD REFERENCE	INST.
Ag	Silver	0.009	0.005	6010	ICP
As	Arsenic	0.014	0.002	7060	4000
Ba	Barium	ND	0.05	6010	ICP
Be	Beryllium	0.003	0.002	6010	ICP
Cd	Cadmium	0.13	0.005	6010	ICP
Co	Cobalt	1.0	0.005	6010	ICP
Cr	Chromium	ND	0.01	6010	ICP
Cu	Copper	ND	0.01	6010	ICP
Hg	Mercury	ND	0.0003	7470	Hg
Mo	Molybdenum	ND	0.01	6010	ICP
Ni	Nickel	3.7	0.01	6010	ICP
Pb	Lead	ND	0.04	6010	ICP
Sb	Antimony	ND	0.02	6010	ICP
Se	Selenium	ND	0.004	7740	4000
Tl	Thallium	0.1	0.1	6010	ICP
V	Vanadium	ND	0.005	6010	ICP
Zn	Zinc	14	0.005	6010	ICP

ND = Not Detected

INST. = Instrument Number

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: LF-7
CLIENT PROJ. ID: 2407.00-014
DATE RECEIVED: 09/02/93
REPORT DATE: 09/22/93

AEN LAB NO: 9309022-09A
AEN JOB NO: 9309022
DATE ANALYZED: 09/08-10/93
DIGESTION DATE: 09/07/93

CCR-17 METALS
(WATER MATRIX)

CODE	METAL	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	METHOD REFERENCE	INST.
Ag	Silver	ND	0.005	6010	ICP
As	Arsenic	0.013	0.002	7060	4000
Ba	Barium	0.08	0.05	6010	ICP
Be	Beryllium	ND	0.002	6010	ICP
Cd	Cadmium	ND	0.005	6010	ICP
Co	Cobalt	ND	0.005	6010	ICP
Cr	Chromium	ND	0.01	6010	ICP
Cu	Copper	ND	0.01	6010	ICP
Hg	Mercury	ND	0.0003	7470	Hg
Mo	Molybdenum	ND	0.01	6010	ICP
Ni	Nickel	ND	0.01	6010	ICP
Pb	Lead	ND	0.04	6010	ICP
Sb	Antimony	ND	0.02	6010	ICP
Se	Selenium	ND	0.004	7740	4000
Tl	Thallium	ND	0.1	6010	ICP
V	Vanadium	0.006	0.005	6010	ICP
Zn	Zinc	0.021	0.005	6010	ICP

ND = Not Detected

INST. = Instrument Number

LEVINE-FRICKE

SAMPLE ID: MW-1
CLIENT PROJ. ID: 2407.00-014
DATE RECEIVED: 09/02/93
REPORT DATE: 09/22/93

AEN LAB NO: 9309022-10A
AEN JOB NO: 9309022
DATE ANALYZED: 09/08-10/93
DIGESTION DATE: 09/07/93

CCR-17 METALS
(WATER MATRIX)

CODE	METAL	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	METHOD REFERENCE	INST.
Ag	Silver	ND	0.005	6010	ICP
As	Arsenic	0.097	0.002	7060	4000
Ba	Barium	0.07	0.05	6010	ICP
Be	Beryllium	ND	0.002	6010	ICP
Cd	Cadmium	ND	0.005	6010	ICP
Co	Cobalt	0.009	0.005	6010	ICP
Cr	Chromium	ND	0.01	6010	ICP
Cu	Copper	ND	0.01	6010	ICP
Hg	Mercury	ND	0.0003	7470	Hg
Mo	Molybdenum	0.02	0.01	6010	ICP
Ni	Nickel	0.02	0.01	6010	ICP
Pb	Lead	ND	0.04	6010	ICP
Sb	Antimony	ND	0.02	6010	ICP
Se	Selenium	ND	0.004	7740	4000
Tl	Thallium	ND	0.1	6010	ICP
V	Vanadium	0.005	0.005	6010	ICP
Zn	Zinc	2.3	0.005	6010	ICP

ND = Not Detected

INST. = Instrument Number

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: MW-2
CLIENT PROJ. ID: 2407.00-014
DATE RECEIVED: 09/02/93
REPORT DATE: 09/22/93

AEN LAB NO: 9309022-11A
AEN JOB NO: 9309022
DATE ANALYZED: 09/08-10/93
DIGESTION DATE: 09/07/93

CCR-17 METALS
(WATER MATRIX)

