Quarterly Report of Ground-Water Monitoring For the Period of July 1 to September 30, 1990 Sherwin-Williams Plant, Emeryville, California

November 29, 1990
1563.06

Prepared for:

The Sherwin-Williams Company
1450 Sherwin Avenue
Emeryville, California

LEVINE·FRICKE

LEVINE·FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

November 29, 1990

LF-1563.06

Mr. Tom Gandesbery
Regional Water Quality Control Board
1800 Harrison Street, Suite 700
Oakland, California 94612

Subject: Quarterly Report of Ground-Water Monitoring
For the Period of July 1 to September 30, 1990
Sherwin-Williams Plant
Emeryville, California

Dear Mr. Gandesbery:

The enclosed report presents the results of the first quarterly report of a yearly ground-water monitoring program for the Sherwin-Williams plant of Emeryville, California. The program provides for measuring and mapping of ground-water flow directions, and sampling and analysis of ground water from monitoring wells located in on-site and off-site areas.

The monitoring program has been designed and implemented to provide additional information regarding chemicals in ground water underlying on-site and off-site areas. The scope of the monitoring program was presented in a Work Plan submitted to the Regional Water Quality Control Board (RWQCB) in June of 1990. (See Levine·Fricke, June 8, 1990, "Proposed Work Plan, Site Investigation/Treatability Study, Sherwin-Williams Plant, Emeryville, California"). The scope of the monitoring program is also discussed in the report.

Please call if you have any questions.

Sincerely,

John DeReamer

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1563.06/NAS

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

November 29, 1990 LF-1563.06

**QUARTERLY REPORT OF GROUND-WATER MONITORING
FOR THE PERIOD OF JULY 1 TO SEPTEMBER 30, 1990
SHERWIN-WILLIAMS PLANT, EMERYVILLE, CALIFORNIA**

1.0 INTRODUCTION AND SCOPE

This ground-water monitoring report has been prepared for submittal to the Regional Water Quality Control Board (RWQCB) as part of a continuing environmental investigation that has been undertaken by Sherwin-Williams for its manufacturing facility located at 1450 Sherwin Avenue in Emeryville, California ("the Site"; Figures 1 and 2). The scope of the ground-water monitoring program was outlined in a Work Plan submitted to the RWQCB (see Levine·Fricke, June 8, 1990, "Proposed Work Plan, Site Investigation/Treatability Study, Sherwin-Williams Plant, Emeryville, California"). The planned scope and schedule for monitoring of the Site is indicated in Table 1.

The following ground-water monitoring activities for this reporting period are documented in this report:

- installation and development of three new off-site and downgradient A-zone monitoring wells (LF-14, LF-15, and LF-16) and one new off-site upgradient B-zone monitoring well (LF-B4)
- measurement of ground-water levels in on-site and off-site monitoring wells
- collection of one round of samples from 16 A-zone monitoring wells (LF-1 to LF-16) and four B-zone monitoring wells (LF-B1 to LF-B4)
- laboratory analysis of the ground-water samples and specified QA/QC samples
- evaluation of the data generated in the above activities.
- destruction of well LF-6 during soil removal activities in August 1990

A total of 20 monitoring wells, including the four newly installed wells described above, were sampled and analyzed for chemicals in ground water using the following EPA Methods: 8240 for volatile organic compounds (VOCs); 8270 for semi-volatile

organic compounds (SVOCs); and modified 8015 for evaluation of tentatively identified compound (TIC) quantitation from the 8240 and 8270 analyses. The collected ground-water samples were also analyzed for six metals: arsenic, cadmium, copper, lead, zinc, and barium using the EPA Method 200/7000 Series protocols.

The collection and evaluation of ground-water data for this report were completed according to the guidelines set forth in a Quality Assurance/Quality Control document prepared for this project and submitted to the RWQCB concurrent with this report.

2.0 GROUND-WATER ELEVATIONS AND FLOW DIRECTIONS

Ground-water elevations were measured in A-zone monitoring wells (LF-1 to LF-16) and B-zone monitoring wells (LF-B1 to LF-B4) on September 11, 1990 (Mean Lower Low Water). The elevation of surface water in Temescal Creek, located at the northern margin of the Site, was also measured. Mean Lower Low Water was used as the datum for this project as a result of the Site's proximity to San Francisco Bay.

The ground-water elevation data are summarized in Table 2. Ground-water elevations and directions of ground-water flow in the A-zone and the B-zone are illustrated in Figures 3 and 4, respectively. The results show that ground-water flow in the A-zone is, over most of the Site, towards the northwest, in the direction of Temescal Creek.

Ground-water flow in the B-zone appears to be to the north-northwest over most of the Site. Ground-water contours suggest that flow is generally to the north. Near well LF-B1, flow is to the north-northeast, and near wells LF-B2 and LF-B3 flow is to the north-northwest.

3.0 GROUND-WATER QUALITY SAMPLING

Ground-water samples were collected by Levine·Fricke personnel in two phases. The first phase included monitoring wells LF-1 to LF-13 and wells LF-B1 to LF-B4, which were sampled during the period of July 18 to July 20, 1990. Monitoring wells LF-7, LF-8, and LF-11 were re-sampled on August 8, 1990 for EPA Method 8270 analysis by BC Analytical field personnel after the laboratory holding time had been exceeded for the samples previously collected by Levine·Fricke.

Monitoring wells LF-14, LF-15, and LF-16, which had been installed during the period August 29 to August 31, 1990, were

developed and sampled by Levine·Fricke personnel on September 4, 1990. Lithologic logs for these new wells are presented in Appendix A.

A minimum of three well volumes were purged from each well prior to sampling. The wells were purged either by pumping with a centrifugal pump or by hand bailing with a disposable polyethylene bailer. Wells that recovered slowly were purged dry and were allowed to recover to 80 percent of the initial well volume prior to sampling. The hoses attached to the centrifugal pump were steamed-cleaned prior to each use. The evacuated water was pumped into a 55-gallon drum and then transferred to a 630-gallon polytank stored in an on-site area pending approved disposal. Field measurements of temperature, pH, and specific conductance of the evacuated water were recorded during purging; monitoring wells were samples after these parameters has stabilized. The field records of these measured parameters are included in Appendix B.

After each well had been purged, ground-water samples were collected for laboratory analysis using a new disposable polyethylene bailer for each well. Samples were collected for analysis of VOCs using EPA Method 8240; SVOCs using EPA Method 8270; total petroleum hydrocarbons using modified EPA Method 8015; and six metals (arsenic, cadmium, copper, lead, zinc, and barium) using EPA Method 200/7000 Series. Samples were collected using the containers indicated in Table 3. The vials containing ground-water samples intended for Methods 8240 and 8015 analyses were gently filled to overflowing, capped, and checked for trapped air by inverting and tapping each vial. If an air bubble was observed, the vial was emptied and gently refilled. Water samples for Method 8270 analysis were collected in 1-liter brown glass bottles with a Teflon septum. Water samples for metals analysis were collected in a 1-liter plastic bottle without preservative and were filtered in the laboratory using 0.45-micron filters. All samples were analyzed by a State-certified laboratory, BC Analytical of Emeryville, California, according to EPA method protocols.

4.0 GROUND-WATER QUALITY ANALYSIS RESULTS

Samples from 16 A-zone monitoring wells (LF-1 to LF-16) and four B-zone monitoring wells (LF-B1 to LF-B4) were submitted for analysis. The laboratory results are summarized in Tables 5 through 10 along with results from previous monitoring episodes. Laboratory certificates of ground-water sample analyses are presented in Appendix C.

4.1 A-Zone Water-Quality Results

Volatile Organic Compound Results

The VOC results for the upgradient wells LF-12 and LF-13 are generally less than the laboratory detection limits. Exceptions include the detection of 0.002 ppm (parts per million) of toluene, 0.001 ppm total xylene isomers, and 0.001 ppm of PCE (tetrachloroethene) in well LF-13, and 0.001 ppm of PCE in well LF-12.

The VOC results for off-site, downgradient wells LF-14, LF-15, and LF-16 are less than the laboratory detection limits. The VOC results for the on-site perimeter wells LF-7 to LF-11 are generally less than the laboratory detection limits, as indicated in Table 5 and illustrated on Figure 5. Exceptions include 0.007 ppm of ethylbenzene and 0.044 ppm of total xylene isomers in LF-7; 0.002 ppm of total xylene isomers in LF-8; 0.011 ppm of ethylbenzene and 0.002 ppm of total xylene isomers in LF-9; and 0.015 ppm of acetone in LF-11.

The VOC results for on-site well LF-1 indicate 0.450 ppm of acetone, less than 0.001 ppm of ethylbenzene, 0.002 ppm of benzene, 0.018 ppm of toluene, 0.160 ppm of total xylene isomers, and 0.200 ppm of methyl ethyl ketone (Figure 5 and Table 5). The VOC results for the A-zone wells in the former solvent tank farm area indicate acetone in wells LF-4 and LF-6; ethylbenzene in wells LF-4, LF-5, and LF-6; toluene in wells LF-4, LF-5, and LF-6; xylene isomers in wells LF-4, LF-5, and LF-6; methyl ethyl ketone in wells LF-4, LF-5, and LF-6; and 2-hexanone in wells LF-4, LF-5, and LF-6 (Figure 5 and Table 5). The VOC results for two shallow zone wells in the former oils tank farm area, wells LF-2 and LF-3, indicate acetone and benzene in well LF-3, and ethylbenzene, methyl ethyl ketone, xylene isomers, 2-hexanone, and toluene in wells LF-2 and LF-3 (Figure 5 and Table 5).

The results for VOC analyses continue to indicate nonpriority pollutant tentatively identified compounds (TICs). TICs are nonpriority pollutants for which the laboratory is able to provide only semi-quantified estimates of concentration, because of the lack of a quantification standard. Semi-quantified estimates of concentration for TICs may be in error by as much as one or two orders-of-magnitude, or more. Consequently, such data are appropriately considered separately from quantified data.

Several VOC TICs were reported for the ground-water samples from on-site perimeter wells LF-7 through LF-11, including short-chain hydrocarbons (generally C7 to C15 hydrocarbons) in wells LF-7, LF-9, and LF-10; complex hydrocarbon compounds (generally C7H14

and C9H12 hydrocarbons) in well LF-8; a ketone compound in well LF-11 (C7H14O ketone); and diisopropylether in well LF-8. Table 6 and Figure 6 summarize these results.

Semi-Volatile Organic Compound Results

The SVOC results for upgradient wells are below the indicated detection limits, with the exception of the detection of 0.028 ppm of bis(2-ethylhexyl)phthalate in well LF-12. The SVOC results for off-site downgradient wells were below the laboratory detection limits, as indicated on Figure 7 and Table 7. The SVOC results for on-site perimeter wells LF-7, LF-8, LF-9, LF-10, and LF-11 are below the laboratory detection limits. The SVOC results for the ground-water sample from LF-1 are generally below the laboratory detection limits, with the exception of 0.011 ppm of phenol. The SVOC results for the ground-water samples from wells LF-2 and LF-3 in the former oils tank farm area included 2-methylphenol for LF-3 (0.240 ppm); 4-methylphenol for LF-3 (0.800 ppm); and naphthalene for LF-2 (0.300 ppm) and LF-3 (0.160 ppm) (Figure 7 and Table 7). The SVOC results for the ground-water samples from wells LF-4, LF-5, and LF-6, located in and near the former solvents tank farm area include 2-methylphenol in LF-5 (0.280 ppm); 4-methylphenol in LF-5 (0.850 ppm) and LF-6 (0.620 ppm); naphthalene in LF-4 (0.010 ppm) and LF-6 (0.160 ppm); phenol in LF-4 (0.015 ppm) and LF-6 (0.200 ppm); and benzoic acid in LF-5 (0.660 ppm). Figure 7 and Table 7 present the results for SVOCs.

Semi-Volatile Organic Compound Tentatively Identified Compound Results

The TICs reported for this sampling round in the SVOC range include compounds characterized as ketones, benzene isomers, organic acids, long-chain hydrocarbons, molecular sulfur, alcohols, esters, and complex matrix compounds.

The SVOC TIC results for wells LF-7, LF-8, LF-9, LF-10, and LF-11 include the detection of benzene isomer compounds for LF-9 (C3 benzene and C4 benzene) and LF-11 (C3 benzene); a long-chain hydrocarbon compound for LF-9 (C8-C35 hydrocarbon matrix); and complex matrix compounds for LF-7 (C12H18O, C12H18 hydrocarbon, and C7H14O2), LF-8 (C6H12O2, C7H14O2), and LF-11 (C6H12 hydrocarbon C6H12O2, C7H14O2, and C8H14O2). The SVOC TIC results for LF-1 included benzene isomers (C3 benzene) and a complex matrix compound (C6H10O). The SVOC TIC results for the former oils tank farm area wells include long-chain hydrocarbons for LF-2 (C8-C15 hydrocarbon matrix); ketones for LF-3 (C6H10O); alcohols for LF-2 (C6H12O) and LF-3 (C6H12O2); benzene isomers for LF-3 (C3 benzene); organic acids for LF-3 (C4H8O2, C6H12O2,

C8H16O2, and C8H8O2); and complex matrix compounds for LF-3 (C7H9O2N and C8H14O2). The SVOC TIC results for the former solvent tank farm area wells include ketones in LF-5 and LF-6; benzene isomers in LF-5 and LF-6; alcohols in LF-5 and LF-6; complex matrix compounds in LF-4 (C6H14O3 and C8-C15), LF-5 (C6H14O3 and C9H18 hydrocarbon) and LF-6 (C6H14O3, C8H16O2, C9H14O3, C9H16O, and C9H8O4); and long-chain hydrocarbon compounds in LF-4. Figure 8 and Table 8 summarize these results. Quantitation of TICs may be in error by one or two orders of magnitude, or more, due to the lack of an appropriate standard for quantitation.

Metals Results

Metals detected at significant concentrations in ground water include arsenic and barium. Metals concentrations detected in ground water are summarized in Table 10 and Figure 9.

Metals detected in upgradient well LF-12 included 0.004 ppm of arsenic and 0.060 ppm of barium. The results for upgradient well LF-13 are generally below the indicated laboratory detection limits (less than 0.002 ppm for arsenic). The metals results for ground-water samples from off-site, downgradient wells indicate 0.092 ppm arsenic in LF-14, 0.002 ppm arsenic in LF-15, and 0.003 ppm arsenic in LF-16. Metals results for on-site, downgradient wells indicate low to trace concentrations of arsenic for LF-8 (0.004 ppm), LF-9 (0.008 ppm), LF-10 (0.012 and 0.008 ppm), and LF-11 (0.007 ppm). The metals results for the ground-water sample from LF-1 indicate 120 ppm of arsenic and 0.060 ppm of barium. The metals results for the ground-water sample from the former oils tank farm area wells indicate detectable arsenic concentrations in LF-2 (110 ppm) and LF-3 (21 ppm); and barium in LF-2 (0.450 ppm) and LF-3 (0.420 ppm).

The metals results for the ground-water sample from the former solvent tank farm area monitoring wells include the detection of arsenic in LF-4 (0.190 ppm), LF-5 (0.020 ppm), and LF-6 (14 ppm); and barium in LF-4 (0.160 ppm), LF-5 (0.170 ppm), and LF-6 (0.210 ppm).

The results for other metals were generally below the laboratory detection limits. See Figure 9 and Table 10 for other metals results.

4.2 B-Zone Water-Quality Results

Volatile Organic Compound Results

The VOC results for the ground-water samples from the B-zone monitoring wells indicate 1,2-dichloroethane (1,2-DCA) in wells LF-B1 (0.170 ppm), LF-B2 (0.007 ppm), LF-B3 (0.086 ppm), and LF-B4 (0.001 ppm). Other VOCs detected include toluene in well LF-B4 (0.002 ppm) and styrene in well LF-B3 (0.003 ppm).

Volatile Organic Compound Tentatively Identified Compound Results

The VOC TIC results for the B-zone wells include the detection of diisopropyl ether in wells LF-B1 (0.300 ppm), LF-B2 (0.200 ppm), and LF-B3 (0.300 ppm). Another complex compound, C8H18O2 (organic acid), was detected in the sample from well LF-B1 at 0.070 ppm.

Semi-Volatile Organic Compound Results

The SVOC results for the ground-water samples from the B-zone monitoring wells indicate phenol in wells LF-B1 (0.460 ppm) and LF-B2 (0.016 and 0.016 ppm); and bis-2-ethylhexylthalate in wells LF-B1 (0.140 ppm), LF-B2 (0.032 and 0.060 ppm), LF-B3 (0.190 ppm), and LF-B4 (0.023 ppm). No other SVOC compounds were reported above detection limits, as indicated in Table 7.

Semi-Volatile Organic Compound Tentatively Identified Compound Results

The SVOC TIC results for the ground-water samples from the B-zone monitoring wells indicated a complex matrix compound in wells LF-B2 (C7H16O3 at 0.006 ppm and C8H16O2 at 0.010 ppm and 0.006 ppm of C8H16O2 for a duplicate) and LF-B4 (0.002 ppm of C8H18O2). No other SVOC TIC compounds were reported for the B-zone samples (Table 8).

Metals Results

The results of analyses for six metals indicate low concentrations of arsenic in wells LF-B1 (0.007 ppm), LF-B2 (0.005 and 0.004 ppm), LF-B3 (0.003 ppm), and LF-B4 (0.003 ppm); and barium in wells LF-B1 (0.08 ppm), LF-B2 (0.14 and 0.15 ppm), LF-B3 (0.10 ppm), and LF-B4 (0.08 ppm). The results for cadmium, copper, lead, and zinc were below the laboratory detection limits of 0.05 ppm for cadmium, copper, and zinc, and 0.20 ppm for lead.

5.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PROCEDURES AND RESULTS

Strict control measures were implemented to maintain data quality and minimizing the potential for field and/or laboratory cross contamination of samples, particularly for arsenic. QA/QC procedures included collection of trip blank and bailer rinsate blank samples, sampling order control, the use of disposable bailers, and daily steam-cleaning of pump hoses before and after use. The monitoring wells were sampled in several groups according to upgradient, downgradient, and on-site location. The wells in each group were sampled in the order of increasing concentration of arsenic, based on previous results and as prescribed in the QAPP (November 29, 1990). The prescribed sampling order, including the collection and submittal of trip blanks and bailer rinsate blanks, is indicated in Table 4.

Three types of QA/QC samples were collected and analyzed for each analytical method, including laboratory-supplied trip blanks, bailer rinsate blanks, and duplicates. At least two trip blanks, bailer rinsate blanks, and duplicate samples were collected and analyzed using EPA Methods 8240 and 8270, and for metals using EPA Method 200/7000 Series. Additional trip blank samples were collected on a daily basis for metals/ arsenic analysis to check residual contamination of laboratory equipment. Another type of data quality check was performed using a modified EPA Method 8015 analysis to check the quantitation of TICs by the laboratory. This is discussed further in the following paragraphs.

The results for the QA/QC samples are reported in Appendix D and on Table D-1. These results indicate that the QA/QC controls used appear sufficient to minimize field and/or laboratory cross contamination of samples, particularly with regard to arsenic results.

The modified EPA Method 8015 analysis measures total extractable petroleum hydrocarbons (TPH) in the range of C5-C40, the same range as most of the TICs reported for the Site. Because the modified EPA Method 8015 can provide more accurate quantitation for TICs in this range than can be provided using EPA Methods 8240 and 8270, this analysis was performed on samples that showed TICs in both the volatile and semi-volatile analyses in order to assess their accuracy. Modified EPA Method 8015 results were quantified using gasoline as a reference standard. Based on careful examination of chromatographs, however, the hydrocarbons were determined not to be gasoline, but hydrocarbons of slightly longer chain lengths. The results for TPH are generally low, ranging from less than 1 ppm to up to 1,500 ppm (Table 9). The values obtained from the TPH analyses, when compared to the

quantitation provided for total VOCs (Table 5) and TICs (Tables 6 and 8), suggest that the TIC quantitation is reasonable for only those wells containing less than 1 ppm TPH (i.e., LF-7 to LF-16 and B-zone wells). For the wells with the two highest reported detections, wells LF-5 and LF-6, the modified EPA Method 8015 analysis revealed TPH values that were approximately 40 percent higher than total VOCs and TICs quantified using EPA Methods 8240 and 8270. For wells with intermediate concentrations of TPH (i.e., LF-1 to LF-4), the 8240 and 8270 methods significantly underestimate the total organic concentration by almost ten times. It is recommended, therefore, that during future monitoring periods, a modified 8015 analysis be performed with the 8240 and 8270 analyses for wells LF-1 to LF-6 (Table 1).

6.0 INTERPRETATION OF RESULTS

6.1 Interpretation of A-Zone Results

Volatile Organic Compounds and Semi-Volatile Organic Compounds
Evaluation of the laboratory analytical results shows that VOCs and SVOCs in A-zone ground water are concentrated in two on-site areas, the former solvent tank farm area and the former oils tank farm area, as illustrated in Figures 10 and 11. The concentration of total VOCs in the former solvent tank farm area exceeds 1,000 ppm, and is close to 100 ppm in the oils tank farm area, as indicated on Figure 10. The concentration of SVOCs in the former solvent tank farm area exceeds 1 ppm, and is close to 1 ppm in the oils tank farm area, as indicated on Figure 11. The results for total VOCs in the ground-water samples from the perimeter on-site wells located on the northwestern margin of the Site (i.e., monitoring wells LF-8, LF-9, LF-10, and LF-11) indicate significantly lower concentrations of total VOCs than for the former oil tank farm areas. The results for recently installed, off-site, downgradient wells LF-14, LF-15, and LF-16 indicate that the A-zone ground water at these locations has not been affected by the VOCs or SVOCs detected in the on-site areas.

The results for LF-1 indicate much lower concentrations for VOCs than first detected (Table 5). The results for LF-2 indicate an increase in methyl ethyl ketone from below the detection limit of 0.020 to 8.800 ppm and 2-hexanone from below the detection limit of 0.020 to 12.000 ppm. The results for LF-3 indicate an increase in acetone from below the detection limit of 1 ppm to 10 ppm and 2-hexanone from below the detection limit of 0.500 to 1.900 ppm. The results for LF-4 indicate decreases for ethylbenzene and xylene isomers to <0.100 ppm and 0.380 ppm, respectively. The results for LF-5 indicate an increase in

2-hexanone from below the detection limit of 1.000 to 2.600 ppm. The results for LF-6 indicate an increase in methyl ethyl ketone from 320 to 720 ppm, 2-hexanone from below the detection limit of 1.000 to 24 ppm, and PCE from below the detection limit of 1.000 to 45 ppm.