CODE	METAL	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	METHOD REFERENCE	INST.
Ag	Silver	ND	0.05 *	6010	ICP
As	Arsenic	2.1	0.002	7060	4000
Ba	Barium	ND	0.05	6010	ICP
Be	Beryllium	ND	0.02 *	6010	ICP
Cd	Cadmium	5.2	0.05 *	6010	ICP
Co	Cobalt	0.77	0.05 *	6010	ICP
Cr	Chromium	ND	0.1 *	6010	ICP
Cu	Copper	ND	0.1 *	6010	ICP
Hg	Mercury	ND	0.0003	7470	Hg
Mo	Molybdenum	ND	0.1 *	6010	ICP
Ni	Nickel	2.3	0.1 *	6010	ICP
Pb	Lead	ND	0.4 *	6010	ICP
Sb	Antimony	ND	0.2 *	6010	ICP
Se	Selenium	ND	0.004	7740	4000
Tl	Thallium	ND	1 *	6010	ICP
V	Vanadium	ND	0.05 *	6010	ICP
Zn	Zinc	2,700	0.05 *	6010	ICP

ND = Not Detected

INST. = Instrument Number

* Reporting Limit elevated due to matrix interference

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: MW-3
CLIENT PROJ. ID: 2407.00-014
DATE RECEIVED: 09/02/93
REPORT DATE: 09/22/93

AEN LAB NO: 9309022-12A
AEN JOB NO: 9309022
DATE ANALYZED: 09/08-10/93
DIGESTION DATE: 09/07/93

CCR-17 METALS
(WATER MATRIX)

CODE	METAL	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	METHOD REFERENCE	INST.
Ag	Silver	ND	0.005	6010	ICP
As	Arsenic	0.011	0.002	7060	4000
Ba	Barium	ND	0.05	6010	ICP
Be	Beryllium	ND	0.002	6010	ICP
Cd	Cadmium	0.32	0.005	6010	ICP
Co	Cobalt	0.30	0.005	6010	ICP
Cr	Chromium	ND	0.01	6010	ICP
Cu	Copper	0.20	0.01	6010	ICP
Hg	Mercury	ND	0.0003	7470	Hg
Mo	Molybdenum	ND	0.01	6010	ICP
Ni	Nickel	1.1	0.01	6010	ICP
Pb	Lead	ND	0.04	6010	ICP
Sb	Antimony	ND	0.02	6010	ICP
Se	Selenium	ND	0.004	7740	4000
Tl	Thallium	ND	0.1	6010	ICP
V	Vanadium	ND	0.005	6010	ICP
Zn	Zinc	360	0.005	6010	ICP

ND = Not Detected

INST. = Instrument Number

American Environmental Network

LEVINE-FRICKE

SAMPLE ID: MW-4
CLIENT PROJ. ID: 2407.00-014
DATE RECEIVED: 09/02/93
REPORT DATE: 09/22/93

AEN LAB NO: 9309022-13A
AEN JOB NO: 9309022
DATE ANALYZED: 09/08-10/93
DIGESTION DATE: 09/07/93

CCR-17 METALS
(WATER MATRIX)

CODE	METAL	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	METHOD REFERENCE	INST.
Ag	Silver	ND	0.005	6010	ICP
As	Arsenic	0.009	0.002	7060	4000
Ba	Barium	ND	0.05	6010	ICP
Be	Beryllium	ND	0.002	6010	ICP
Cd	Cadmium	ND	0.005	6010	ICP
Co	Cobalt	ND	0.005	6010	ICP
Cr	Chromium	ND	0.01	6010	ICP
Cu	Copper	ND	0.01	6010	ICP
Hg	Mercury	ND	0.0003	7470	Hg
Mo	Molybdenum	ND	0.01	6010	ICP
Ni	Nickel	ND	0.01	6010	ICP
Pb	Lead	ND	0.04	6010	ICP
Sb	Antimony	ND	0.02	6010	ICP
Se	Selenium	ND	0.004	7740	4000
Tl	Thallium	ND	0.1	6010	ICP
V	Vanadium	ND	0.005	6010	ICP
Zn	Zinc	0.016	0.005	6010	ICP