Volatile Organic Compound Tentatively Identified Compounds and Semi-Volatile Organic Compound Tentatively Identified Compounds

The results of the laboratory analyses of A-zone ground-water samples indicate a wide range of tentatively identified compounds that have semi-quantified estimates of concentration. The TICs that have been reported in A-zone ground-water samples include compounds characterized as short- and long-chain hydrocarbons, ketones, benzene isomers, organic acids, molecular sulfur compounds, alcohols, and complex matrix compounds. Most of the TICs are SVOCs, detected using EPA Method 8270. The TICs in A-zone ground water appear to be concentrated in the former tank farm areas. Analytical results for on-site perimeter monitoring wells LF-8, LF-9, LF-10, and LF-11 indicate that one or more of the TICs are present in ground water at these locations. The semi-quantified estimates of concentration indicate that total TIC concentrations in LF-9 and LF-11 may exceed 1 ppm. No VOC TIC compounds are reported for off-site, downgradient monitoring wells LF-14, LF-15, and LF-16. Only a complex matrix of SVOC TICs is reported at an estimated concentration of 0.008 ppm for wells LF-14 and LF-15. These results indicate that the A-zone ground water in the off-site, downgradient locations of wells LF-14, LF-15, and LF-16 has not been significantly affected by TICs that have been detected in on-site A-zone monitoring wells.

Arsenic Results

Evaluation of arsenic results for the A-zone indicates that the area with concentrations greater than 10 ppm in ground water is located in the eastern portion of the Site, with the greatest concentrations reported for wells LF-1 (120 ppm), LF-2 (110 ppm), LF-3 (21 ppm), and LF-6 (14 ppm) (Figure 12). One monitoring well indicates a significant increase in arsenic, LF-2 (increasing from 17 to 110 ppm) from the prior monitoring periods. The arsenic results for on-site, perimeter wells LF-7, LF-8, LF-9, and LF-11 and off-site, downgradient wells LF-15 and LF-16 were all less than 0.010 ppm. The results for wells LF-10 (0.012 ppm and 0.008 ppm for a duplicate) and LF-14 (0.092 ppm and 0.077 ppm for a confirmation sample) suggest that the extent of the area affected with concentrations of arsenic greater than 0.010 ppm in A-zone ground water extends from the on-site areas to the northwest to well LF-14.

6.2 Interpretation of B-Zone Results

Volatile Organic Compound Results

The results of the VOC analyses of ground-water samples from four B-zone monitoring wells indicate that B-zone ground water in these areas is affected by a limited number of VOCs not found in A-zone ground water, including 1,2-dichloroethane (1,2-DCA) and styrene. The results for recently installed, off-site, upgradient B-zone well LF-B4 indicate very low concentrations of 1,2-DCA (0.001 ppm) and toluene (0.002 ppm) in upgradient ground water. These results indicate that concentrations of 1,2-DCA in wells LF-B1 (0.170 ppm), LF-B2 (0.007 ppm), and LF-B3 (0.086 ppm) may have originated from an off-site source. The semi-quantified results for the VOC TIC compound characterized as diisopropyl ether reported for wells LF-B1 (0.300 ppm), LF-B2 (0.200 ppm), and LF-B3 (0.300 ppm), and the minor detection in A-zone well LF-7 indicate that there may also be an off-site source for this compound.

Semi-Volatile Organic Compound and Semi-Volatile Organic Compound Tentatively Identified Compound Results

The results of the SVOC analyses of ground-water samples from four B-zone monitoring wells indicate concentrations of phenol in samples from wells LF-B1 (0.460 ppm) and LF-B2 (0.140 ppm and 0.088 ppm for a duplicate). The results for phenol in wells LF-B4, an off-site upgradient well, and LF-B3, an on-site downgradient well, were both below the detection limit of 0.010 ppm. These results indicate that there may be an on-site source for phenol since it is detected in the A-zone ground water; however, phenol was detected in only two A-zone wells, LF-1 (0.011 ppm) and LF-6 (0.200 ppm). The lack of significant correlation between other A-zone and B-zone results suggests that phenol may originate from other off-site sources that have introduced it to the B-zone.

The results for modified EPA Method 8015 analyses indicate that TIC results for the B-zone ground water are not grossly underestimated.

Arsenic Results

A review of the results for arsenic in B-zone ground-water samples indicates that B-zone ground-water quality has not been affected by the migration of arsenic from the shallow zone to the B-zone. The results for wells LF-B1 (0.007 ppm), LF-B2 (0.005 ppm and 0.004 ppm for a duplicate), and LF-B3 (0.003 ppm) were all close to the results of the off-site, upgradient well LF-B4 (0.003 ppm).

7.0 SEALING OF WELL LF-6

Well LF-6 was sealed on August 2, 1990 prior to performing soil removal in the former solvents tank farm area. Soil containing lead was removed and disposed of at a Class I landfill prior to the Land Disposal Restrictions for lead on August 8, 1990. More information on the soil removal activities will be provided in the evaluation of interim remedial measures for the Site scheduled for completion in January 1991.

Well LF-6 was located in an area scheduled for excavation. Therefore the well was sealed with cement bentonite grout from the bottom of the well to approximately 5 feet below grade. The top of the well casing was removed and soil in the area was then excavated on the following day.

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TABLE 1

GROUND-WATER MONITORING PROGRAM
SCHEDULE FOR SAMPLING AND PLANNED ANALYTICAL METHODS
JULY 1990 to JULY 1991

Well Location and Number	Water-Level Measurement Schedule	Planned Ground-Water Sampling Schedule	Laboratory Analyses (EPA Method)
On-Site Apparent Arsenic Source Area Well			
LF-1	Quarterly	Annual	8240, 8270, Modified 8015 200/7000
On-Site Former Oils Tank Farm Area Wells			
LF-2	Quarterly	Annual	8240, 8270, Modified 8015 200/7000
LF-3	Quarterly	Annual	8240, 8270, Modified 8015 200/7000
On-Site Former Solvent Tank Farm Area Wells			
LF-4	Quarterly	Annual	8240, 8270, Modified 8015 200/7000
LF-5	Quarterly	Annual	8240, 8270, Modified 8015 200/7000
LF-6	Well Destroyed August 1990		
On-Site Well Upgradient From Former Solvent Tank Farm Area			
LF-7	Quarterly	Annual	8240, 8270, 200/7000
On-Site Downgradient Wells			
LF-8	Quarterly	Quarterly	8240, 8270, 200/7000
LF-9	Quarterly	Quarterly	8240, 8270, 200/7000
LF-10	Quarterly	Quarterly	8240, 8270, 200/7000
LF-11	Quarterly	Quarterly	8240, 8270, 200/7000
Off-Site Upgradient Wells			
LF-12	Quarterly	Quarterly	8240, 8270, 200/7000
LF-13	Quarterly	Quarterly	8240, 8270, 200/7000
Off-Site Downgradient Wells			
LF-14	Quarterly	Quarterly	8240, 8270, 200/7000
LF-15	Quarterly	Quarterly	8240, 8270, 200/7000
LF-16	Quarterly	Quarterly	8240, 8270, 200/7000
Off-Site Upgradient B Zone Well			
LF-B4	Quarterly	Quarterly	8240, 8270, 200/7000
On-Site B Zone Wells			
LF-B	Quarterly	Quarterly	8240, 8270, 200/7000
LF-B2	Quarterly	Quarterly	8240, 8270, 200/7000
LF-B3	Quarterly	Quarterly	8240, 8270, 200/7000

Notes: Wells LF-1 to LF-16 are Shallow Zone Wells.
Wells LF-B1 to LF-B4 are B Zone Wells.
Quarterly Monitoring Periods are:
Jan, Feb, Mar // Apr, May, Jun // Jul, Aug, Sep // Oct, Nov, Dec
Annual Monitoring Period is July, August, and September.
EPA Method 200/7000 is for selected metals, including arsenic and lead.

TABLE 2

GROUNDWATER ELEVATION DATA
SEPTEMBER 11, 1990
Time: 11:00 to 13:30

Well Number	Well Elevation* (Mean Lower Low Water)	Measured Depth to Ground Water	Ground-Water Elevation (Mean Lower Low Water Datum)
LF-1	19.78	8.85	10.93
LF-2	15.10	5.32	9.78
LF-3	14.84	5.14	9.70
LF-4	15.91	7.34	8.57
LF-5	13.34	4.52	8.82
LF-6	Well destroyed August 1990	NM	NM
LF-7	13.94	4.94	9.00
LF-8	15.61	7.46	8.15
LF-9	13.30	5.51	7.79
LF-10	13.18	4.23	8.95
LF-11	12.94	3.71	9.23
LF-12	17.83	6.84	10.99
LF-13	17.62	6.57	11.05
LF-14	12.89	5.99	6.90
LF-15	12.66	5.07	7.59
LF-16	12.96	4.74	8.22
LF-B1	19.98	10.80	9.18
LF-B2	14.09	4.68	9.41
LF-B3	13.22	3.78	9.44
LF-B4	17.40	6.78	10.62
BRIDGE	13.84	10.27	3.57

*The correction factor to convert to a Mean Lower Low Water Datum is +2.86 for Berkeley Mari San Francisco Bay. The Mean Lower Low Water Datum (MLLW) provides a preferred plane of reference for water levels that may be close to the level of low tide.

BRIDGE refers to railroad bridge crossing Temescal Creek.
NM = Not measured.

TABLE 3

SAMPLE CONTAINERS, PRESERVATION METHODS AND HOLDING TIMES

EPA Method	Parameter	Volume	Container	Preservation (degrees Celsius)	Holding Time
601/8010	halogenated volatile organic	40 ml	glass	4 (1)	14 days
Modified 8015	total petroleum hydrocarbons	40 ml	glass	4 (1)	14 days
602/8020	aromatic volatile organic compounds	40 ml	glass	4 (1)	14 days
624/8240	volatile organic compounds	40 ml	glass	4 (1)	14 days
625/8270	base/neutral/acid extractables	2 L	glass	4	extract within 7 days and analyze within 40 days of extraction.
200/7000	priority pollutant metals	1 L	plastic	4	6 months

Notes:
(1) Samples preserved with hydrochloric acid.

Soils will be collected in brass tubes (undisturbed soils) or glass jars (disturbed soils)
Preservation of soils will only include keeping samples at 4 degrees celsius

TABLE 4

RECOMMENDED ORDER OF SAMPLING FOR MONITORING WELLS
ORGANIZED IN TERMS OF INCREASING CONCENTRATION OF ARSENIC
(Includes Schedule for Collection and Submittal of Trip Blanks and Bailer Rinsate Blanks)

Designated Group And Well Identification	Arsenic Results From Phase Two Report In PPM
Off-Site Upgradient Wells and All B Zone Wells	
LF-B4-Trip Blank	
LF-B4-Bailer Rinsate Blank	
LF-B4	New Well
LF-13	<0.002*
LF-12	0.005*
LF-B2	0.006*
LF-B3	0.007*
LF-B1	0.027*
Off-Site and On-Site Downgradient Wells	
LF-16-Trip Blank	
LF-16-Bailer Rinsate Blank	
LF-16	New Well
LF-15	New Well
LF-14	New Well
LF-11	0.010*
LF-7	0.011*
LF-8	0.041*
LF-9	0.067
LF-10	0.650
On-Site Source Area Wells	
LF-5-Trip Blank	
LF-5-Bailer Rinsate Blank	
LF-5	0.026*
LF-4	0.550
LF-6	16.000
LF-2	17.000
LF-3	30.000
LF-1	190.000

Note: * indicates arsenic data not validated based on arsenic results of 0.013 ppm for trip blank.
PPM indicates results in parts per million.
Recommended sampling order to be reviewed and adjusted per results of each sampling round.

Table 5

HISTORICAL WATER QUALITY DATA SUMMARY

VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8240

(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D. No.	Acetone	Benzene	Ethyl-Benzene	Methy Ethy Ketone	Total Xylenes	2-Hexa-none	Toluene	1,1,1-TCA	1,2-DCA	PCE	TCE	Chloro-benzene	Total Quantified Concentra-ions	Notes
LF-1	01-Jun-89	B&C	89060194	30.000	<0.200	0.900	20.000	3.600	15.000	6.000	<0.200	<0.200	<0.200	<0.200	<0.200	75.500	
LF-1	07-Dec-89	B&C	12-212-1	<0.010	<0.001	<0.001	<0.020	0.040	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.042	
LF-1	20-Jul-90	B&C	07-506-7	0.450	0.002	<0.001	0.200	0.160	<0.001	0.018	<0.001	<0.001	0.005	0.004	<0.001	0.840	#2
LF-2	02-Jun-89	B&C	89060501	<0.050	0.015	0.015	<0.100	0.300	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.330	
LF-2	07-Dec-89	B&C	12-212-3	0.350	<0.020	<0.020	<0.400	0.840	<0.020	0.029	<0.020	<0.020	<0.020	<0.020	<0.020	1.219	
LF-2	20-Jul-90	B&C	07-506-5	<0.500	<0.050	0.066	8.800	0.910	12.000	0.051	<0.050	<0.050	<0.050	<0.050	0.050	21.827	
LF-3	02-Jun-89	B&C	89060502	<1.000	<0.100	2.500	<2.000	12.000	<0.100	17.000	<0.100	<0.100	<0.100	<0.100	<0.100	31.500	
LF-3	07-Dec-89	B&C	12-212-4	<5.000	<0.500	6.300	<10.000	32.000	<0.500	77.000	<0.500	<0.500	<0.500	<0.500	<0.500	115.300	
LF-3	20-Jul-90	B&C	07-506-6	10.000	0.110	5.000	7.700	22.000	1.900	52.000	<0.050	<0.050	<0.050	<0.050	<0.050	98.710	
LF-4	02-Jun-89	B&C	89060503	1.300	<0.200	1.300	4.700	3.800	0.260	<0.200	<0.020	<0.020	<0.020	<0.020	<0.020	11.360	
Duplicate	02-Jun-89	B&C	89060504	1.300	<0.200	1.700	4.700	4.100	0.280	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	12.080	
LF-4	06-Dec-89	B&C	12-174-1	<0.020	<0.020	0.200	<0.040	0.650	<0.002	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002	0.850	
Duplicate	06-Dec-89	B&C	12-174-6	<0.050	<0.005	0.250	<0.100	0.750	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	1.000	
LF-4	20-Jul-90	B&C	07-506-3	<1.000	<1.000	<0.100	<2.000	0.380	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.380	
LF-5	01-Jun-89	B&C	89060192	220.000	<2.000	2.000	390.000	8.000	<2.000	300.000	<1.000	<1.000	<1.000	<2.000	<1.000	920.000	
LF-5	06-Dec-89	B&C	12-174-4	51.000	<1.000	<1.000	320.000	<1.000	<1.000	310.000	<1.000	<1.000	<1.000	<1.000	<1.000	681.000	
LF-5	20-Jul-90	B&C	07-506-2	<10.000	<1.000	1.100	170.000	2.600	6.700	170.000	<1.000	<1.000	<1.000	<1.000	<1.000	350.400	
LF-6	01-Jun-89	B&C	89060193	280.000	<1.000	6.000	470.000	210.000	<1.000	22.000	<0.200	<0.200	<0.200	<1.000	<0.200	988.000	
LF-6	05-Dec-89	B&C	12-128-3	64.000	<1.000	5.000	320.000	17.000	<1.000	59.000	<1.000	<1.000	<1.000	<1.000	<1.000	465.000	
LF-6	20-Jul-90	B&C	07-506-4	200.000	<1.000	4.000	720.000	13.000	24.000	45.000	<1.000	<1.000	45.000	<1.000	<1.000	1051.000	
LF-7	01-Jun-89	B&C	89060191	<0.005	0.050	<0.005	<0.005	0.580	<0.005	0.270	<0.001	<0.001	<0.001	<0.005	<0.001	0.900	
LF-7	06-Dec-89	B&C	12-174-3	<0.010	0.031	0.052	<0.020	0.150	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	0.007	0.243	
LF-7	19-Jul-90	B&C	07-485-4	<0.010	<0.001	0.007	<0.020	0.044	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.052	

Table 5

HISTORICAL WATER QUALITY DATA SUMMARY

VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8240

(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D. No.	Acetone	Benzene	Ethyl-Benzene	Methy Ethy Ketone	Total Xylenes	2-Hexa-none	Toluene	1,1,1-TCA	1,2-DCA	PCE	TCE	Chloro-benzene	Total Quantified Concentra-tions	Notes
LF-8	05-Dec-89	B&C	12-128-4	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	
LF-8	19-Jul-90	B&C	07-485-5	<0.010	<0.001	0.007	<0.020	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.010	
LF-9	05-Dec-89	B&C	12-128-1	<0.010	<0.001	0.022	<0.020	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	0.005	0.030	
LF-9	19-Jul-90	B&C	07-485-6	<0.010	<0.001	0.011	<0.020	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	0.017	
LF-10	07-Dec-89	B&C	12-212-5	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
LF-10	19-Jul-90	B&C	07-485-7	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
Duplicate	19-Jul-90	B&C	07-485-8	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
LF-11	05-Dec-89	B&C	12-128-2	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	
Duplicate	05-Dec-89	B&C	12-128-5	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.023	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
LF-11	19-Jul-90	B&C	07-485-3	0.015	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.016	
LF-12	06-Dec-89	B&C	12-174-2	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	0.005	
LF-12	18-Jul-90	B&C	07-444-5	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002	<0.001	0.003	
LF-13	06-Dec-89	B&C	12-174-7	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.002	0.029	<0.001	<0.001	<0.001	<0.001	0.031	
LF-13	18-Jul-90	B&C	07-444-4	<0.010	<0.001	<0.001	<0.020	0.001	<0.001	0.002	0.056	<0.001	0.001	<0.001	<0.001	0.060	
LF-14	04-Sep-90	B&C	07-444-4	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
LF-15	04-Sep-90	B&C	07-444-5	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
LF-16	04-Sep-90	B&C	07-444-6	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
LF-B1	07-Dec-89	B&C	12-212-6	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	0.051	<0.001	<0.001	<0.001	0.051	
LF-B1	18-Jul-90	B&C	07-444-9	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.002	<0.001	0.170	0.001	<0.001	<0.001	0.171	

Table 5

HISTORICAL WATER QUALITY DATA SUMMARY

VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8240

(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D. No.	Acetone	Benzene	Ethyl-Benzene	Methy Ethy Ketone	Total Xylenes	2-Hexa-none	Toluene	1,1,1-TCA	1,2-DCA	PCE	TCE	Chloro-benzene	Total Quantified Concentra-ions	Notes
LF-B2	06-Dec-89	B&C	12-174-5	<0.010	<0.001	<0.001	<0.020	0.013	<0.001	<0.001	<0.001	0.007	<0.001	<0.001	<0.001	0.020	
LF-B2	18-Jul-90	B&C	07-444-6	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.002	<0.001	0.007	<0.001	<0.001	<0.001	0.009	
Duplicate	18-Jul-90	B&C	07-444-7	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.002	<0.001	0.007	<0.001	<0.001	<0.001	0.009	
LF-B3	07-Dec-89	B&C	12-212-8	<0.010	<0.001	<0.001	<0.020	<0.001	0.001	<0.001	<0.001	0.100	<0.001	<0.001	<0.001	0.101	#1
Duplicate	07-Dec-89	B&C	12-212-10	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	0.073	<0.001	<0.001	<0.001	0.073	
LF-B3	18-Jul-90	B&C	07-444-8	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.002	<0.001	0.086	<0.001	<0.001	<0.001	0.088	
LF-B4	18-Jul-90	B&C	07-444-3	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.002	<0.001	0.001	<0.001	<0.001	<0.001	0.003	
FIELD BLANKS & TRIP BLANKS																	
LF-1-FB	01-Jun-86	B&C	89060195	0.012	<0.001	<0.001	<0.020	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.016	
LF-1-FB	07-Dec-89	B&C	12-212-2	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
LF-B1-FB	07-Dec-83	B&C	12-212-7	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
LF-13-FB	06-Dec-89	B&C	12-174-12	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
Trip Blank	07-Dec-89	B&C	12-212-9	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
LF-B4-TB	18-Jul-90	B&C	07-444-1	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
LF-B4-BB	18-Jul-90	B&C	07-444-2	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
LF-11-TB	19-Jul-90	B&C	07-485-1	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	
LF-11-BB	19-Jul-90	B&C	07-485-1	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000	

Table 5

HISTORICAL WATER QUALITY DATA SUMMARY

VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8240

(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D. No.	Acetone	Benzene	Ethyl-Benzene	Methy Ketone	Ethy Total Xylenes	2-Hexa-none	Toluene	1,1,1-TCA	1,2-DCA	PCE	TCE	Chloro-benzene	Total Quantified Concentra-tions	Notes

Explanation of Symbols and Abbreviations used on Table 5:

Signifies that there is a note of explanation for laboratory results.

Analytical Laboratories:

B&C: Brown and Caldwell Laboratory, Emeryville, California.

1,1,1-TCA = 1,1,1-Trichloroethane

1,2-DCA = 1,2-Dichloroethane

PCE = Tetrachloroethene

TCE = Trichloroethene

NOTES:

#1 LF-B3 6/02/89 - Vinyl Acetate reported at 0.001 ppm, Styrene reported at 0.001 ppm, and Methyl Isobutyl Ketone reported at 0.001 ppm.

#2 LF-1 7/20/90 - cis-Dichloroethene reported at 0.001 ppm.