ND = Not Detected

INST. = Instrument Number

American Environmental Network

QUALITY CONTROL DATA

MATRIX: WATER

AEN JOB NO: 9309022

CLIENT PROJ. ID: 2407.00-014

DIGESTION DATE: 09/07/93

METHOD BLANK AND SPIKE RECOVERY SUMMARY

COMPOUND	INST./ METHOD	BLANK RESULT	TRUE VALUE	OBSERVED RECOVERIES (mg/L) MS	MSD	% REC.	RPD	QC CONTROL LIMITS % REC. LIMIT	RPD LIMIT
Ag, Silver	ICP/6010	ND	0.1	0.0970	0.0976	97	1	66-127	11
As, Arsenic	4000/7060	ND	0.04	0.0390	0.0407	100	4	79-126	12
Ba, Barium	ICP/6010	ND	2.0	2.019	2.035	101	1	90-109	5
Be, Beryllium	ICP/6010	ND	0.05	0.04890	0.04830	97	1	72-106	5
Cd, Cadmium	ICP/6010	ND	0.05	0.0487	0.0475	96	2	71-134	11
Cr, Chromium	ICP/6010	ND	0.2	0.202	0.199	100	1	86-115	7
Co, Cobalt	ICP/6010	ND	0.5	0.5190	0.5240	104	1	96-112	5
Cu, Copper	ICP/6010	ND	0.25	0.238	0.239	95	1	87-111	6
Hg, Mercury	Hg/7470	ND	2.0 ug/L	1.972	1.972	99	<1	80-120	15
Mo, Molybdenum	ICP/6010	ND	0.25	0.2598	0.2607	104	<1	87-119	6
Ni, Nickel	ICP/6010	ND	0.5	0.513	0.513	103	<1	87-112	5
Pb, Lead	ICP/6010	ND	0.5	0.518	0.530	105	2	86-116	7
Sb, Antimony	ICP/6010	ND	0.5	0.5013	0.5139	102	2	91-117	7
Se, Selenium	4000/7740	ND	0.08	0.0785	0.0762	97	3	76-131	14
Tl, Thallium	ICP/6010	ND	2.0	2.0070	2.0100	100	<1	77-118	6
V, Vanadium	ICP/6010	ND	0.5	0.5139	0.5183	103	1	93-109	5
Zn, Zinc	ICP/6010	ND	0.5	0.502	0.508	101	1	87-116	8

MS = Method Spike
MSD = Method Spike Duplicate
RPD = Relative Percent Difference
ND = Not Detected
< = Less Than

American Environmental Network

QUALITY CONTROL DATA

MATRIX: WATER

AEN JOB NO: 9309022

CLIENT PROJ. ID: 2407.00-014

DIGESTION DATE: 09/07/93

MATRIX SPIKE RECOVERY SUMMARY

COMPOUND	INST./ METHOD	SAMPLE SPIKED	SAMPLE RESULT	SPIKE ADDED	OBSERVED RECOVERIES (ug/L) MS	MSD	% REC.	RPD	QC CONTROL LIMITS % REC. LIMIT	RPD LIMIT
Ag, Silver	ICP/6010	9309022-06A	ND	0.1	0.0911	0.0903	91	1	78-111	9
As, Arsenic	4000/7060	9309022-06A	0.0518	0.04	0.0856	0.0770	74	11	65-146	12
Ba, Barium	ICP/6010	9309022-06A	0.082	2.0	1.958	1.960	94	<1	82-111	5
Be, Beryllium	ICP/6010	9309022-06A	ND	0.05	0.0439	0.0441	88	<1	64-104	7
Cd, Cadmium	ICP/6010	9309022-06A	ND	0.05	0.0458	0.0447	91	2	71-122	8
Cr, Chromium	ICP/6010	9309022-06A	ND	0.2	0.1801	0.1833	91	2	77-115	5
Co, Cobalt	ICP/6010	9309022-06A	0.006	0.5	0.473	0.474	93	<1	74-121	6
Cu, Copper	ICP/6010	9309022-06A	ND	0.25	0.2493	0.2486	100	<1	85-113	5
Hg, Mercury	Hg/7470	9309022-02A	ND	2.0 ug/L	2.0105	2.0105	101	<1	80-120	15
Mo, Molybdenum	ICP/6010	9309022-06A	ND	0.25	0.231	0.230	92	<1	76-119	7
Ni, Nickel	ICP/6010	9309022-06A	0.0410	0.5	0.4976	0.4982	91	<1	76-111	5
Pb, Lead	ICP/6010	9309022-06A	ND	0.5	0.4718	0.4671	94	1	82-112	5
Sb, Antimony	ICP/6010	9309022-06A	ND	0.5	0.469	0.469	94	<1	79-116	8
Se, Selenium	4000/7740	9309022-06A	ND	0.08	0.0542	0.0530	67	2	24-141	21
Tl, Thallium	ICP/6010	9309022-06A	ND	2.0	1.988	1.999	100	1	67-116	7
V, Vanadium	ICP/6010	9309022-06A	0.009	0.5	0.482	0.483	95	<1	77-114	6
Zn, Zinc	ICP/6010	9309022-06A	0.0380	0.5	0.4861	0.4886	90	1	77-116	5