TABLE 6

HISTORICAL WATER QUALITY DATA SUMMARY,

TENTATIVELY IDENTIFIED VOLATILE ORGANIC COMPOUNDS WITH SEMI-QUANTIFIED ESTIMATES OF CONCENTRATION

(All semi-quantified estimates of concentration expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D. No.	Type of Analysis	Short-Chain Hydrocarbon Compounds	Complex Hydrocarbon Compounds	Ketones	Propyl Ether	Diiso-propyl Ether	Tetra-hydrofuran	Total TIC Semi-Quantified Estimates Of Concentration	Notes
LF-1	01-Jun-89	B&C	89060194	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-1	07-Dec-89	B&C	12-212-1	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-1	20-Jul-90	B&C	07-506-7	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-2	02-Jun-89	B&C	89060501	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-2	07-Dec-89	B&C	12-212-3	8240	0.100	NR	NR	NR	NR	NR	0.100	
LF-2	20-Jul-90	B&C	07-506-5	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-3	02-Jun-89	B&C	89060502	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-3	07-Dec-89	B&C	12-212-4	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-3	20-Jul-90	B&C	07-506-6	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-4	02-Jun-89	B&C	89060503	8240	0.800	NR	NR	NR	NR	NR	0.800	
Duplicate	02-Jun-89	B&C	89060504	8240	0.090	NR	NR	NR	NR	NR	0.090	
LF-4	06-Dec-89	B&C	12-174-1	8240	0.300	NR	NR	NR	NR	0.040	0.340	
Duplicate	06-Dec-89	B&C	12-174-6	8240	3.000	NR	NR	NR	NR	NR	3.000	
LF-4	20-Jul-90	B&C	07-506-3	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-5	01-Jun-89	B&C	89060192	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-5	06-Dec-89	B&C	12-174-4	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-5	20-Jul-90	B&C	07-506-2	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-6	01-Jun-89	B&C	89060193	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-6	05-Dec-89	B&C	12-128-3	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-6	20-Jul-90	B&C	07-506-4	8240	NR	NR	NR	NR	NR	NR	7.000	#2

TABLE 6

HISTORICAL WATER QUALITY DATA SUMMARY,

TENTATIVELY IDENTIFIED VOLATILE ORGANIC COMPOUNDS WITH SEMI-QUANTIFIED ESTIMATES OF CONCENTRATION

(All semi-quantified estimates of concentration expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D. No.	Type of Analysis	Short-Chain Hydrocarbon Compounds	Complex Hydrocarbon Compounds	Ketones	Propyl Ether	Diiso-propyl Ether	Tetra-hydrofuran	Total TIC Semi-Quantified Estimates Of Concentration	Notes
LF-7	01-Jun-89	B&C	89060191	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-7	06-Dec-89	B&C	12-174-3	8240	0.030	NR	NR	NR	NR	NR	0.030	
LF-7	19-Jul-90	B&C	07-485-4	8240	0.070	NR	NR	NR	0.007	NR	0.077	
LF-8	05-Dec-89	B&C	12-128-4	8240	0.010	NR	NR	NR	NR	NR	0.010	
LF-8	19-Jul-90	B&C	07-485-5	8240	NR	0.100	NR	NR	NR	NR	0.100	
LF-9	05-Dec-89	B&C	12-128-1	8240	0.100	NR	NR	NR	NR	NR	0.100	
LF-9	19-Jul-90	B&C	07-485-6	8240	0.200	NR	NR	NR	NR	NR	0.200	
LF-10	07-Dec-89	B&C	12-212-5	8240	0.080	NR	NR	NR	NR	NR	0.080	
LF-10	19-Jul-90	B&C	07-485-7	8240	0.100	NR	NR	NR	NR	NR	0.100	
Duplicate	19-Jul-90	B&C	07-485-8	8240	0.200	NR	NR	NR	NR	NR	0.200	
LF-11	05-Dec-89	B&C	12-128-2	8240	NR	NR	0.020	NR	NR	NR	0.020	
Duplicate	05-Dec-89	B&C	12-128-5	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-11	19-Jul-90	B&C	07-485-3	8240	NR	NR	0.020	NR	NR	NR	0.020	#1
LF-12	06-Dec-89	B&C	12-174-2	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-12	18-Jul-90	B&C	07-444-5	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-13	06-Dec-89	B&C	12-174-7	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-13	18-Jul-90	B&C	07-444-4	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-14	04-Sep-90	B&C	07-444-4	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-15	04-Sep-90	B&C	07-444-5	8240	NR	NR	NR	NR	NR	NR	0.000	

TABLE 6

HISTORICAL WATER QUALITY DATA SUMMARY,

TENTATIVELY IDENTIFIED VOLATILE ORGANIC COMPOUNDS WITH SEMI-QUANTIFIED ESTIMATES OF CONCENTRATION

(All semi-quantified estimates of concentration expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D. No.	Type of Analysis	Short-Chain Hydrocarbon Compounds	Complex Hydrocarbon Compounds	Ketones	Propyl Ether	Diiso-propyl Ether	Tetra-hydrofuran	Total TIC Semi-Quantified Estimates Of Concentration	Notes
											0.000	
LF-16	04-Sep-90	B&C	07-444-6	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-B1	07-Dec-89	B&C	12-212-6	8240	NR	NR	NR	0.050	NR	NR	0.050	
LF-B1	18-Jul-90	B&C	07-444-9	8240	NR	0.070	NR	NR	0.300	NR	0.370	
LF-B2	06-Dec-89	B&C	12-174-5	8240	NR	NR	NR	0.050	NR	NR	0.050	
LF-B2	18-Jul-90	B&C	07-444-6	8240	NR	NR	NR	NR	0.200	NR	0.200	
Duplicate	18-Jul-90	B&C	07-444-7	8240	NR	NR	NR	NR	0.200	NR	0.200	
LF-B3	07-Dec-89	B&C	12-212-8	8240	NR	NR	NR	0.050	NR	NR	0.050	
Duplicate	07-Dec-89	B&C	12-212-10	8240	NR	NR	NR	0.070	NR	NR	0.070	
LF-B3	18-Jul-90	B&C	07-444-8	8240	NR	NR	NR	NR	0.300	NR	0.300	
LF-B4	18-Jul-90	B&C	07-444-3	8240	NR	NR	NR	NR	NR	NR	0.000	
FIELD BLANKS & TRIP BLANKS												
LF-1-FB	01-Jun-86	B&C	89060195	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-1-FB	07-Dec-89	B&C	12-212-2	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-B1-FB	07-Dec-B3	B&C	12-212-7	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-13-FB	06-Dec-89	B&C	12-174-12	8240	NR	NR	NR	NR	NR	NR	0.000	
Trip Blank	07-Dec-89	B&C	12-212-9	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-B4-TB	18-Jul-90	B&C	07-444-1	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-B4-BB	18-Jul-90	B&C	07-444-2	8240	NR	NR	NR	NR	NR	NR	0.000	

TABLE 6

HISTORICAL WATER QUALITY DATA SUMMARY,

TENTATIVELY IDENTIFIED VOLATILE ORGANIC COMPOUNDS WITH SEMI-QUANTIFIED ESTIMATES OF CONCENTRATION

(All semi-quantified estimates of concentration expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D. No.	Type of Analysis	Short-Chain Hydrocarbon Compounds	Complex Hydrocarbon Compounds	Ketones	Propyl Ether	Diiso-propyl Ether	Tetra-hydrofuran	Total TIC Semi-Quantified Estimates Of Concentration	Notes
LF-11-TB	19-Jul-90	B&C	07-485-1	8240	NR	NR	NR	NR	NR	NR	0.000	
LF-11-BB	19-Jul-90	B&C	07-485-1	8240	NR	NR	NR	NR	NR	NR	0.000	
						NR	NR	NR	NR	NR	0.000	

Explanation of Symbols and Abbreviations:

8240 = EPA Method 8240 for volatile organic compounds

TIC: Tentatively Identified Compound with Semi-Quantified Estimate of Concentration

NR = Not Reported

Analytical Laboratories:

B&C: Brown and Caldwell Laboratory, Emeryville, California.

Short-Chain Hydrocarbons include the following as reported on laboratory data sheets:

C8-C9 Hydrocarbons, C6-C9 Hydrocarbons, C7-C8 Hydrocarbons, C7-C15 Hydrocarbons

Complex Hydrocarbon Compounds include the following as reported on laboratory data sheets:

C7H14 Hydrocarbons and C9H12 Hydrocarbons

Ketones include the following as reported on laboratory data sheets:

C7H14O Ketone

Notes:

#1 LF-11 07/19/90 - C9H18O (Aldehyde) TIC reported at 0.006 ppm.

#2 LF-6 07/20/90 - Methyl Pentoic Acid (C6H10O2) TIC reported at 7.000 ppm.

TABLE 7

HISTORICAL WATER QUALITY DATA SUMMARY

SEMI-VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8270

(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D.	Type of Analysis	2-Methyl-naptha-lene	Naphtha-lene	Phenol	2-Methyl-phenol	4-Methyl-phenol	2,4-Di-methyl-phenol	Bis(2-ethyl-hexyl)-phthalate	Total All Quantified Concentrations	Notes
LF-1	01-Jun-89	B&C	89060194	8270	<0.004	0.018	<0.020	0.011	<0.010	<0.005	<0.040	0.029	
LF-1	07-Dec-89	B&C	12-212-1	8270	<0.004	<0.004	<0.020	<0.010	<0.020	<0.010	**<0.040	0.000	
LF-1	20-Jul-90	B&C	07-506-7	8270	<0.002	<0.002	0.011	<0.005	<0.010	<0.005	<0.020	0.011	
LF-2	02-Jun-89	B&C	89060501	8270	<0.100	0.650	<0.500	<0.200	<0.500	<0.200	<1.000	0.650	
LF-2	07-Dec-89	B&C	12-212-3	8270	<0.020	0.320	<0.100	<0.050	<0.100	<0.050	**<0.200	0.320	
LF-2	20-Jul-90	B&C	07-506-5	8270	<0.020	0.330	<0.100	<0.050	<0.100	<0.050	<0.200	0.330	
LF-3	02-Jun-89	B&C	89060502	8270	0.034	0.091	<0.100	0.020	<0.010	<0.005	<0.020	0.287	#1
LF-3	07-Dec-89	B&C	12-212-4	8270	<0.020	0.140	<0.100	0.070	0.450	<0.050	**<0.200	0.660	
LF-3	20-Jul-90	B&C	07-506-6	8270	<0.020	0.160	<0.100	0.240	0.800	<0.050	<0.200	1.200	
LF-4	02-Jun-89	B&C	89060503	8270	0.016	0.140	<0.010	<0.010	<0.010	<0.005	<0.200	0.156	
Duplicate	02-Jun-89	B&C	89060504	8270	0.009	0.095	<0.010	<0.010	<0.010	<0.005	<0.200	0.104	
LF-4	06-Dec-89	B&C	12-174-1	8270	<0.002	0.015	<0.010	<0.005	<0.010	<0.005	**0.030	0.015	
Duplicate	06-Dec-89	B&C	12-174-6	8270	<0.002	0.007	<0.010	<0.005	<0.010	<0.005	**<0.020	0.007	
LF-4	20-Jul-90	B&C	07-506-3	8270	<0.002	0.010	0.015	<0.005	<0.010	<0.005	<0.020	0.025	
LF-5	01-Jun-89	B&C	89060192	8270	<0.004	0.020	<0.020	0.220	0.600	<0.005	<0.040	0.840	
LF-5	06-Dec-89	B&C	12-174-4	8270	<0.002	0.025	0.056	0.280	0.790	0.039	**<0.020	1.190	
LF-5	20-Jul-90	B&C	07-506-2	8270	<0.020	<0.020	<0.100	0.280	0.850	<0.050	<0.200	1.350	#2
LF-6	05-Dec-89	B&C	12-128-5	8270	<0.040	0.060	0.380	0.160	1.000	<0.100	<0.400	1.600	
LF-6	20-Jul-90	B&C	07-506-2	8270	<0.020	<0.020	0.200	0.280	0.850	<0.050	<0.200	1.330	
LF-7	01-Jun-89	B&C	89060191	8270	<0.004	0.008	<0.020	<0.010	<0.010	<0.005	<0.040	0.008	
LF-7	06-Dec-89	B&C	12-174-3	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	**0.040	0.000	
LF-7	08-Aug-90	B&C	08-171-3	8270	----	<0.002	<0.010	----	----	<0.005	<0.020	0.000	

TABLE 7

HISTORICAL WATER QUALITY DATA SUMMARY

SEMI-VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8270

(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D.	Type of Analysis	2-Methyl-naptha-lene	Naphtha-lene	Phenol	2-Methyl-phenol	4-Methyl-phenol	2,4-Di-methyl-phenol	Bis(2-ethyl-hexyl)-phthalate	Total All Quantified Concentrations	Notes
LF-8	05-Dec-89	B&C	12-128-4	8270	<0.002	0.060	0.380	<0.005	<0.010	<0.005	**0.040	0.440	
LF-8	08-Aug-90	B&C	08-171-4	8270	----	<0.002	<0.010	----	----	<0.005	<0.020	0.000	
LF-9	05-Dec-89	B&C	12-128-1	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	**0.022	0.000	
LF-9	19-Jul-90	B&C	07-485-6	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	<0.002	0.000	
LF-10	05-Dec-89	B&C	12-128-1	8270	<0.002	0.140	<0.010	<0.005	<0.010	<0.005	**<0.020	0.140	
LF-10D	19-Jul-90	B&C	07-485-8	8270	<0.005	<0.002	<0.010	<0.005	<0.010	<0.005	<0.002	0.000	
LF-11	05-Dec-89	B&C	12-128-2	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	**0.050	0.000	
LF-11	08-Aug-90	B&C	08-171-5	8270	----	<0.002	<0.010	----	----	<0.005	<0.020	0.000	
LF-12	06-Dec-89	B&C	12-174-2	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	**0.026	0.000	
LF-12	18-Jul-90	B&C	07-444-5	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	0.028	0.028	
LF-13	06-Dec-89	B&C	12-174-7	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	**<0.020	0.000	
LF-13	18-Jul-90	B&C	07-444-4	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	<0.020	0.000	
LF-14	04-Sep-90	B&C	09-014-1	8270	<0.005	<0.002	<0.010	<0.005	<0.010	<0.005	<0.020	0.000	
LF-15	04-Sep-90	B&C	09-014-2	8270	<0.005	<0.002	<0.010	<0.005	<0.010	<0.005	<0.020	0.000	
LF-16	04-Sep-90	B&C	09-014-3	8270	<0.005	<0.002	<0.010	<0.005	<0.010	<0.005	<0.020	0.000	
LF-B1	07-Dec-89	B&C	12-212-6	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	**0.075	0.000	
LF-B1	18-Jul-90	B&C	07-444-9	8270	<0.005	<0.002	0.460	<0.005	<0.010	<0.005	0.140	0.600	
LF-B2	06-Dec-89	B&C	12-174-5	8270	<0.002	<0.002	<0.010	<0.005	<0.010	0.029	**0.020	0.029	
LF-B2	18-Jul-90	B&C	07-444-6	8270	<0.005	<0.002	0.140	<0.005	<0.010	<0.005	0.032	0.172	
LF-B2D	18-Jul-90	B&C	07-444-7	8270	<0.005	<0.002	0.088	<0.005	<0.010	<0.005	0.060	0.148	

TABLE 7

HISTORICAL WATER QUALITY DATA SUMMARY

SEMI-VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8270

(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D.	Type of Analysis	2-Methyl-naptha-lene	Naphtha-lene	Phenol	2-Methyl-phenol	4-Methyl-phenol	2,4-Di-methyl-phenol	Bis(2-ethyl-hexyl)-phthalate	Total All Quantified Concentrations	Notes
LF-B3	07-Dec-89	B&C	12-212-1	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	**<0.020	0.000	
LF-B3	18-Jul-90	B&C	07-444-6	8270	<0.005	<0.002	<0.010	<0.005	<0.010	<0.005	0.190	0.190	
LF-B4	18-Jul-90	B&C	07-444-3	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	0.023	0.023	
FIELD & TRIP BLANKS													
LF-1-FB	01-Jun-86	B&C	89060195	8270	<0.004	<0.004	<0.020	<0.010	<0.010	<0.005	<0.040	0.000	
LF-1-FB	07-Dec-89	B&C	12-212-2	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	<0.020	0.000	
LF-B1-FB	07-Dec-89	B&C	12-212-7	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	<0.020	0.000	
Trip Blank	07-Dec-89	B&C	12-212-9	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	0.035	0.035	
LF-B4-TB	18-Jul-90	B&C	07-444-1	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	<0.020	0.000	
LF-B4-BB	18-Jul-90	B&C	07-444-1	8270	<0.002	<0.002	<0.010	<0.005	<0.010	<0.005	<0.020	0.000	
LF-7-BB	08-Aug-90	B&C	08-171-2	8270	----	<0.002	<0.010	<0.005	----	<0.005	<0.020	0.000	

TABLE 7
HISTORICAL WATER QUALITY DATA SUMMARY
SEMI-VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8270
(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D.	Type of Analysis	2-Methyl-naptha-lene	Naphtha-lene	Phenol	2-Methyl-phenol	4-Methyl-phenol	2,4-Di-methyl-phenol	Bis(2-ethyl-hexyl)-phthalate	Total All Quantified Concentrations	Notes

Explanation of Symbols and Abbreviations used on Table 7:

** indicates value not accepted as valid based on positive results trip blank or bailer blank sample.
---- indicates results not reported by laboratory.
8270 = EPA Method 8270 for Semi-Volatile Organic Compounds
Analytical Laboratories:
B&C: Brown and Caldwell Laboratory, Emeryville, California.

NOTES:

#1 LF-3 02/06/89 - Lab Data Reported the Following: Acenapthene at 0.016 ppm; Anthracene at 0.005 ppm; Benzo(a)anthracene at 0.005 ppm; Chrysene at 0.005 ppm; Dibenzofurena at 0.017 ppm; Flouranthene at 0.016 ppm; Flourene at 0.016 ppm; Phenanthrene at 0.044 ppm; Pyrene at 0.018 ppm.

#2 LF-5 07/20/90 - Benzoic Acid reported at 0.220 ppm.

TABLE 8

HISTORICAL WATER QUALITY DATA SUMMARY

TENTATIVELY IDENTIFIED SEMI-VOLATILE ORGANIC COMPOUNDS WITH SEMI-QUANTIFIED ESTIMATES OF CONCENTRATION

(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D.	Type of Analysis	Ketones	Benzene Isomers	Organic Acids	Long-Chain Hydrocarbons	Molecular Sulfur	Alcohols	Esters	Complex Matrix	Total Semi-Quantified Estimates Of Concentrations	Notes
LF-1	01-Jun-89	B&C	89060194	8270	0.020	3.030	0.030	NR	NR	NR	NR	NR	4.080	#1
LF-1	07-Dec-89	B&C	12-212-1	8270	0.010	0.010	NR	NR	NR	NR	NR	NR	0.020	
LF-1	20-Jul-90	B&C	07-506-7	8270	NR	0.070	NR	NR	NR	NR	NR	0.070	0.140	
LF-2	02-Jun-89	B&C	89060501	8270	NR	NR	NR	400.000	NR	NR	NR	NR	400.000	
LF-2	07-Dec-89	B&C	12-212-3	8270	NR	NR	NR	200.000	NR	NR	NR	NR	200.000	
LF-2	20-Jul-90	B&C	07-506-5	8270	NR	NR	NR	70.000	NR	2.000	NR	NR	72.000	
LF-3	02-Jun-89	B&C	89060502	8270	NR	NR	0.040	10.000	NR	NR	NR	NR	10.040	
LF-3	07-Dec-89	B&C	12-212-4	8270	NR	0.200	1.500	NR	NR	NR	NR	2.000	3.700	
LF-3	20-Jul-90	B&C	07-506-6	8270	0.600	0.300	39.600	NR	NR	0.600	NR	1.100	42.200	
LF-4	02-Jun-89	B&C	89060503	8270	NR	NR	NR	20.000	NR	NR	NR	NR	20.000	
Duplicate	02-Jun-89	B&C	89060504	8270	NR	NR	NR	10.000	NR	NR	NR	NR	10.000	
LF-4	06-Dec-89	B&C	12-174-1	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
Duplicate	06-Dec-89	B&C	12-174-6	8270	NR	NR	NR	10.000	NR	NR	NR	NR	10.000	
LF-4	20-Jul-90	B&C	07-506-3	8270	NR	NR	NR	3.000	NR	NR	NR	10.090	13.090	
LF-5	01-Jun-89	B&C	89060192	8270	12.000	0.020	0.020	NR	NR	NR	NR	NR	12.040	
LF-5	06-Dec-89	B&C	12-174-4	8270	12.000	NR	2.000	NR	NR	32.000	NR	1.000	47.000	
LF-5	20-Jul-90	B&C	07-506-2	8270	2.000	0.300	NR	NR	NR	20.000	NR	8.000	30.300	
LF-6	05-Dec-89	B&C	12-128-5	8270	NR	NR	6.800	NR	NR	50.000	NR	NR	56.800	
LF-6	20-Jul-90	B&C	07-506-2	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
LF-6	20-Jul-90	B&C	07-506-4	8270	2.000	0.400	NR	NR	NR	33.600	NR	19.000	55.000	
LF-7	01-Jun-89	B&C	89060191	8270	0.020	0.090	NR	NR	0.020	NR	NR	NR	0.130	
LF-7	06-Dec-89	B&C	12-174-3	8270	0.024	0.008	0.039	NR	0.050	NR	NR	0.010	0.131	

TABLE 8

HISTORICAL WATER QUALITY DATA SUMMARY

TENTATIVELY IDENTIFIED SEMI-VOLATILE ORGANIC COMPOUNDS WITH SEMI-QUANTIFIED ESTIMATES OF CONCENTRATION

(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D.	Type of Analysis	Ketones	Benzene Isomers	Organic Acids	Long-Chain Hydrocarbons	Molecular Sulfur	Alcohols	Esters	Complex Matrix	Total Semi-Quantified Estimates Of Concentrations	Notes
LF-7	08-Aug-90	B&C	08-171-3	8270	NR	NR	NR	NR	NR	NR	NR	0.080	0.080	
LF-8	05-Dec-89	B&C	12-128-4	8270	NR	NR	NR	NR	NR	NR	0.005	3.013	3.018	
LF-8	08-Aug-90	B&C	08-171-4	8270	NR	NR	NR	NR	NR	NR	NR	0.030	0.050	#5
LF-9	05-Dec-89	B&C	12-128-1	8270	NR	0.010	0.007	NR	0.030	NR	NR	2.020	2.067	
LF-9	19-Jul-90	B&C	07-485-6	8270	NR	0.016	NR	4.000	0.005	NR	NR	NR	4.021	
LF-10	05-Dec-89	B&C	12-128-1	8270	NR	0.010	0.010	NR	NR	NR	NR	NR	0.020	
LF-10	19-Jul-90	B&C	07-485-8	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
LF-11	05-Dec-89	B&C	12-128-2	8270	NR	NR	NR	NR	NR	NR	5.440	0.002	5.442	
LF-11	08-Aug-90	B&C	08-171-5	8270	NR	0.030	0.020	NR	NR	NR	NR	0.950	1.000	
LF-12	06-Dec-89	B&C	12-174-2	8270	NR	NR	NR	NR	0.005	NR	NR	NR	0.005	
LF-12	18-Jul-90	B&C	07-444-5	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
LF-13	06-Dec-89	B&C	12-174-7	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
LF-13	18-Jul-90	B&C	07-444-4	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
LF-14	04-Sep-90	B&C	09-014-1	8270	NR	NR	NR	NR	NR	NR	NR	0.008	0.008	
LF-15	04-Sep-90	B&C	09-014-2	8270	NR	NR	NR	NR	NR	NR	NR	0.008	0.008	
LF-16	04-Sep-90	B&C	09-014-3	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
LF-B1	07-Dec-89	B&C	12-212-6	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
LF-B1	18-Jul-90	B&C	07-444-9	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	

TABLE 8

HISTORICAL WATER QUALITY DATA SUMMARY

TENTATIVELY IDENTIFIED SEMI-VOLATILE ORGANIC COMPOUNDS WITH SEMI-QUANTIFIED ESTIMATES OF CONCENTRATION

(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D.	Type of Analysis	Ketones	Benzene Isomers	Organic Acids	Long-Chain Hydrocarbons	Molecular Sulfur	Alcohols	Esters	Complex Matrix	Total Semi-Quantified Estimates Of Concentrations	Notes
LF-B2	06-Dec-89	B&C	12-174-5	8270	NR	0.010	NR	NR	NR	NR	NR	NR	0.010	
LF-B2	18-Jul-90	B&C	07-444-6	8270	NR	NR	NR	NR	NR	NR	NR	0.016	0.016	
LF-B2D	18-Jul-90	B&C	07-444-7	8270	NR	NR	NR	NR	NR	NR	NR	0.006	0.016	#3
LF-B3	07-Dec-89	B&C	12-212-1	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
LF-B3	18-Jul-90	B&C	07-444-6	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
LF-B4	18-Jul-90	B&C	07-444-3	8270	NR	NR	NR	NR	NR	NR	NR	0.002	0.002	
FIELD & TRIP BLANKS														
LF-1-FB	01-Jun-86	B&C	89060195	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
LF-1-FB	07-Dec-89	B&C	12-212-2	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
LF-B1-FB	07-Dec-89	B&C	12-212-7	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
Trip Blank	07-Dec-89	B&C	12-212-9	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
LF-B4-TB	18-Jul-90	B&C	07-444-1	8270	NR	NR	NR	NR	NR	NR	0.200	NR	0.205	#2
LF-B4-BB	18-Jul-90	B&C	07-444-1	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.000	
LF-7-BB	08-Aug-90	B&C	08-171-2	8270	NR	NR	NR	NR	NR	NR	NR	NR	0.030	#4

Explanation of Symbols and Abbreviations used on Table 8:

( ) = Indicates value not accepted as valid based on reported trip blank concentration of 0.035 ppm for bis(2ethylhexyl)phthalate.
8270 = EPA Method 8270 for Semi-Volatile Organic Compounds
TIC = Tentatively Identified Compound with Semi-Quantified Estimate of Concentration
Analytical Laboratories:
B&C: Brown and Caldwell Laboratory, Emeryville, California.

The TIC compounds reported by the laboratory include a wide range of compounds that have been grouped together in the indicated categories.

Ketones includes C6H10O, C6H12O, C6H14O, C7H14O, C8H16O, C9H16O, and C12H18O compounds.
Benzene Isomers includes C2-Benzene Isomer, C3-Benzene Isomer, C3-Benzene, C4-Benzene Isomer, C4 Benzene.
Organic Acids includes C8, C16, and C18 Fatty Acids, and C4H8O2, C5H10O2, C6H12O2, C7H14O2, C8H8O2, C8H16O2, C8H16O3, C11H12O2, and C11H14O2

Long-Chain Hydrocarbons includes C7-C20, C8-C5, and C8-C35 Hydrocarbon Matrix compounds.
Alcohols includes C6H12O and C9H18O compounds.
Esters includes C6H10O2, C9H16O2, C11H22O2, and C20H27O4P compounds.

Complex Matrix compounds are C#H# compounds or other compounds that were not further identified by the laboratory.
Molecular Sulfur refers to organic sulfur compounds.

NOTES:

#1 LF-1 06/01/89 - TIC Semi-Quantified Estimate of 1.000 ppm for Cyclohexanone

#2 LF-B4-TB 07/18/90 - C14H22O (Phenol) TIC reported at 0.005 ppm.

#3 LF-B2D 07/18/90 - C14H22O (Phenol) TIC reported at 0.010 ppm.

#4 LF-7 Bailer Blank 08/08/90 - C6H8O (Aldehyde) TIC reported at 0.030 ppm.

#5 LF-8 08/08/90 - C6H8O (Aldehyde) TIC reported at 0.020 ppm.

TABLE 9

TOTAL PETROLEUM HYDROCARBONS, MODIFIED EPA METHOD 8015

(Results Reported in Parts Per Million [ppm])

Well No.	Date	Lab	Lab I.D. No.	Total Petroleum Hydrocarbons
LF-1	20-Jul-90	B&C	07-506-7	7.600
LF-2	20-Jul-90	B&C	07-506-5	630.000
LF-3	20-Jul-90	B&C	07-506-6	440.000
LF-4	20-Jul-90	B&C	07-506-3	110.000
LF-5	20-Jul-90	B&C	07-506-2	520.000
LF-6	20-Jul-90	B&C	07-506-4	1,500.000
LF-7	19-Jul-90	B&C	07-485-4	<1.000
LF-8	19-Jul-90	B&C	07-485-5	<1.000
LF-9	19-Jul-90	B&C	07-485-6	<1.000
LF-10	19-Jul-90	B&C	07-485-7	<1.000
Duplicate	19-Jul-90	B&C	07-485-8	<1.000
LF-11	19-Jul-90	B&C	07-485-3	<1.000
LF-12	18-Jul-90	B&C	07-444-5	<1.000
LF-13	18-Jul-90	B&C	07-444-4	5.000
LF-14	04-Sep-90	B&C	07-444-4	<1.000
LF-15	04-Sep-90	B&C	07-444-5	<1.000
LF-16	04-Sep-90	B&C	07-444-6	<1.000
LF-B1	18-Jul-90	B&C	07-444-9	<1.000
LF-B2	18-Jul-90	B&C	07-444-6	<1.000
Duplicate	18-Jul-90	B&C	07-444-7	<1.000
LF-B3	18-Jul-90	B&C	07-444-8	<1.000
LF-B4	18-Jul-90	B&C	07-444-3	<1.000
FIELD BLANKS & TRIP BLANKS				
LF-B4-TB	18-Jul-90	B&C	07-444-1	<1.000
LF-B4-BB	18-Jul-90	B&C	07-444-2	<1.000
LF-11-TB	19-Jul-90	B&C	07-485-1	<1.000
LF-11-BB	19-Jul-90	B&C	07-485-1	<1.000

TABLE 10

HISTORICAL WATER-QUALITY DATA SUMMARY

ARSENIC, CADMIUM, COPPER, LEAD, ZINC, AND BARIUM

(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D. No.	Type of Analysis	Arsenic	Cadmium	Copper	Lead	Zinc	Barium
LF-1	01-Jun-89	B&C	89060194	200/7000	200.000	<0.040	<0.08	<0.300	0.590	NA
LF-1	07-Dec-89	B&C	12-212-1	200/7000	190.000	<0.040	<0.08	<0.300	0.020	NA
LF-1	20-Jul-90	B&C	07-506-7	200/7000	120.000	<0.050	<0.05	<0.200	0.260	0.060
LF-2	02-Jun-89	B&C	89060501	200/7000	2.600	<0.040	<0.08	<0.300	0.010	NA
LF-2	07-Dec-89	B&C	12-212-3	200/7000	17.000	<0.040	<0.08	<0.300	<0.010	NA
LF-2	20-Jul-90	B&C	07-506-5	200/7000	110.000	<0.050	<0.05	<0.200	<0.050	0.450
LF-3	02-Jun-89	B&C	89060502	200/7000	27.000	<0.040	<0.08	<0.300	<0.010	NA
LF-3	07-Dec-89	B&C	12-212-2	200/7000	30.000	<0.040	<0.08	<0.300	<0.010	NA
LF-3	20-Jul-90	B&C	07-506-6	200/7000	21.000	<0.050	<0.05	<0.200	<0.050	0.420
LF-4	02-Jun-89	B&C	89060503	200/7000	0.530	<0.040	<0.08	<0.300	<0.010	NA
Duplicate	02-Jun-89	B&C	89060504	200/7000	0.580	<0.040	<0.08	<0.300	7.000	NA
LF-4	06-Dec-89	B&C	12-174-1	200/7000	**0.420	<0.040	<0.08	<0.300	<0.010	NA
Duplicate	06-Dec-89	B&C	12-174-6	200/7000	**0.550	<0.040	<0.08	<0.300	0.010	NA
LF-4	20-Jul-90	B&C	07-506-3	200/7000	0.190	<0.050	<0.05	<0.200	<0.050	0.160
LF-5	01-Jun-89	B&C	89060192	200/7000	0.017	<0.040	<0.08	<0.300	0.040	NA
LF-5	06-Dec-89	B&C	12-174-2	200/7000	**0.026	<0.040	<0.08	<0.300	<0.010	NA
LF-5	20-Jul-90	B&C	07-506-2	200/7000	0.020	<0.050	<0.05	<0.200	0.050	0.170
LF-6	01-Jun-89	B&C	89060193	200/7000	13.000	0.090	<0.08	<0.300	0.120	NA
LF-6	05-Dec-89	B&C	12-128-3	200/7000	16.000	0.060	<0.08	<0.300	<0.010	NA
LF-6	20-Jul-90	B&C	07-506-4	200/7000	14.000	<0.050	<0.05	<0.200	0.060	0.210
LF-7	01-Jun-89	B&C	89060191	200/7000	0.008	<0.040	<0.08	<0.300	<0.010	NA
LF-7	06-Dec-89	B&C	12-174-3	200/7000	**0.011	<0.040	<0.08	<0.300	0.020	NA
LF-7	19-Jul-90	B&C	07-485-4	200/7000	<0.002	<0.050	<0.05	<0.200	<0.050	0.060

TABLE 10
HISTORICAL WATER-QUALITY DATA SUMMARY
ARSENIC, CADMIUM, COPPER, LEAD, ZINC, AND BARIUM
(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D. No.	Type of Analysis	Arsenic	Cadmium	Copper	Lead	Zinc	Barium
LF-8	05-Dec-89	B&C	12-128-4	200/7000	**0.041	<0.040	<0.08	<0.300	<0.010	NA
LF-8	19-Jul-90	B&C	07-485-4	200/7000	<0.002	<0.050	<0.05	<0.200	<0.050	0.120
LF-9	05-Dec-89	B&C	12-128-1	200/7000	0.067	<0.040	<0.08	<0.300	0.020	NA
LF-9	19-Jul-90	B&C	07-485-7	200/7000	0.008	<0.050	<0.05	<0.200	<0.050	0.110
LF-10	07-Dec-89	B&C	12-212-5	200/7000	0.650	<0.040	<0.08	<0.300	<0.010	NA
LF-10	19-Jul-90	B&C	07-485-7	200/7000	0.012	<0.050	<0.05	<0.200	<0.050	0.110
Duplicate	19-Jul-90	B&C	07-485-8	200/7000	0.008	<0.050	<0.05	<0.300	0.070	0.140
LF-11	05-Dec-89	B&C	12-128-2	200/7000	**0.010	<0.040	<0.08	<0.300	0.020	NA
LF-11	19-Jul-90	B&C	07-485-5	200/7000	0.007	<0.050	<0.05	<0.200	<0.050	0.120
LF-12	06-Dec-89	B&C	12-174-2	200/7000	**0.005	<0.040	<0.08	<0.300	0.020	NA
LF-12	18-Jul-90	B&C	07-444-5	200/7000	0.004	<0.050	<0.05	<0.300	<0.200	0.060
LF-13	06-Dec-89	B&C	12-174-7	200/7000	**<0.002	<0.040	<0.08	<0.300	0.020	NA
LF-13	18-Jul-90	B&C	07-444-4	200/7000	<0.002	<0.050	<0.05	<0.200	<0.050	<0.050
LF-14	04-Sep-90	B&C	09-014-1	200/7000	0.092	<0.0005	<0.005	0.007	<0.050	0.060
LF-14	02-Oct-90	B&C	10-034-2	200/7000	0.077	NA	NA	NA	NA	NA
LF-15	04-Sep-90	B&C	09-014-2	200/7000	0.002	<0.0005	<0.005	0.043	<0.050	0.060
LF-16	04-Sep-90	B&C	09-014-3	200/7000	0.003	<0.0005	<0.005	<0.002	<0.050	0.060
LF-B1	07-Dec-89	B&C	12-212-6	200/7000	**0.027	<0.040	<0.08	<0.300	<0.010	NA
	18-Jul-90	B&C	7-444-6	200/7000	0.007	<0.05	<0.05	<0.2	<0.050	0.08
LF-B2	06-Dec-89	B&C	12-174-5	200/7000	**0.006	<0.040	<0.08	<0.300	0.020	NA

TABLE 10

HISTORICAL WATER-QUALITY DATA SUMMARY

ARSENIC, CADMIUM, COPPER, LEAD, ZINC, AND BARIUM

(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D. No.	Type of Analysis	Arsenic	Cadmium	Copper	Lead	Zinc	Barium
	18-Jul-90	B&C	7-444-9	200/7000	0.005	<0.05	<0.05	<0.200	<0.050	0.140
	18-Jul-90	B&C	7-444-__	200/7000	0.004	<0.05	<0.05	<0.200	<0.050	0.150
LF-B3	07-Dec-89	B&C	12-212-6	200/7000	**0.007	<0.040	<0.08	<0.300	0.010	NA
	18-Jul-90	B&C	7-444-8	200/7000	0.003	<0.05	<0.05	<0.200	<0.050	0.100
LF-B4	17-Jul-90	B&C	07-444-3	200/7000	0.003	<0.050	<0.05	<0.200	<0.050	0.080
FIELD & TRIP BLANKS										
LF-1-FB	01-Jun-89	B&C	89060195	200/7000	0.012	<0.040	<0.08	<0.300	<0.010	NA
LF-1-FB	07-Dec-89	B&C	12-212-2	200/7000	0.003	<0.040	<0.08	<0.300	<0.010	NA
LF-B1-FB	07-Dec-89	B&C	12-212-7	200/7000	0.014	<0.040	<0.08	<0.300	<0.010	NA
Trip Blank	07-Dec-89	B&C	12-212-9	200/7000	0.013	<0.040	<0.08	<0.300	<0.010	NA
LF-B4-TB	18-Jul-90	B&C	07-444-1	200/7000	<0.002	<0.050	<0.05	<0.200	<0.050	NA
LF-B4-BB	18-Jul-90	B&C	07-444-2	200/7000	<0.002	<0.050	<0.05	<0.200	0.060	NA
LF-11-TB	19-Jul-90	B&C	07-485-1	200/7000	<0.002	<0.050	<0.05	0.200	<0.050	NA
LF-11-BB	19-Jul-90	B&C	07-485-2	200/7000	<0.002	<0.050	<0.05	<0.200	<0.050	NA
LF-5- TB	20-Jul-90	B&C	07-506-1	200/7000	0.002	<0.050	<0.05	<0.200	<0.050	NA
LF-16-TB	04-Sep-90	B&C	09-014-4	200/7000	<0.002	<0.0005	<0.005	0.005	<0.050	NA

TABLE 10

HISTORICAL WATER-QUALITY DATA SUMMARY

ARSENIC, CADMIUM, COPPER, LEAD, ZINC, AND BARIUM

(All concentrations expressed in parts per million [ppm])

Well No.	Date	Lab	Lab I.D. No.	Type of Analysis	Arsenic	Cadmium	Copper	Lead	Zinc	Barium

Notes to Table 10:

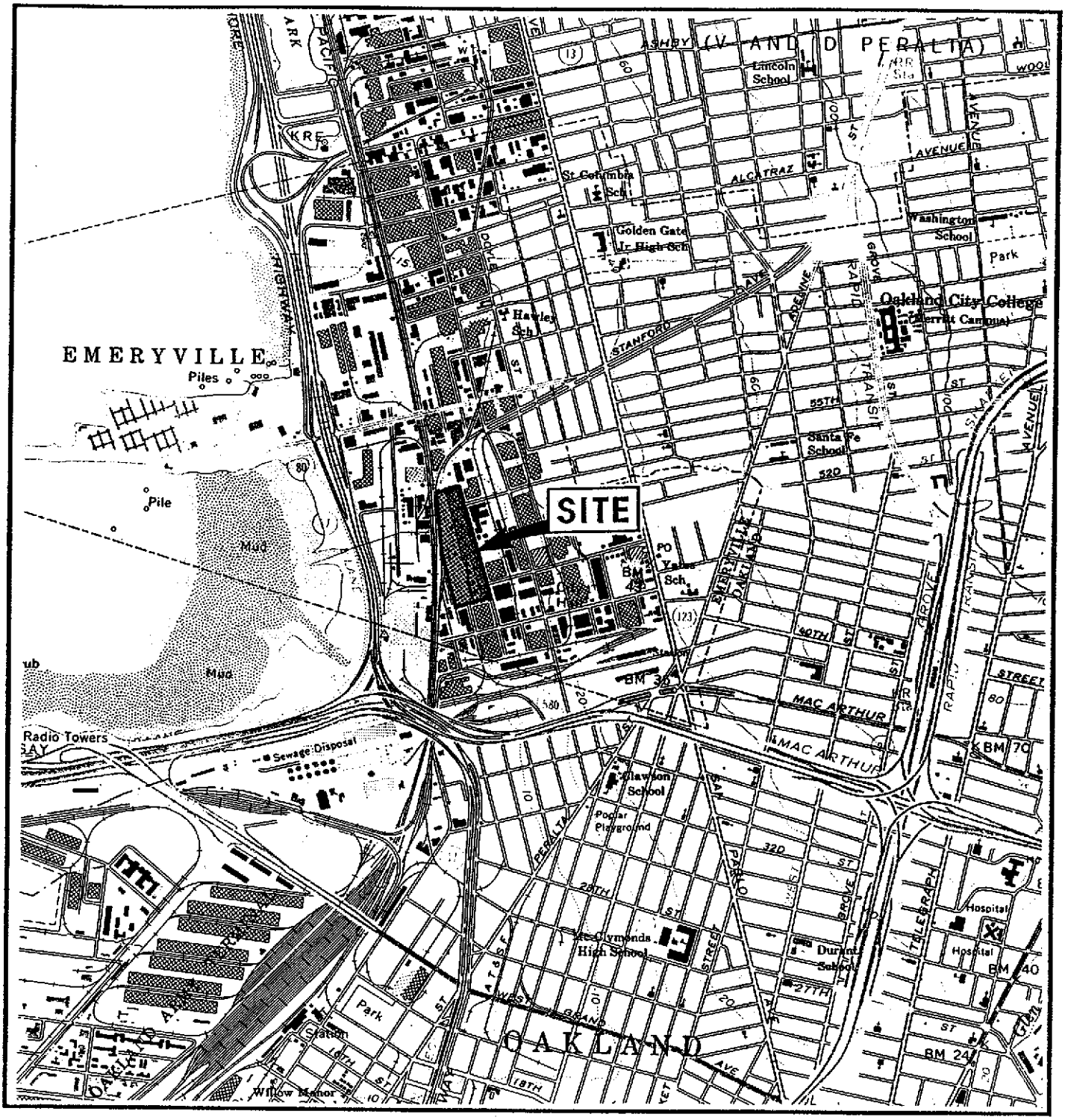
** = Data not validated based on positive results of trip blank or bailer rinsate blank in batch of submitted samples.

NA = Not Analyzed

200/7000 = EPA Method 200/7000 for selected metals.

Analytical Laboratories:

B&C: Brown and Caldwell Laboratory, Emeryville, California.