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference
ND = Not Detected
< = Less Than

American Environmental Network

QUALITY CONTROL DATA

MATRIX: WATER

AEN JOB NO: 9309022

CLIENT PROJ. ID: 2407.00-014

DIGESTION DATE: 09/07/93

MATRIX SPIKE RECOVERY SUMMARY

COMPOUND	INST./ METHOD	SAMPLE SPIKED	SAMPLE RESULT	SPIKE ADDED	OBSERVED RECOVERIES (mg/L) MS	MSD	% REC.	RPD	QC CONTROL LIMITS % REC. LIMIT	RPD LIMIT
Ag, Silver	ICP/6010	9309022-13A	ND	0.1	0.0891	0.0893	89	<1	78-111	9
As, Arsenic	4000/7060	9309022-09A	0.0131	0.04	0.0573	0.0575	111	<1	65-146	12
Ba, Barium	ICP/6010	9309022-13A	ND	2.0	1.835	1.832	92	<1	82-111	5
Be, Beryllium	ICP/6010	9309022-13A	ND	0.05	0.0413	0.0415	83	<1	64-104	7
Cd, Cadmium	ICP/6010	9309022-13A	ND	0.05	0.0448	0.438	89	2	71-122	8
Cr, Chromium	ICP/6010	9309022-13A	ND	0.2	0.1737	0.1699	86	2	77-115	5
Co, Cobalt	ICP/6010	9309022-13A	ND	0.5	0.447	0.447	89	<1	74-121	6
Cu, Copper	ICP/6010	9309022-13A	ND	0.25	0.2423	0.2410	97	1	85-113	5
Hg, Mercury	Hg/7470	9309022-10A	ND	2.0 ug/L	2.001	1.991	100	<1	80-120	15
Mo, Molybdenum	ICP/6010	9309022-13A	ND	0.25	0.223	0.223	89	<1	76-119	7
Ni, Nickel	ICP/6010	9309022-13A	ND	0.5	0.4460	0.4421	89	1	76-111	5
Pb, Lead	ICP/6010	9309022-13A	ND	0.5	0.4407	0.4473	89	1	82-112	5
Sb, Antimony	ICP/6010	9309022-13A	ND	0.5	0.440	0.429	87	3	79-116	8
Se, Selenium	4000/7740	9309022-09A	ND	0.08	0.0553	0.0584	71	5	24-141	21
Tl, Thallium	ICP/6010	9309022-13A	ND	2.0	1.795	1.829	91	2	67-116	7
V, Vanadium	ICP/6010	9309022-13A	ND	0.5	0.461	0.461	92	<1	77-114	6
Zn, Zinc	ICP/6010	9309022-13A	0.0160	0.5	0.4447	0.4370	85	2	77-116	5

MS = Matrix Spike
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< = Less Than

C-1,5-5

9309022

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 2407.00-014	Field Logbook No.:	Date: 9/1/93	Serial No.: 11234
Project Name: Volvo GM	Project Location: OAKLAND		
Sampler (Signature): Mark Goldman			Samplers: NPD

SAMPLES: SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	ANALYSES: EPA 601	EPA 624	Title 22 metals				HOLD	RUSH	REMARKS
LF-1-FB	8/31	1500	01A	1	H_2O			X				X		Normal Turnaround
LF-1		1625	02A											Results to: Jennifer Beatty
LF-101		1725	03A											
LF-2		1205	04A											Filtered in Field
LF-3		1340	05A											
LF-4		1150	06A											Title 22 Metals (CAM 17 metals)
LF-5		1430	07A											
LF-6		1405	08A											
LF-7	↓	1315	09A											
MW-1	9/1	1040	10A											
MW-2		1140	11A											
MW-3		1115	12A											
MW-4	↓	1015	13A	↓	↓			↓						

RELINQUISHED BY: (Signature) Michael Stell	DATE 9/2/93	TIME 09:40	RECEIVED BY: (Signature)	DATE 9/2/93	TIME 09:40
RELINQUISHED BY: (Signature)	DATE 9/2/93	TIME 10:50	RECEIVED BY: (Signature) Regina Gillespie	DATE 9-2-93	TIME 1050
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT: Courier (9/2)	DATE	TIME	LAB COMMENTS:		

Sample Collector:
LEVINE-FRICKE
1900 Powell Street, 12th Floor
Emeryville, Ca 94608
(415) 652-4500

Analytical Laboratory:
AEN

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

FORM NO. 86/COC/ARF