MAP SOURCE:
U.S.G.S. Oakland West Quadrangle,
Oakland, California
7.5 Minute Series

Figure 1 : SITE LOCATION MAP

Project No. 1563

JDR11JUL89em

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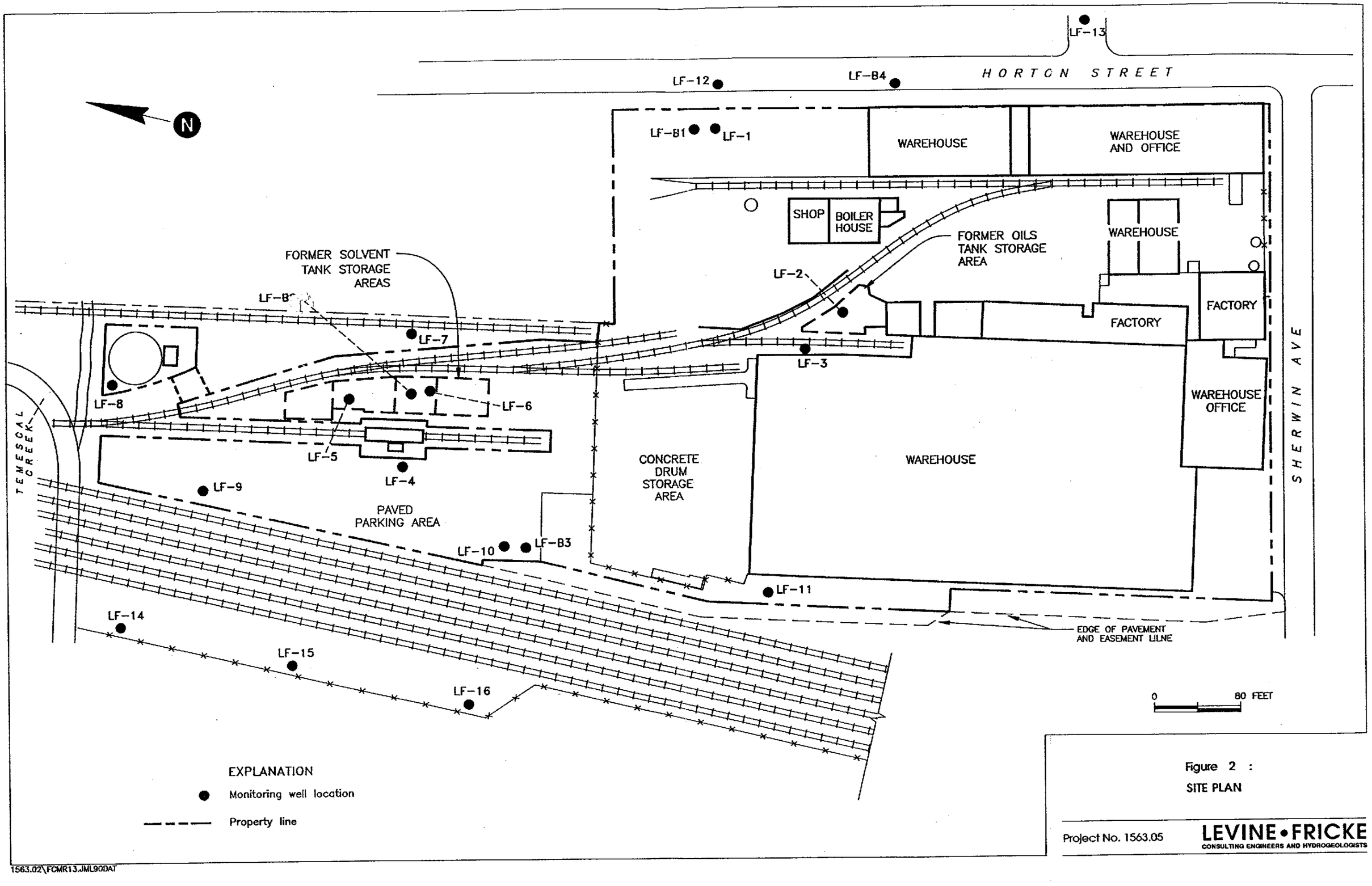

Figure 2 :
SITE PLAN

Project No. 1563.05

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1563.02\FCMR13.JML90DAT

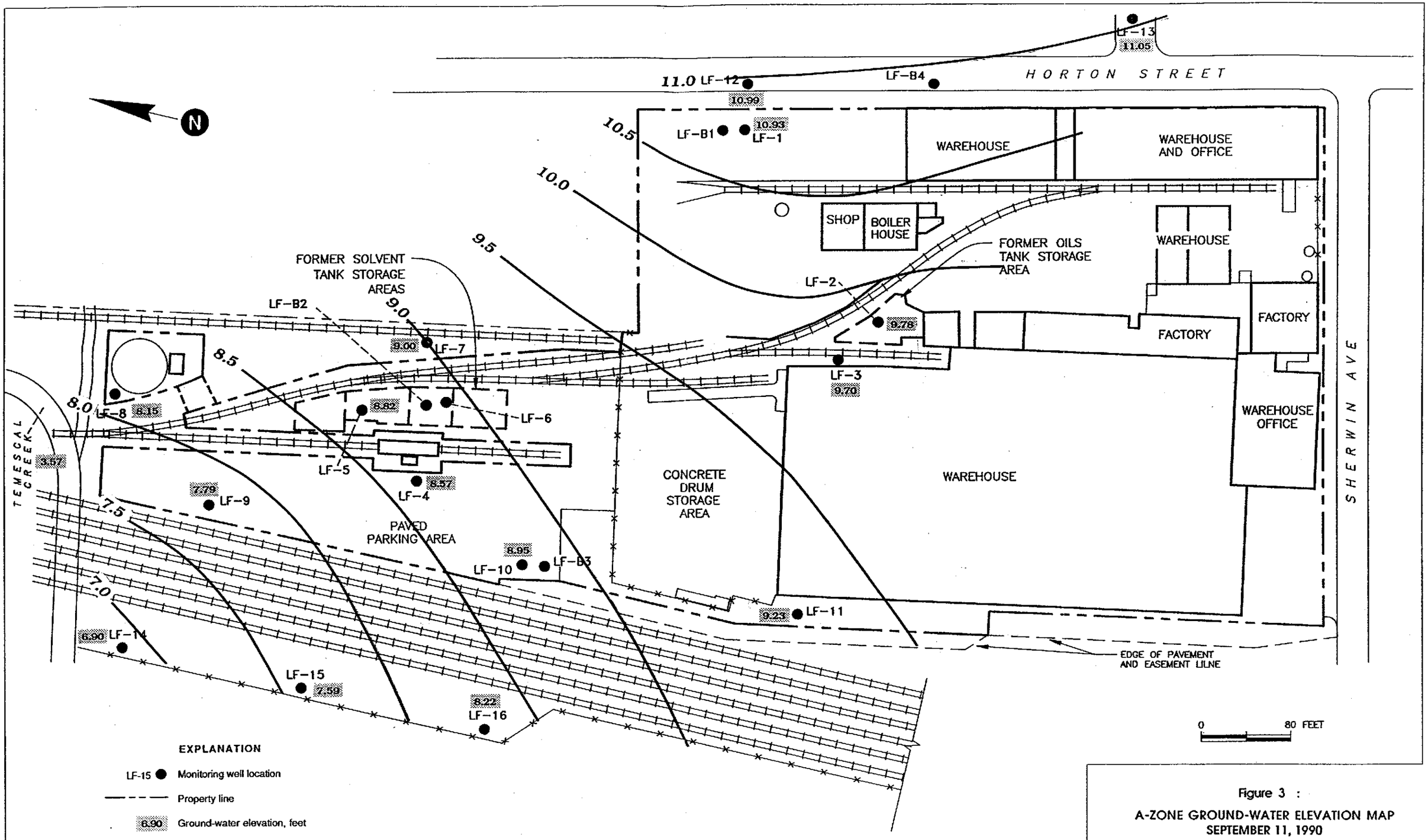

Figure 3 :

A-ZONE GROUND-WATER ELEVATION MAP
SEPTEMBER 11, 1990

Project No. 1563.06

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1563.02\FCMR13.JML90DAT

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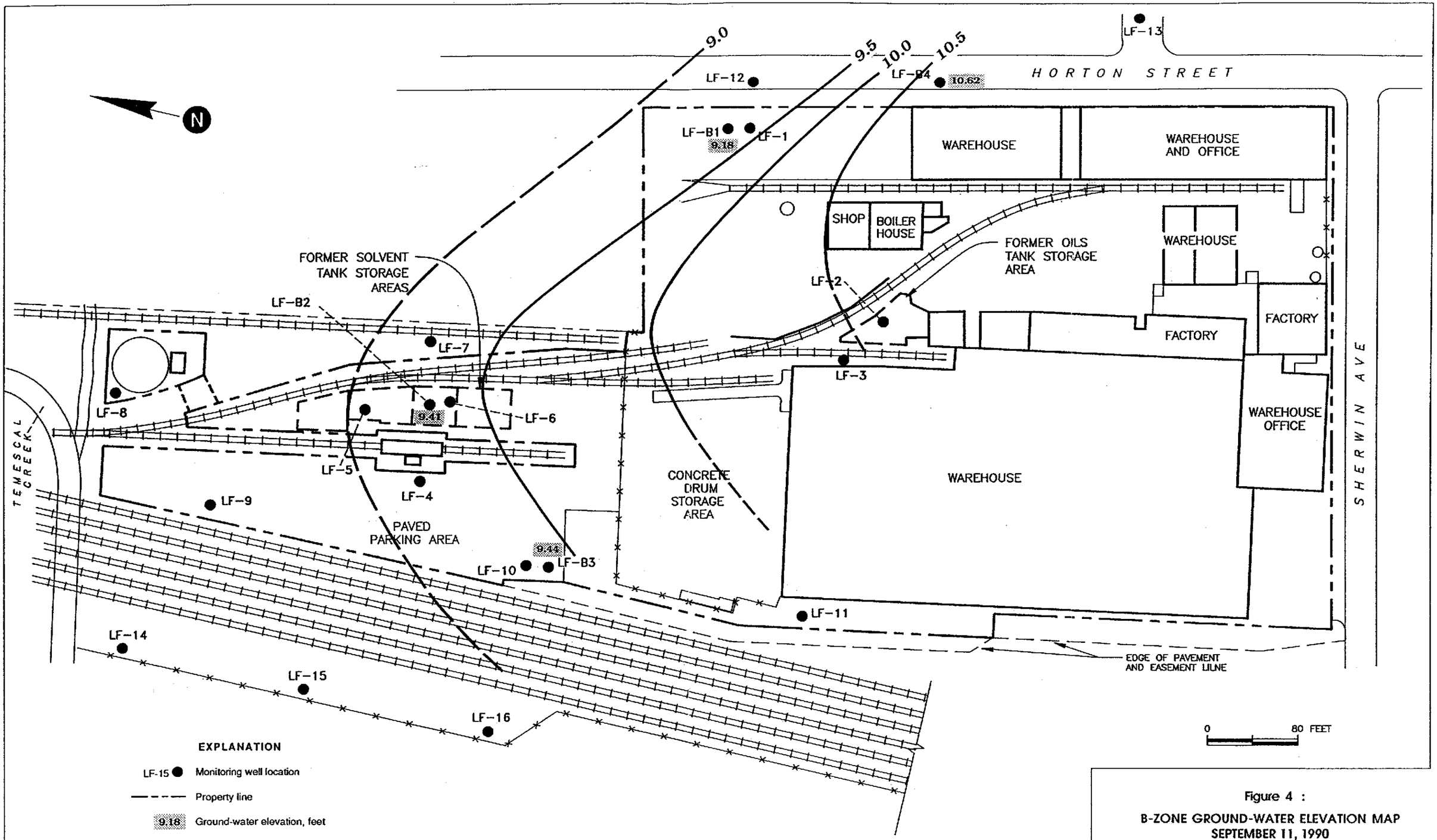

1563.02\FCMR13.JML90DAT

Figure 4 :

B-ZONE GROUND-WATER ELEVATION MAP
SEPTEMBER 11, 1990

Project No. 1563.06

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JHDR29OCT90em

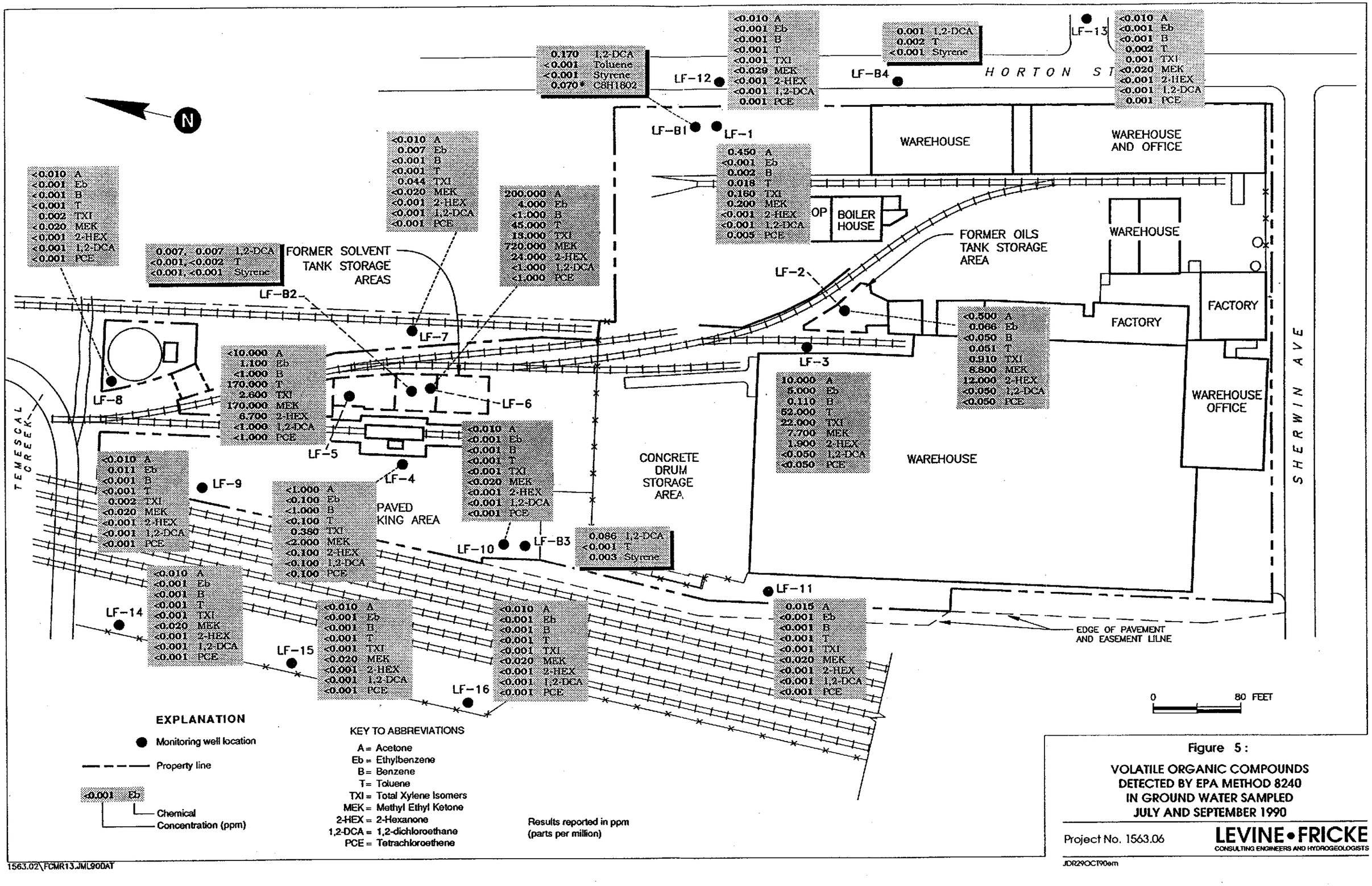

Figure 5 :

VOLATILE ORGANIC COMPOUNDS
DETECTED BY EPA METHOD 8240
IN GROUND WATER SAMPLED
JULY AND SEPTEMBER 1990

Project No. 1563.06

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1563.02\FGMR13.JML90DAT

JDR29OCT90em

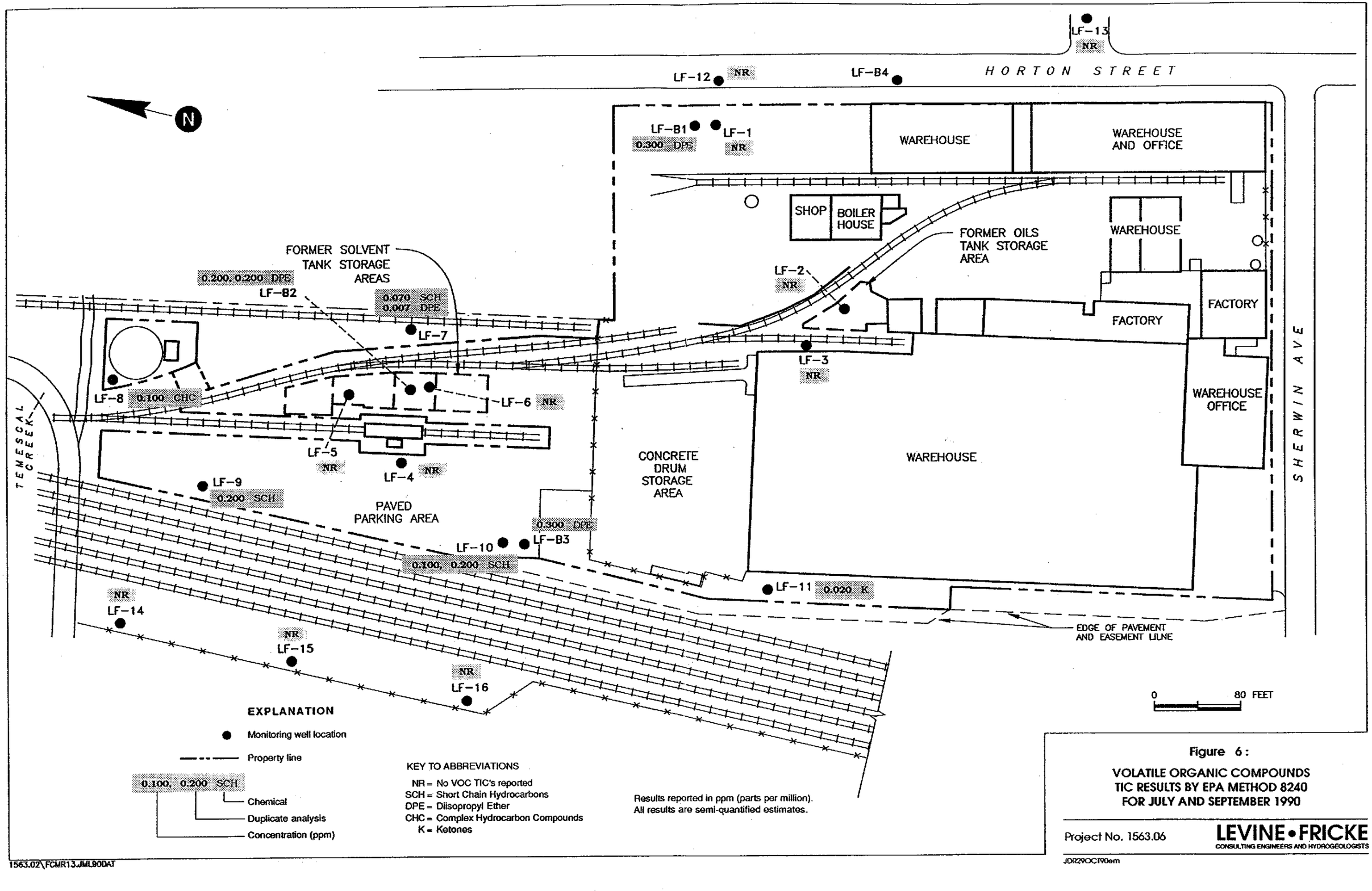

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Figure 6:

VOLATILE ORGANIC COMPOUNDS TIC RESULTS BY EPA METHOD 8240 FOR JULY AND SEPTEMBER 1990

Project No. 1563.06

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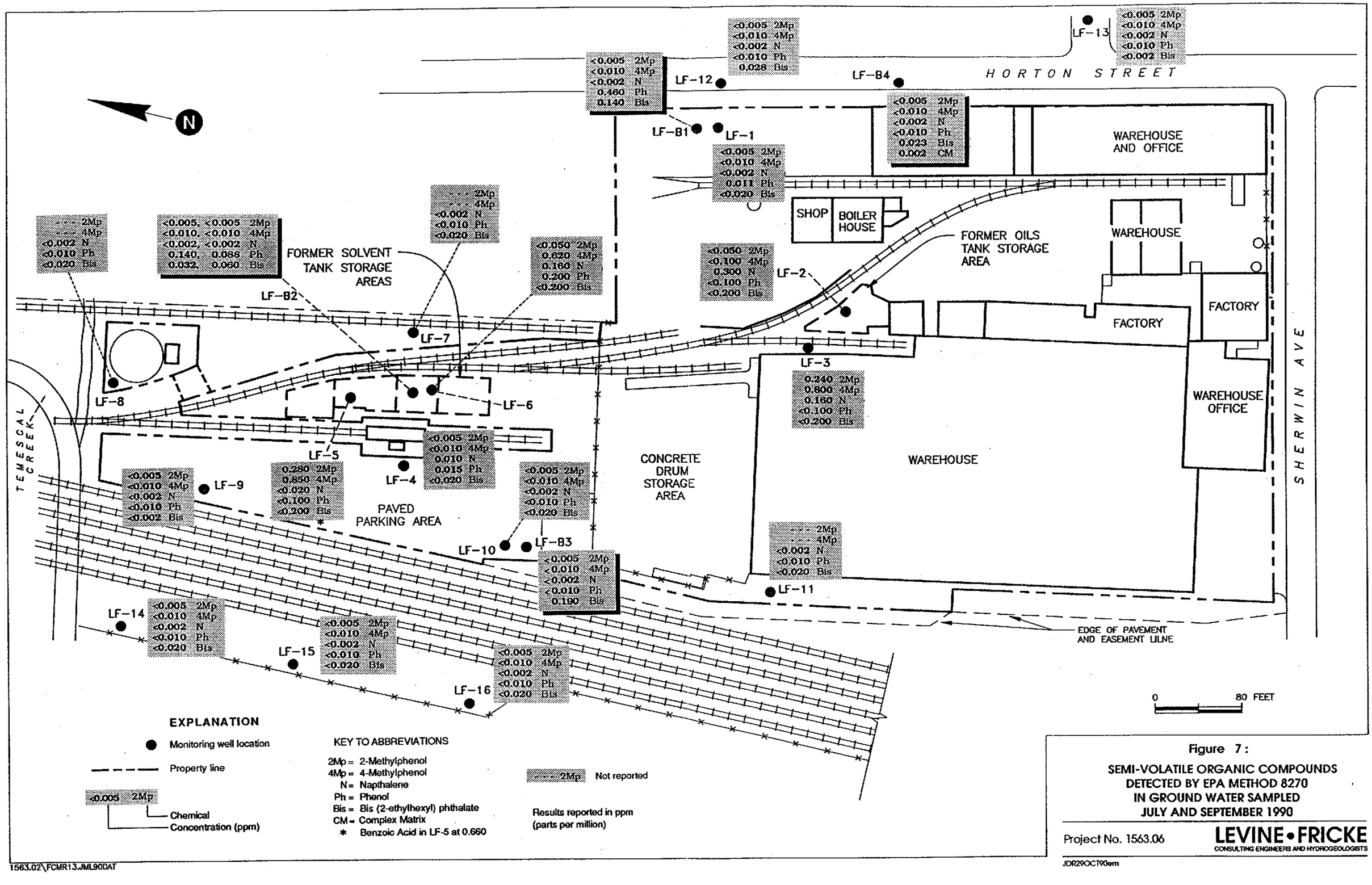

Figure 7 :

SEMI-VOLATILE ORGANIC COMPOUNDS
DETECTED BY EPA METHOD 8270
IN GROUND WATER SAMPLED
JULY AND SEPTEMBER 1990

Project No. 1563.06

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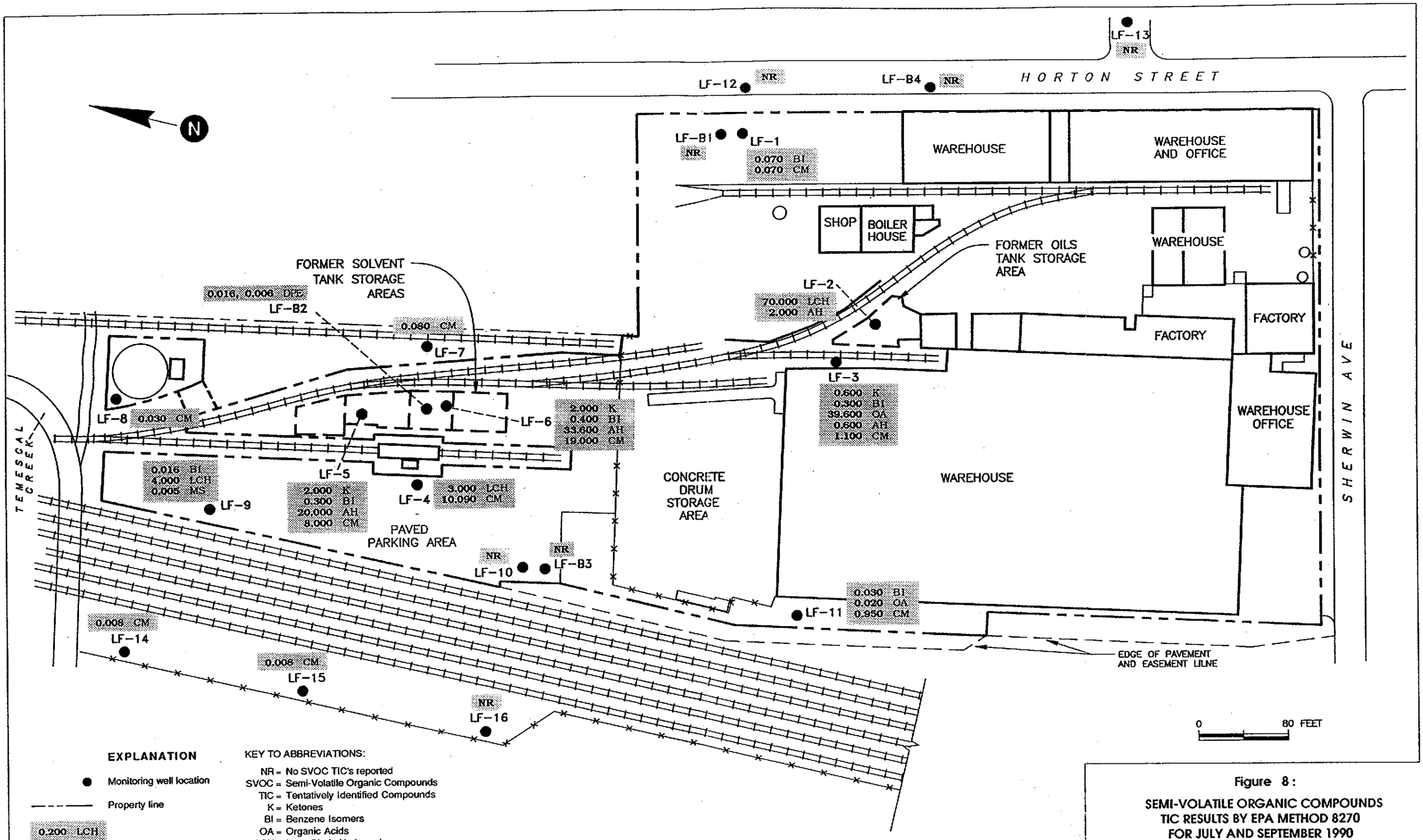
1563.02\FCMR13.JML90DAT

JDR29OCT90em



1563.02\FCMR13.JML90DAT

Figure 8:

SEMI-VOLATILE ORGANIC COMPOUNDS
TIC RESULTS BY EPA METHOD 8270
FOR JULY AND SEPTEMBER 1990

Project No. 1563.06

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

JDR29OCT90em

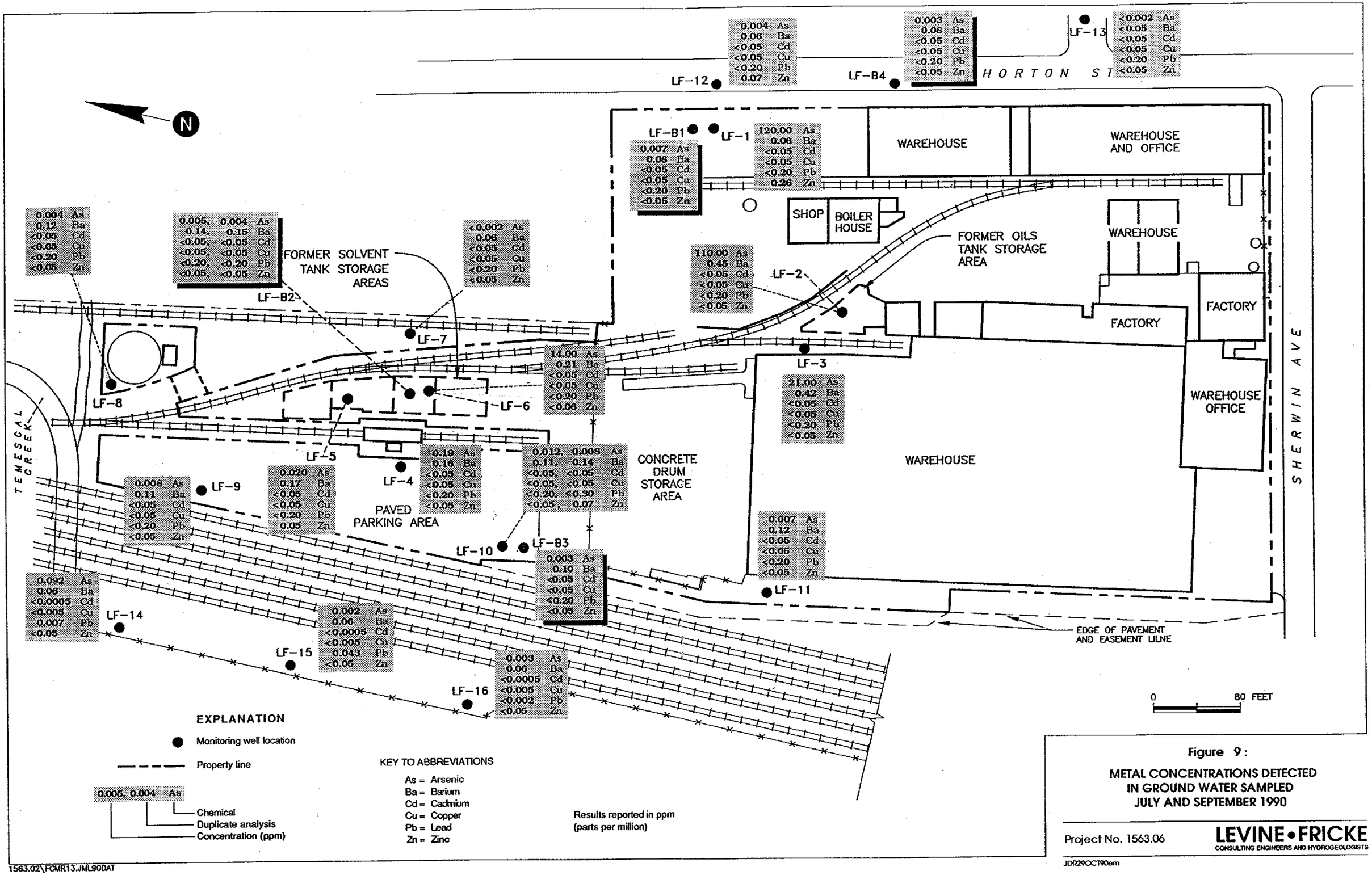


Figure 9:

METAL CONCENTRATIONS DETECTED IN GROUND WATER SAMPLED JULY AND SEPTEMBER 1990

Project No. 1563.06

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

JDR29OCT90em

1563.02\FCMR13.JML90DAT

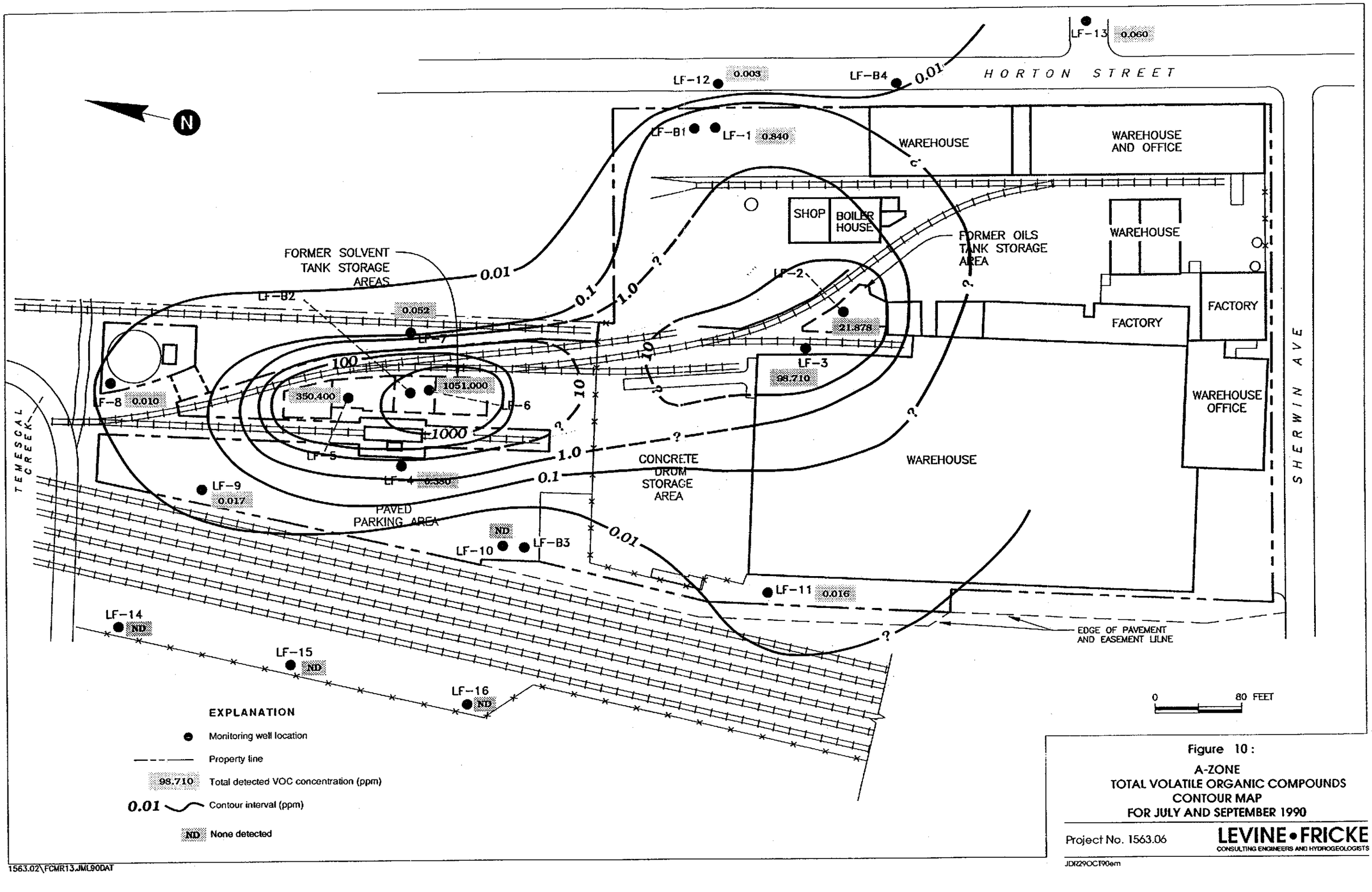


Figure 10 :

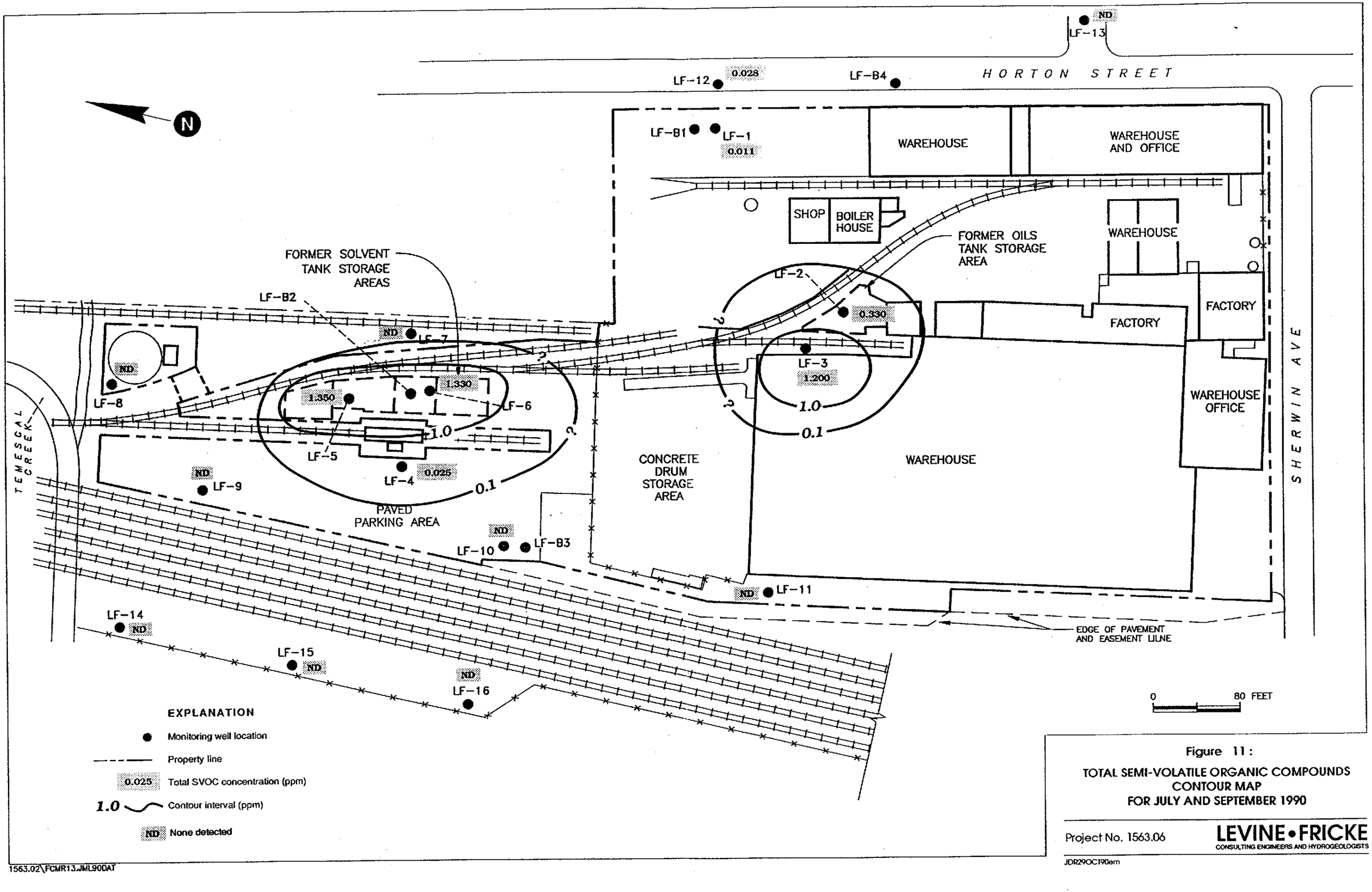
A-ZONE
TOTAL VOLATILE ORGANIC COMPOUNDS
CONTOUR MAP
FOR JULY AND SEPTEMBER 1990

Project No. 1563.06

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

JDR29OCT90em

1563.02\FCMR13.JML90DAT



1563.02\FCMR13.JML90DAT

Figure 11:

TOTAL SEMI-VOLATILE ORGANIC COMPOUNDS CONTOUR MAP FOR JULY AND SEPTEMBER 1990

Project No. 1563.06

LEVINE•FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

JDR29OCT90em

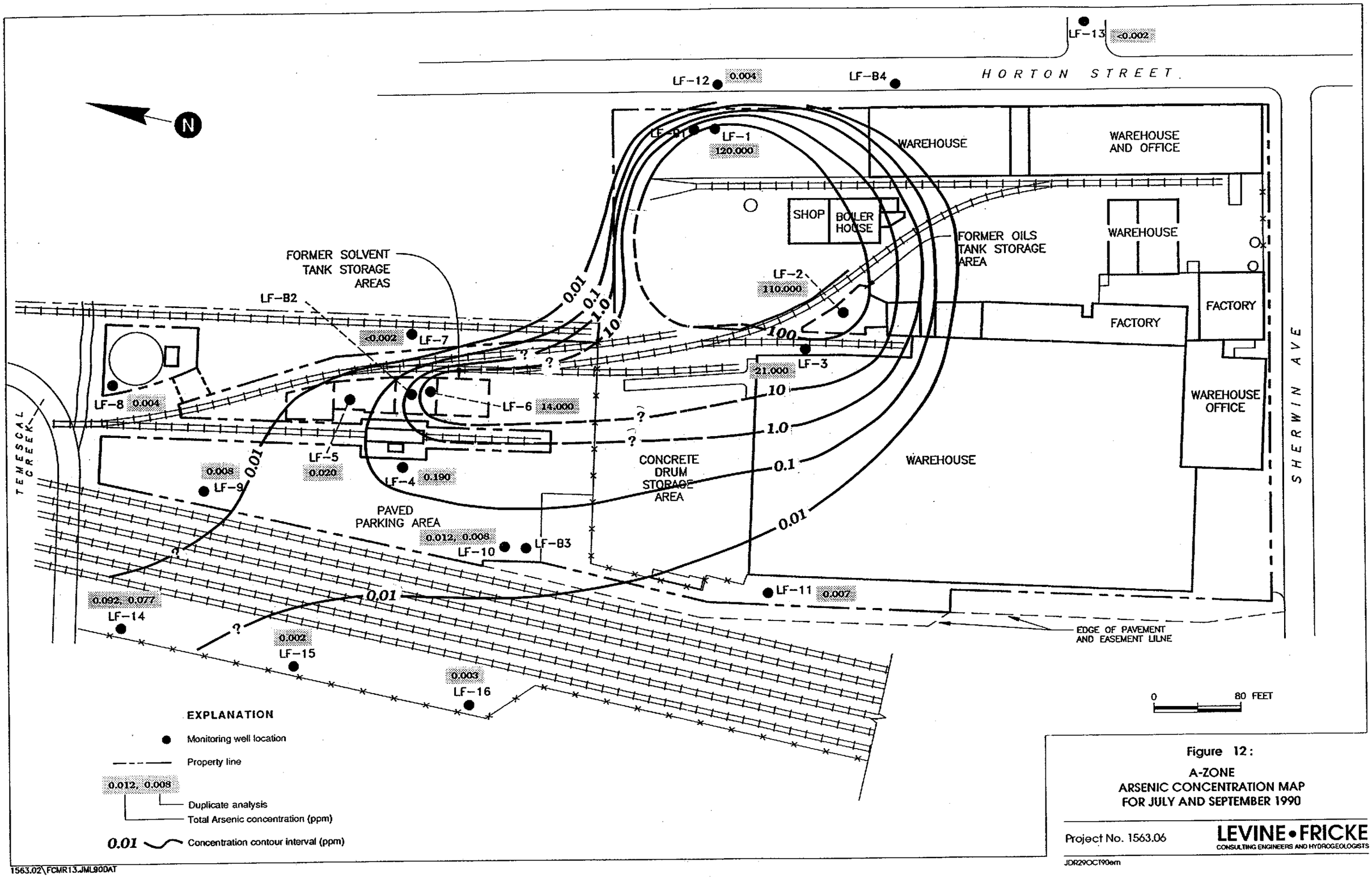


Figure 12:

A-ZONE
ARSENIC CONCENTRATION MAP
FOR JULY AND SEPTEMBER 1990

Project No. 1563.06

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

JDR29OCT90em

1563.02\FCMR13.JML90DAT

APPENDIX A

LITHOLOGIC LOGS

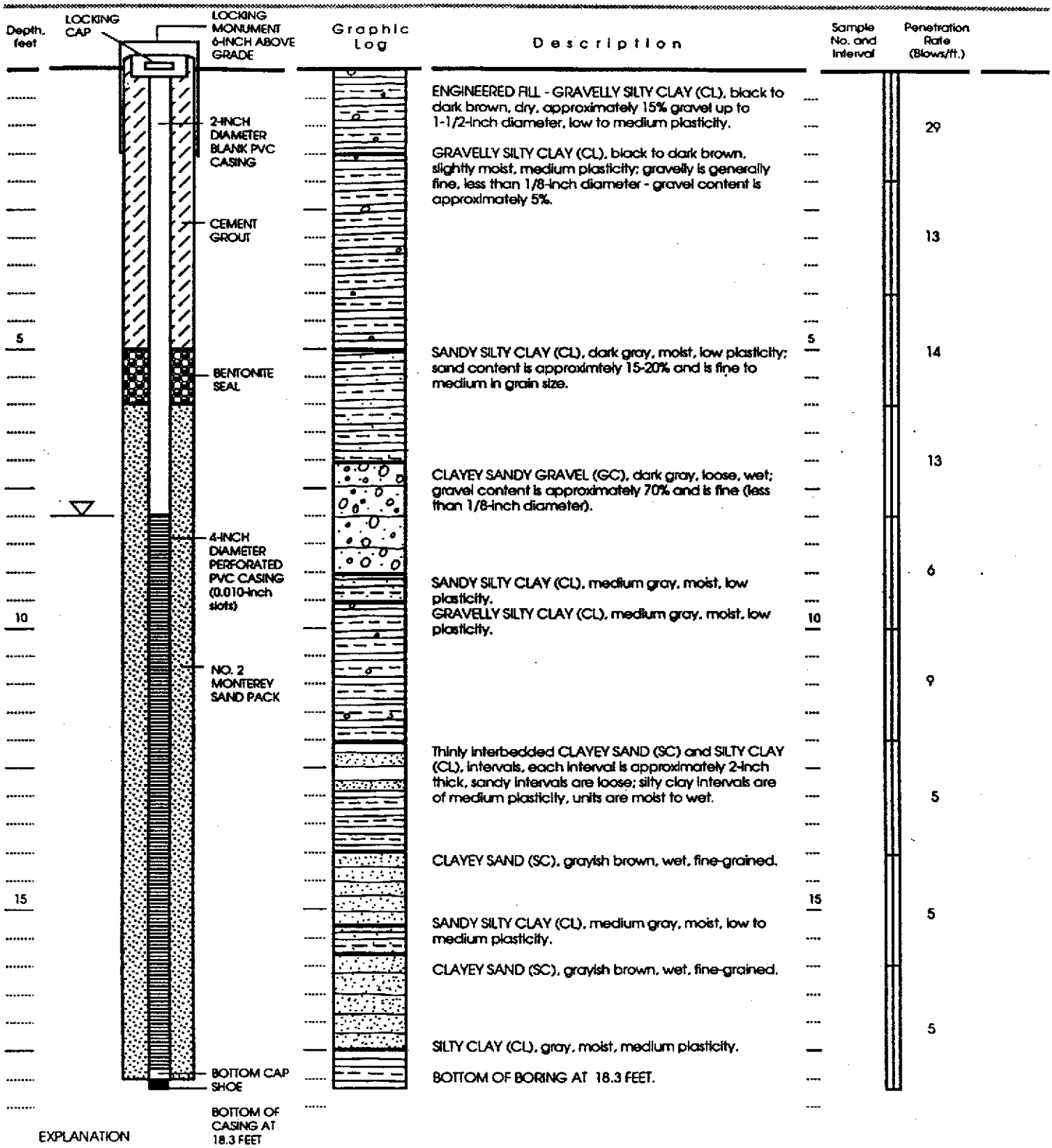


Figure A-1 : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-14 (page 1 of 1)

Project No. 1563.04 Sherwin-Williams

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

JDRD2NOV90mp/em

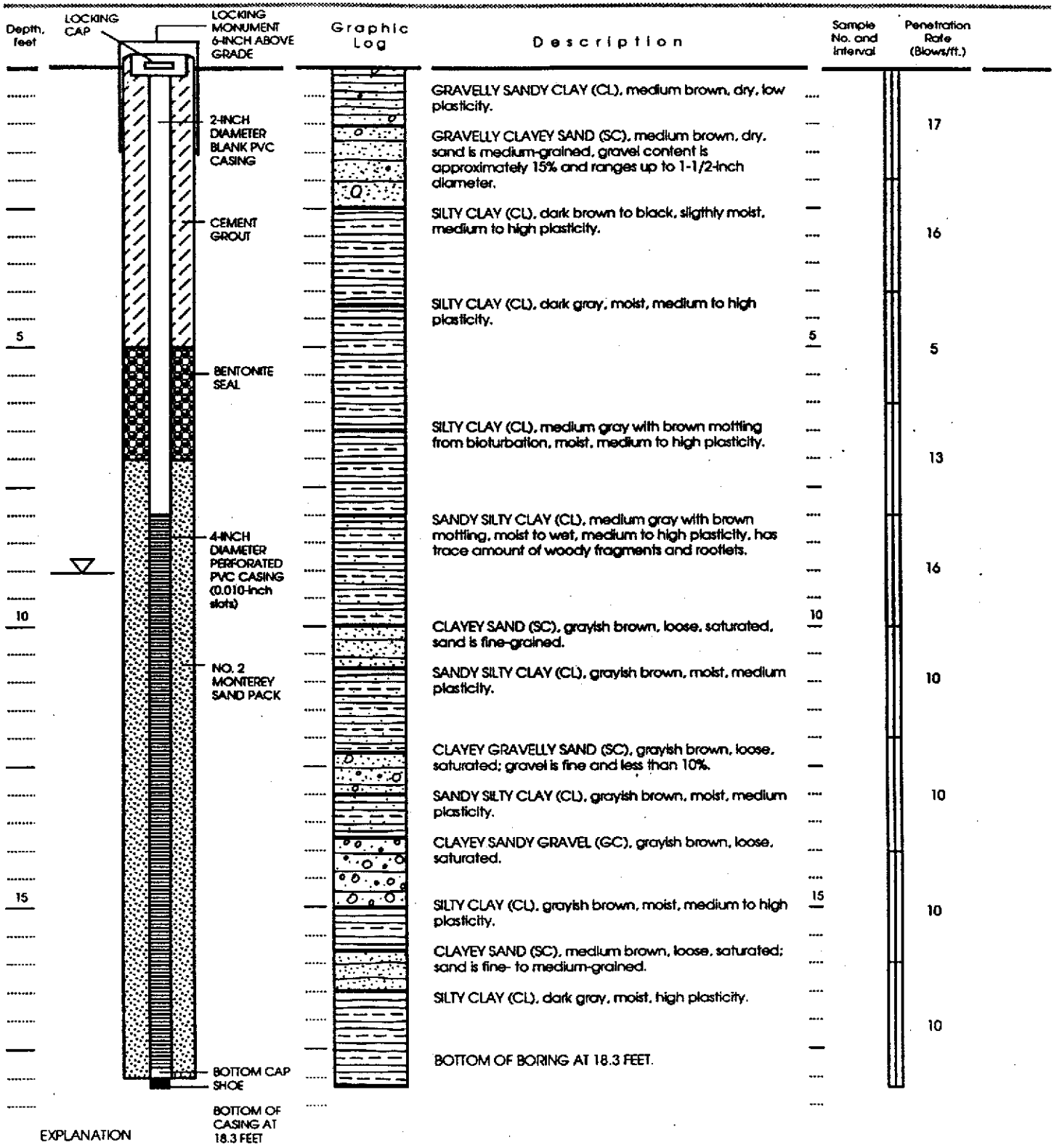


Figure A-2 : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-15 (page 1 of 1)

Project No. 1563.04 Sherwin-Williams

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

JDR02NOV90em

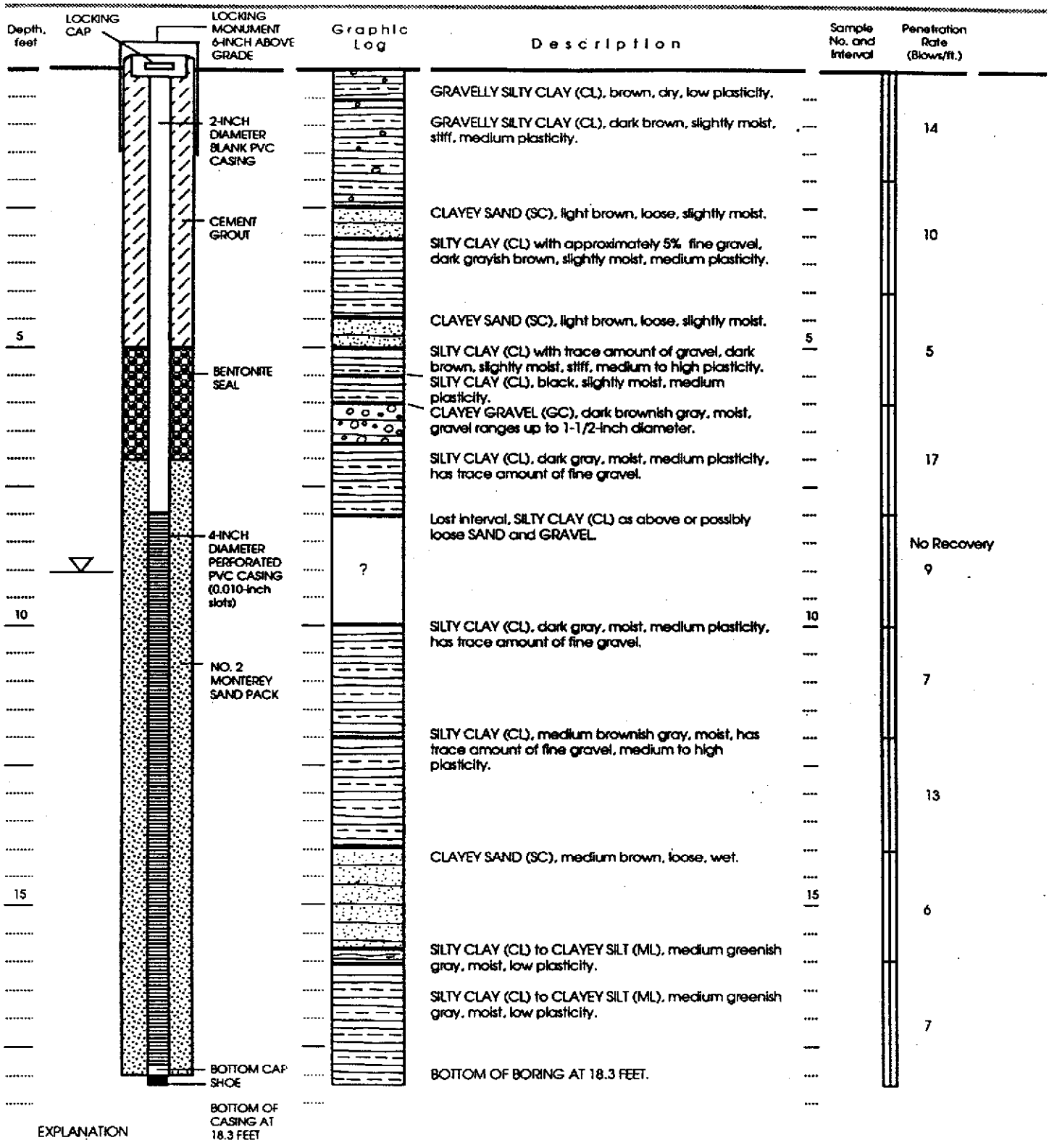


Figure A-3 : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-16 (page 1 of 1)

Project No. 1563.04 Sherwin-Williams

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

JD\02NOV90mp\em

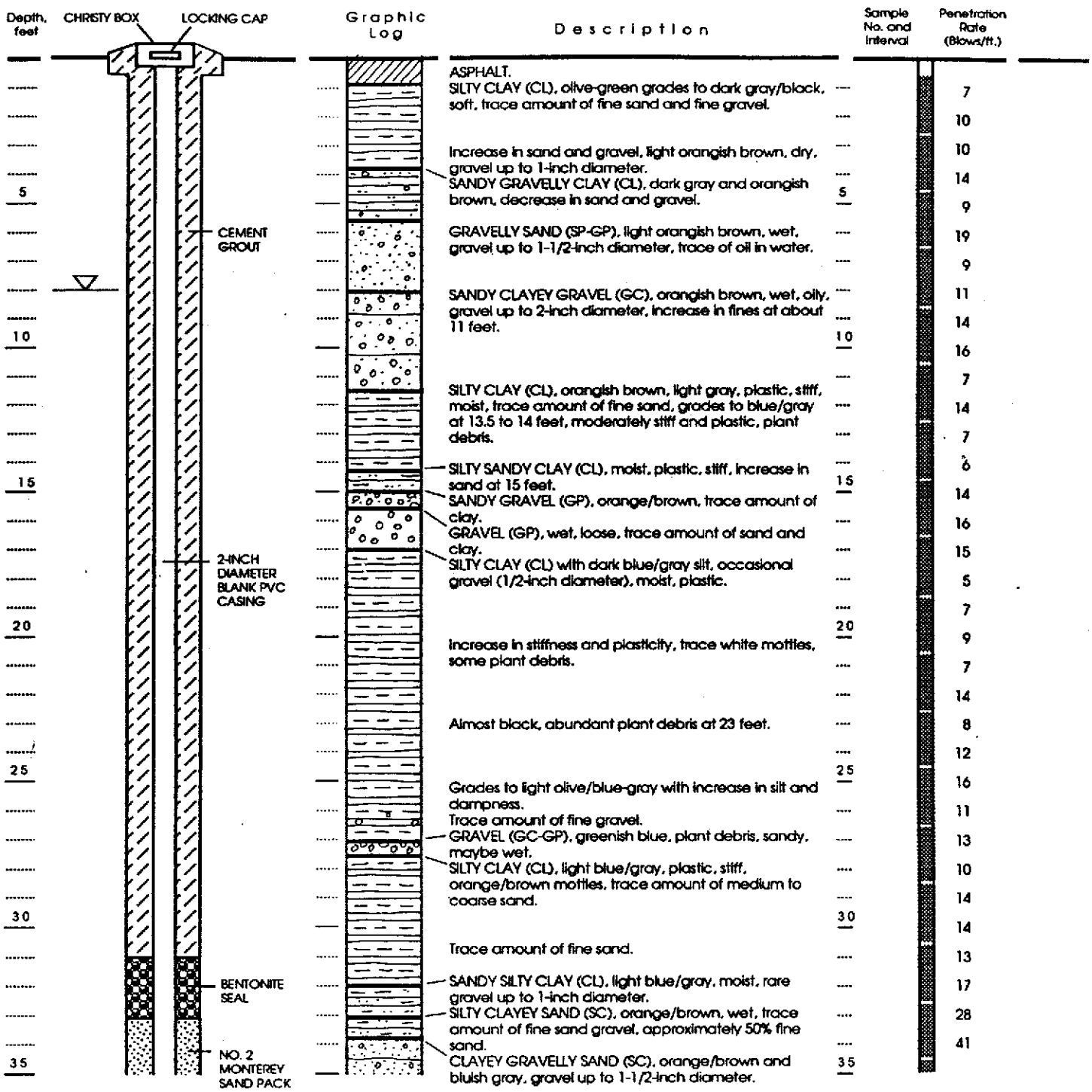
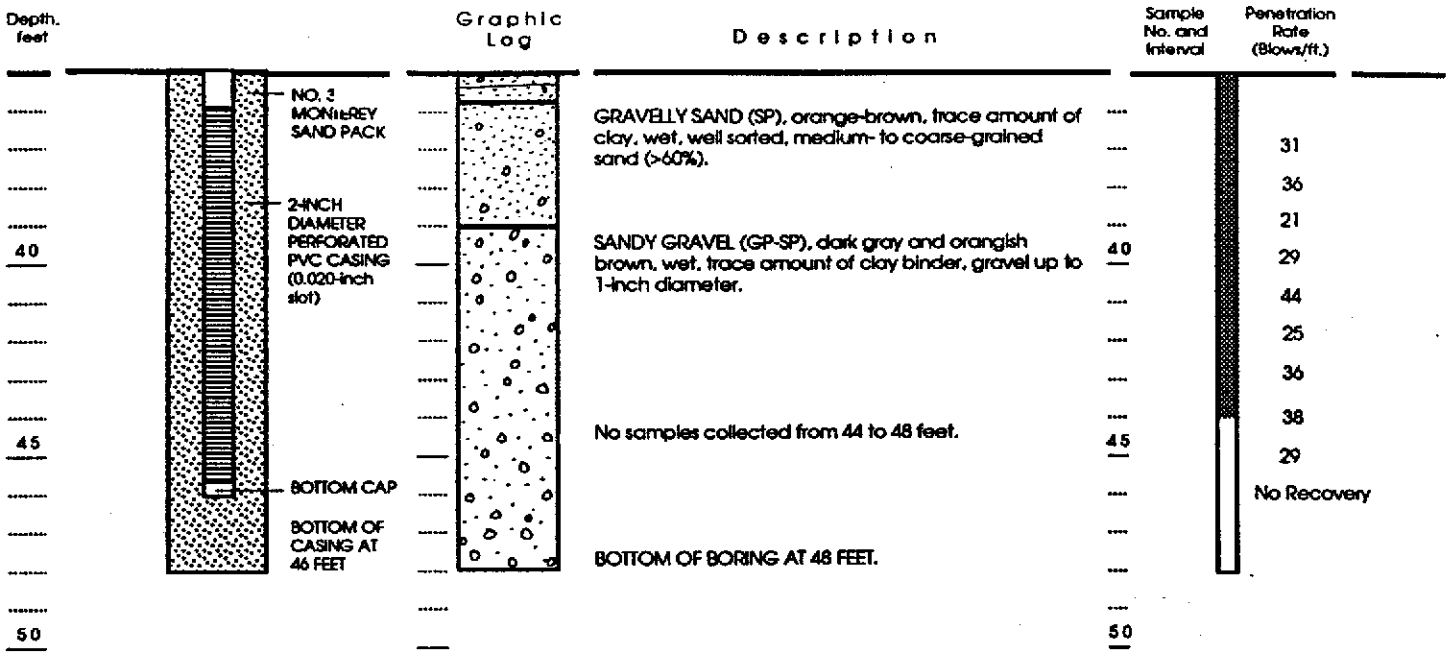


Figure A-4 : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-B4 (page 1 of 2)



EXPLANATION

- Clay
- Silt
- Sand
- Gravel

Date well drilled: June 29, 1990
Date water level measured: At time of drilling (ATD)
Well elevation: 14.54 (ft msl)
Hammer weight: 140 lbs.
LF Geologist: Ron E. Goloubow

Modified California Sampler

Water level at time of drilling

Approved by:

Figure A-4 : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-B4 (page 2 of 2)

APPENDIX B

GROUND-WATER SAMPLING FIELD DATA

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Sherwin Williams — Project No. [illegible]

Date 7-20-90 — Sample No. LF-1

Samplers Name Dan G

Sampling Location LF-1

Sampling Method Cent. pump + disp. bailer

Analyses Requested 8015, ~~8020~~ 8240, 8270 + metals

Number and Types of Sample Bottles used 2-1L glass, 1-1L poly 4 vom

Method of Shipment Hand

GROUND WATER

Well No. LF-1

Well Diameter (in.) 2

Depth to Water, Static (ft) 9.64

Water in Well Box No

Well Depth (ft) 1392

Height of Water Column in Well 5.28

Water Volume in Well .84

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

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1356								Pump on
1357		2	22.1	6.22	21500			turbid brown
1358		3.5	24.6	5.85	19600			" "
1400		7.0	22.5	5.70	17700			" Clearer
1415	9.02							Sampled

Suggested Method for Purging Well Pist Pump

10-30-89
LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Sherwin Williams
Project No. 1563.06
Date 7.20.20
Sample No. LF-2
Samplers Name Ron G. John Dreamer
Sampling Location LF-2
Sampling Method cent pump + disp. bailer
Analyses Requested 8015, 8240, 8270, metals
Number and Types of Sample Bottles used 2-1Lglass, 4VOA, 1-1Lpoly
Method of Shipment Hand

80% = 5.9' + 4.0'

LOCATION MAP

GROUND WATER

Well No. LF-2
Well Diameter (in.) 2
Depth to Water, Static (ft) 4.97
Water in Well Box No
Well Depth (ft) 9.90
Height of Water Column in Well 4.93
Water Volume in Well .79

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
1218								Pump on
1220		≈1.5	29.0	6.03	1350			slug - foamy
1221		2.5	27.1	6.17	1592			" "
1225		5.0	26.1	6.31	1730			" "
1240	7.92							Sampled

Suggested Method for Purging Well cent pump

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin Williams — Project No.: 156306

Date: 7.20.20 — Sample No.: LF-3

Samplers Name: Ron G. John DR

Sampling Location: LF-3

Sampling Method: Centpump + disp. bailer

Analyses Requested: 8015 - 8240, 8270 + metals

Number and Types of Sample Bottles used: 4 VOA, 2-1L glass - 1-1L poly

Method of Shipment: Hand

GROUND WATER

Well No.: LF3

Well Diameter (in.): 2

Depth to Water, Static (ft): 4.91

Water in Well Box: No

Well Depth (ft): 10.25

Height of Water Column in Well: 5.34

Water Volume in Well: .85

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

3.09 = 5.98

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1252								Pump on
1253		2	26.9	6.36	21400			Foamy + Gray dry
1258		3	28.6	6.56	23600			" "
1303		5	29.1	6.95	24600			" "
1325	6.0							Sampled

Suggested Method for Purging Well: Centpump

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin Williams — Project No.: 1563.06

Date: 7-20-20 — Sample No.: LF4

Samplers Name: Ron G John Dr

Sampling Location: LF

Sampling Method: Cent - Pump disp. bailer

Analyses Requested: 8260, 8270, 8015 + metals

Number and Types of Sample Bottles used: 4-VOA, 2 1L glass (1-1Rply)

Method of Shipment: hand

GROUND WATER

Well No.: LF4

Well Diameter (in.): 2

Depth to Water, Static (ft): 7.11

Water in Well Box: ✓

Well Depth (ft): 13.30

Height of Water Column in Well: 6.19

Water Volume in Well: 0.99

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

23' = 80%

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
948								Pump on
949		2	23.2	6.37	1055			turbid grey dry - Pump off
953		4	21.8	6.32	999			Pump on/off turbid - grey
958		5	21.9	6.40	850			Pump off
1010	7.60							sampled

Suggested Method for Purging Well: Cent. Pump

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin William — Project No.: 1563.06

Date: 7-20-90 — Sample No.: LF-5

Samplers Name: Randy, John D'Reamer

Sampling Location: LF 5

Sampling Method: Cent pump + disp. bailer

Analyses Requested: 8240, 8270, 8015, metals

Number and Types of Sample Bottles used: 4 VOA; 1-1L jdy + 2-1L glass

Method of Shipment: _____

GROUND WATER

Well No.: LF-5

Well Diameter (in.): 2

Depth to Water, Static (ft): 4.37

Water in Well Box: No

Well Depth (ft): 10.05

Height of Water Column in Well: 5.71

Water Volume in Well: 0.91

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

5.5' = 80%

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
858								Pump on
900		2.5	20.5	6.00	1246			Turbid gray
902	Pump off - dry							
904								Pump on
905		5.0	23.7	6.13	1264			Turbid - foamy
907								Pump off
909		6.5	25.2	6.27	1214			Pump on foamy
								foamy
920	~~5.70~~ 5.40							SAMPLED
925								Trip Blank

Suggested Method for Purging Well: Cent. Pump

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin Williams — Project No. 15430.06

Date: 7-20-90 — Sample No. LF-6

Samplers Name: Ron G. John DeR

Sampling Location: LF6

Sampling Method: Cent Pump + disp. bailer

Analyses Requested: 8015, 8240, 8270 + Metals

Number and Types of Sample Bottles used: 4 VOA, 2-1l glass - 1-1l poly

Method of Shipment: Hand

GROUND WATER

Well No.: LF6

Well Diameter (in.): 2

Depth to Water, Static (ft): 4.61

Water in Well Box: No

Well Depth (ft): 10.05

Height of Water Column in Well: 5.44

Water Volume in Well: 0.87

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

80% = 5.70'

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1138								Pump on
1140		2	26.4	6.17	920			turbid - gray
1142		3	25.9	5.96	1060			" " foamy
·17		5	28.9	5.94	1113			" "
1200	4.70							Sampled

Suggested Method for Purging Well: Cent pump

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Sherwin Williams

Project No. ~~307~~ 1563.06

Date 7-19-90

Sample No. LF-7

Samplers Name Rau & - J. Dreamer

Sampling Location LF-7

Sampling Method Cent pump - disp. bailer

Analyses Requested 8240. 8270 8015 + Metals

Number and Types of Sample Bottles used 4 VOA; 2-1L glass, 1 1L poly

Method of Shipment Hand

GROUND WATER

Well No. LF-7

Well Diameter (in.) 2

Depth to Water, Static (ft) 4.74

Water in Well Box No

Well Depth (ft) 16.74

Height of Water Column in Well 9.27

Water Volume in Well 1.48

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

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1512								Pump on
1512		2.5	23.6	6.18	~~2440~~			Turbid, gray
1514		5.0	22.9	6.19	1280			
1515		7.5	22.5	6.13	1050			pump off
1516		12	22.1	6.10	1005			pump on
1518		15	22.7	6.09	985			Pump off
1530								sampled

Suggested Method for Purging Well Cent. pump

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Sherwin Williams Project No. 1563.06

Date 7.19.20 Sample No. LF-8

Samplers Name Renee John, Dr

Sampling Location LF-8

Sampling Method Cent pump + disp. bailer

Analyses Requested 8240, 8270, 8015 + metals

Number and Types of Sample Bottles used 4 VOA, 2-1L glass, 1-1L poly

Method of Shipment Hand

GROUND WATER

Well No. LF-8

Well Diameter (in.) 2

Depth to Water, Static (ft) 7.35

Water in Well Box No

Well Depth (ft) 16.25

Height of Water Column in Well 9.5

Water Volume in Well 1.52

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

80% = 9.25'

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1600								PUMP ON
1601		2.5	27.4	6.44	931			Pump off - Dry
16:15	9.12							Sampled

Suggested Method for Purging Well Cent pump or bailer

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin Williams — Project No.: 1563.0C

Date: 7-19-90 — Sample No.: LF-#9

Samplers Name: Ron G Jon Dreamer

Sampling Location: LF-9

Sampling Method: Cent pmd disp. bailer

Analyses Requested: 8240, 8270, 8015, metals

Number and Types of Sample Bottles used: 4 VOA, 2 1L glass - 1 1L Poly

Method of Shipment: Hand

LOCATION MAP

GROUND WATER

Well No.: LF-9

Well Diameter (in.): 2

Depth to Water, Static (ft): 5.24

Water in Well Box: No

Well Depth (ft): 14.85

Height of Water Column in Well: 9.61

Water Volume in Well: 1.54

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
1629								Pump on
1622		2.5	23.0	6.55	1152			gray-turbid
1623		5.0	21.6	6.55	1187			" " slightly
1626		7.5	21.1	6.78	1182			Pump off
1700								Sampled

Suggested Method for Purging Well: Cent Pump

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin Williams — Project No.: 1563.06

Date: 7-19-90 — Sample No.: LF-10

Samplers Name: Ron G + John D. Reamer

Sampling Location: LF-10

Sampling Method: Cent pump + disp. bailer

Analyses Requested: 8240, 8270, 8015 + metals

Number and Types of Sample Bottles used: 2-1L glass · 1-1L poly 4 VOA

Method of Shipment: Hand

GROUND WATER

Well No.: LF-10

Well Diameter (in.): 2

Depth to Water, Static (ft): 3.99

Water in Well Box: No

Well Depth (ft): 15.05

Height of Water Column in Well: 11.06

Water Volume in Well: 1.77

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

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1722		2.5						Pump on
722		2.5	22.7	6.84	1315			turbid gray
1723		5.0	22.5	6.67	1380			" "
1724		15.0	22.4	6.72	1320			" " Pump off
734								Sample collected
1740								Pupe collected

Suggested Method for Purging Well: cent pump

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin Williams
Project No.: 1563.06
Date: 7-19-90
Sample No.: LF-11
Samplers Name: Dew G ~~BG~~ J. Dreamer
Sampling Location: LF-11
Sampling Method: Cent. Pump + disp. bailer
Analyses Requested: 8240, 8270, 8015 + metals
Number and Types of Sample Bottles used: 4 VOA, 2-1L glass + 1 1L poly
Method of Shipment: Hand

GROUND WATER

Well No.: LF-11
Well Diameter (in.): 2
Depth to Water, Static (ft): 3.51
Water in Well Box: N
Well Depth (ft): 14.90
Height of Water Column in Well: 11.39
Water Volume in Well: 1.82

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

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1345								Trip blank collected
1400								Bailer Blanks "
1421								Pump on
1422		2.5	24.1	6.42	1205			Murky - grey
1433		5	23.3	6.62	1291			Turbid - gray
1434		7.5	23.3	673	1260			" " Pump off
1424		8.0						Pump off
1430								Sampled

Suggested Method for Purging Well: Cent. pump

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Sherwin Williams

Project No. 1563.06

Date 7.18.90

Sample No. LF.12

Samplers Name Ron G. - John DR

Sampling Location LF.12

Sampling Method Cent pump - dispo. bailer

Analyses Requested 8240 - 8270 - 8015 + metals

Number and Types of Sample Bottles used 4-VOA + 2-1L glass - 1.1L poly

Method of Shipment Hand

GROUND WATER

Well No. LF.12

Well Diameter (in.) 2

Depth to Water, Static (ft) 10.65

Water in Well Box NO

Well Depth (ft) 17.05

Height of Water Column in Well 10.40

Water Volume in Well 1.66

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

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1243								Pump on
1243		2.5	23.6	6.86	682			Very turbid
1244		5	23.8	6.57	672			" "
		7.5						Pump off
1247		~~8~~ 8.0	25.0	6.56	700			Pump on - turbid
1250		12.5	23.0	6.50	677			Turbid
1252		15	22.2	6.47	662			Clearing
1300								Sampled

Suggested Method for Purging Well Cent Pump

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin Williams — Project No.: 1563.06

Date: 7-18-90 — Sample No.: LF-13

Samplers Name: Ron G - John DP

Sampling Location: LF-13

Sampling Method: Cent Pump + bailer

Analyses Requested: 8240, 8270, 8015 + Metals

Number and Types of Sample Bottles used: 4-40ml VOA, 2 1L Glass + 1L poly

Method of Shipment: Hand

GROUND WATER

Well No.: LF-13

Well Diameter (in.): 2

Depth to Water, Static (ft): 6.40

Water in Well Box: NO

Well Depth (ft): 17.15

Height of Water Column in Well: 10.75

Water Volume in Well: 1.72

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

1 Vol = 1.72

4 Vol = 6.88

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1201								Pump on
1202		2.5	22.5	6.92	546			turbid
12025		3.0						Dry - Pump off
1206								Pump on
1207		5	22.6	6.80	554			Turbid
1207		6	—	—	—			Pump off - Dry
1214		8	22.1	6.85	530			
1221	7.40							
1225								Sampled

Suggested Method for Purging Well: Cent Pump

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin Williams — Project No. 3.06

Date: 7-18-20 — Sample No. LF-B1

Samplers Name: Ron G - John Dr

Sampling Location: LFB1

Sampling Method: Cent. pump - disp. bailer

Analyses Requested: 8240, 8015 8270 + Metals

Number and Types of Sample Bottles used: 4 VOA, 2 - 1l glass, 1l poly

Method of Shipment: Hand

GROUND WATER

Well No. LF B1

Well Diameter (in.) 2

Depth to Water, Static (ft) 10.73

Water in Well Box No Yes

Well Depth (ft) 54.27

Height of Water Column in Well 43.54

Water Volume in Well 6.97

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

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1531								Pump on
1533		5	22.8	7.35	.25			clear/gray
1535		10	22.0	7.27	.27			" brown
1538		15	22.0	7.21	567			" "
1540		20	22.0	7.15	561			"
1543		25	22.0	7.13	556			clear - pump off
1600	12.00							sampled

Suggested Method for Purging Well: Cent Pump

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin Williams
Project No.: ~~52~~ 1563.16
Date: 7-12-90
Sample No.: LF-B2
Samplers Name: Ron G - John Dr
Sampling Location: LF-B2
Sampling Method: Cent Pump
Analyses Requested: 8270, 8240, metals, 8015
Number and Types of Sample Bottles used: 4-VOA, 2 1L glass - 1 1L poly
Method of Shipment: Hand

GROUND WATER

Well No.: LF-B2
Well Diameter (in.): 2
Depth to Water, Static (ft): 4.59
Water in Well Box: Yes
Well Depth (ft): 39.0
Height of Water Column in Well: 34.41
Water Volume in Well: 5.51

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

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1350								Pump on
1351		5	20.9	7.96	708			turbid grey
1351		10	20.5	6.96	696			" "
1352		15	20.2	6.95	713			" "
1353		20	20.0	6.93	709			clearing/gray Pumpoff
1405	4.72							sampled
								Dupe collected

Tested Method for Purging Well: Cent Pump

10-30-89
LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Sherwin Williams Project No. 1563.05

Date 7.18.90 Sample No. LF-B3

Samplers Name Ron G. John DL

Sampling Location LF-3B

Sampling Method Cent Pump + disp. bailer

Analyses Requested 8240, 8270, 8015 + metals

Number and Types of Sample Bottles used 4 VOA, 2-1L glass + 1 1L poly

Method of Shipment Hand

GROUND WATER

Well No. LF-B3

Well Diameter (in.) 2

Depth to Water, Static (ft) 3.72

Water in Well Box No

Well Depth (ft) 39.10

Height of Water Column in Well 35.38

Water Volume in Well 5.66

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

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1449								Pump on
1450		5	19.9	7.26	624			clear
1451		10	21	7.22	641			murky/turbid brown
1452		15	21.1	7.16	641			clearer
1453		20	21.1	7.14	622			Pump off
1500	3.89							Sampled

Suggested Method for Purging Well Cent. Pump

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin Williams
Project No.: 1563.06
Date: 7-18-90
Sample No.: LF-B4
Samplers Name: Ron G John DR
Sampling Location: LF
Sampling Method: Sub. Pump
Analyses Requested:
Number and Types of Sample Bottles used: 2 40ml 4o
Method of Shipment: Hand

GROUND WATER

Well No.: LF B-4
Well Diameter (in.): 2
Depth to Water, Static (ft): 6.55
Water in Well Box: N
Well Depth (ft): 45
Height of Water Column in Well: 38.45
Water Volume in Well: 6.15

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

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
915								Pump on
917		15	19.2	6.63	100			trace sand - turbid brn
918		25	19.0	6.72	581			Pump off
920		—	—	—	—	—		pump on
921		35	19.1	6.76	575			p clearing
922		45	19.1	6.74	576			pump off
925		50	19.2	6.82	575			pump on/off
933								pump on
934		60	19.1	7.02	576			surg well
935		75	19.0	7.02	570			clearing pump off
1050	6.72'							

Suggested Method for Purging Well: Cent pump

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin-Williams
Project No.: 1563.06
Date: Sept. 4, 1990
Sample No.: LF-14
Samplers Name: J. DeReamer
Sampling Location: LF-14
Sampling Method: Disposable Bailer
Analyses Requested:
Number and Types of Sample Bottles used: 6240, 8270, 8015, + 5 metals
Method of Shipment:

18.13
- 6.01
12.12
X.16
1.939 ≈ 2 gal.

LOCATION MAP

GROUND WATER

Well No.: LF-14
Well Diameter (in.): 2"
Depth to Water, Static (ft): 6.01'
Water in Well Box:
Well Depth (ft): 18.13'
Height of Water Column in Well: 12.12'
Water Volume in Well: 1.94 gal.

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
9:30	6.01'	2.0	20.4	7.04	551			V. Turbid, Darkp Gray
9:32		4.0	20.5	7.04	552			↓
9:34		6.0	21.0	7.03	645			
9:36		8.0	21.0	7.02	652			Turbid, Dark Gray
9:38		10.0	20.8	7.02	660			
9:40		12.0	20.8	7.02	666			↘ Silty
9:42	5 gal	17.0	20.8	7.02	648			
9:44	5 gal	22.0	20.8	7.03	663			↓
9:46	5 gal	27.0	20.6	7.03	662			
9:48	5 gal	32.0	20.6	7.03	661			
9:50	5 gal	37.0	20.6	7.03	665			Less Turbid, Light Gray
9:52	5 gal	42.0	20.5	7.03	667			
10:00	5 gal	47.0	20.6	7.02	664			
10:15	6.14'	total 47.0						Sampled

Suggested Method for Purging Well: Pumps well w/ centrifugal

LEVINE-FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin-Williams — Project No.: 1563.06

Date: Sept. 4, 1990 — Sample No.: LF-15

Samplers Name: J. DeReamer

Sampling Location: LF-15

Sampling Method: Disposable Bailer

Analyses Requested:

Number and Types of Sample Bottles used: 8240, 8270, 8015 and 5 Metals. (arsenic, cadmium, copper, lead, zinc)

Method of Shipment:

16.36
5.05
13.31
X.16
2.129 ≈ 2.13

GROUND WATER

Well No.: LF-15

Well Diameter (in.): 2"

Depth to Water, Static (ft): 5.05'

Water in Well Box: No

Well Depth (ft): 18.36'

Height of Water Column in Well: 13.31'

Water Volume in Well: 2.13 gal.

SURFACE WATER

Stream Width:

Stream Depth:

Stream Velocity:

Rained recently?: No

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

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
11:00	5.05'	5 gal	22.5	6.83	644			very silty, Dark Brown
11:04		10 gal	21.0	6.90	628			
11:07		15 gal	20.5	6.97	619			
11:09		20 gal	20.5	7.02	605			
11:11		24 gal	20.5	7.05	595			
11:13		28 gal	20.4	7.07	579			
11:15		34 gal	20.1	7.06	571			Water is clearing, still turbid but is light brownish gray.
11:17		38 gal	20.3	7.07	566			
11:25	5.17'	total 38 gal						Sampled
								slightly turbid

Suggested Method for Purging Well: well pumps dry w/ centrifugal

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin - Williams
Project No.: 1563.06
Date: Sept. 4, 1990
Sample No.: LF-16
Samplers Name: J. DeKreamer
Sampling Location: LF-16
Sampling Method: Disposable Bailer
Analyses Requested: 8240, 8270, 8015, 5 Metals
Number and Types of Sample Bottles used:
Method of Shipment:

18.40
- 4.75
13.65
x0.16
2.184

GROUND WATER

Well No.: LF-16
Well Diameter (in.): 2"
Depth to Water, Static (ft): 4.75'
Water in Well Box:
Well Depth (ft): 18.40
Height of Water Column in Well:
Water Volume in Well: 2.18 gal.

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

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1:13	4.75	4 gal.	22.0	6.94	737			V. Dark Brown, Turbid, ~ Silty
1:15		8 gal	20.7	6.94	699			
1:17		12 gal	20.5	6.95	682			
1:19		16 gal	20.5	6.97	679			
1:21		20 gal	20.4	7.00	657			
1:23		24 gal	20.4	7.01	634			
1:25		28 gal	20.5	7.03	632			
1:27		32 gal	20.5	7.03	620			Water appears to be clearing -
1:29		36 gal	20.4	7.04	617			light brown and less turbid
1:31		40 gal	20.3	7.04	610			
1:34	4.91	total is 40 gal.						Sampled

Suggested Method for Purging Well: Centrifugal Pump - Well appears

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin-Williams
Project No.: 1563.06
Date: October 2, 1990
Sample No.: LF-14
Samplers Name: J. DeReamer
Sampling Location: LF-14
Sampling Method: Disposable Bailer
Analyses Requested: Arsenic
Number and Types of Sample Bottles used: 1 Plastic Liter
Method of Shipment: Direct Delivery to Lab

18.38
-5.98
12.4
×0.16
1.98 gallons
≈ 2 gallons

GROUND WATER

Well No.: LF-14
Well Diameter (in.): 2"
Depth to Water, Static (ft): 5.98
Water in Well Box: No
Well Depth (ft): 18.38'
Height of Water Column in Well: 12.4'
Water Volume in Well: 1.98 gallons ≈ 2 gallons

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

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
8:34			20.4	6.				Very turbid dark gray
		2	20.2	6.79	722			
		4	20.6	6.87	647			TURBID
		6	20.5	6.94	628			TURBID
	SAMPLES @		FEET	@				

Suggested Method for Purging Well: Centrifugal Pump

APPENDIX C

LABORATORY CERTIFICATES OF GROUND-WATER QUALITY ANALYSIS

JHDR

Analytical Report

LOG NO: E90-07-506

Received: 20 JUL 90
Reported: 09 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: John DeReamer

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-1	LF-5-TB	20 JUL 90
07-506-2	LF-5	20 JUL 90
07-506-3	LF-4	20 JUL 90
07-506-4	LF-6	20 JUL 90
07-506-5	LF-2	20 JUL 90

PARAMETER	07-506-1	07-506-2	07-506-3	07-506-4	07-506-5
Arsenic, mg/L	0.002	0.020	0.19	14	110
Barium, mg/L	<0.05	0.17	0.16	0.21	0.45
Cadmium, mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Lead, mg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Zinc, mg/L	<0.05	0.05	<0.05	0.06	<0.05
Filter & Digest, Date	07.23.90	07.23.90	07.23.90	07.23.90	07.23.90
Filter & GFA Digest, Date	08.01.90	08.01.90	08.01.90	08.01.90	08.01.90
TPH - Modified 8015					
Date Analyzed	---	07.25.90	07.25.90	07.25.90	07.25.90
Dilution Factor, Times	---	1	1	1	1
Total Fuel Hydrocarbons, mg/L	---	520	110	1500	630
Fuel Characterization, .	---	GAS	GAS	GAS/DIESEL	GAS
Other TPH - Modified 8015	---	---	---	---	---

This Fuel characterization is a tentative identification based upon a visual comparison of sample chromatograms with those from authentic standards.

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

Analytical Report

LOG NO: E90-07-506

Received: 20 JUL 90
Reported: 09 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: John DeReamer

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-1	LF-5-TB	20 JUL 90
07-506-2	LF-5	20 JUL 90
07-506-3	LF-4	20 JUL 90
07-506-4	LF-6	20 JUL 90
07-506-5	LF-2	20 JUL 90

PARAMETER	07-506-1	07-506-2	07-506-3	07-506-4	07-506-5
B/N,A Ext.Pri.Poll. (EPA-8270)					
Date Analyzed	---	08.03.90	07.28.90	08.04.90	08.04.90
Date Extracted	---	07.23.90	07.23.90	07.23.90	07.23.90
Dilution Factor, Times	---	10	1	10	10
1,2,4-Trichlorobenzene, ug/L	---	<20	<2	<20	<20
1,2-Dichlorobenzene, ug/L	---	<20	<2	<20	<20
1,2-Diphenylhydrazine, ug/L	---	<100	<10	<100	<100
1,3-Dichlorobenzene, ug/L	---	<20	<2	<20	<20
1,4-Dichlorobenzene, ug/L	---	<20	<2	<20	<20
2,4,5-Trichlorophenol, ug/L	---	<100	<10	<100	<100
2,4,6-Trichlorophenol, ug/L	---	<100	<10	<100	<100
2,4-Dichlorophenol, ug/L	---	<50	<5	<50	<50
2,4-Dimethylphenol, ug/L	---	<50	<5	<50	<50
2,4-Dinitrophenol, ug/L	---	<200	<20	<200	<200
2,4-Dinitrotoluene, ug/L	---	<200	<20	<200	<200
2,6-Dinitrotoluene, ug/L	---	<50	<5	<50	<50
2-Chloronaphthalene, ug/L	---	<20	<2	<20	<20
2-Chlorophenol, ug/L	---	<50	<5	<50	<50
2-Methyl-4,6-dinitrophenol, ug/L	---	<200	<20	<200	<200
2-Methylnaphthalene, ug/L	---	<20	<2	<20	<20
2-Methylphenol, ug/L	---	280	<5	<50	<50
2-Nitroaniline, ug/L	---	<200	<20	<200	<200
2-Nitrophenol, ug/L	---	<50	<5	<50	<50

Analytical Report

LOG NO: E90-07-506

Received: 20 JUL 90
Reported: 09 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: John DeReamer

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-1	LF-5-TB	20 JUL 90
07-506-2	LF-5	20 JUL 90
07-506-3	LF-4	20 JUL 90
07-506-4	LF-6	20 JUL 90
07-506-5	LF-2	20 JUL 90

PARAMETER	07-506-1	07-506-2	07-506-3	07-506-4	07-506-5
3,3'-Dichlorobenzidine, ug/L	---	<200	<20	<200	<200
3-Nitroaniline, ug/L	---	<200	<20	<200	<200
4-Bromophenylphenylether, ug/L	---	<50	<5	<50	<50
4-Chloro-3-methylphenol, ug/L	---	<100	<10	<100	<100
4-Chloroaniline, ug/L	---	<100	<10	<100	<100
4-Chlorophenylphenylether, ug/L	---	<50	<5	<50	<50
4-Methylphenol, ug/L	---	850	<10	620	<100
4-Nitroaniline, ug/L	---	<200	<20	<200	<200
4-Nitrophenol, ug/L	---	<500	<50	<500	<500
Acenaphthene, ug/L	---	<20	<2	<20	<20
Acenaphthylene, ug/L	---	<20	<2	<20	<20
Aniline, ug/L	---	<200	<20	<200	<200
Anthracene, ug/L	---	<20	<2	<20	<20
Benzidine, ug/L	---	<2000	<200	<2000	<2000
Benzo(a)anthracene, ug/L	---	<20	<2	<20	<20
Benzo(a)pyrene, ug/L	---	<20	<2	<20	<20
Benzo(b)fluoranthene, ug/L	---	<20	<2	<20	<20
Benzo(g,h,i)perylene, ug/L	---	<20	<2	<20	<20
Benzo(k)fluoranthene, ug/L	---	<20	<2	<20	<20
Benzyl alcohol, ug/L	---	<100	<10	<100	<100
Benzoic acid, ug/L	---	660	<50	<500	<500
Butylbenzylphthalate, ug/L	---	<100	<10	<100	<100
Chrysene, ug/L	---	<20	<2	<20	<20

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

Analytical Report

LOG NO: E90-07-506

Received: 20 JUL 90
Reported: 09 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: John DeReamer

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-1	LF-5-TB	20 JUL 90
07-506-2	LF-5	20 JUL 90
07-506-3	LF-4	20 JUL 90
07-506-4	LF-6	20 JUL 90
07-506-5	LF-2	20 JUL 90

PARAMETER	07-506-1	07-506-2	07-506-3	07-506-4	07-506-5
Di-n-octylphthalate, ug/L	---	<100	<10	<100	<100
Dibenzo(a,h)anthracene, ug/L	---	<20	<2	<20	<20
Dibenzofuran, ug/L	---	<50	<5	<50	<50
Dibutylphthalate, ug/L	---	<100	<10	<100	<100
Diethylphthalate, ug/L	---	<100	<10	<100	<100
Dimethylphthalate, ug/L	---	<100	<10	<100	<100
Fluoranthene, ug/L	---	<20	<2	<20	<20
Fluorene, ug/L	---	<20	<2	<20	<20
Hexachlorobenzene, ug/L	---	<20	<2	<20	<20
Hexachlorobutadiene, ug/L	---	<50	<5	<50	<50
Hexachlorocyclopentadiene, ug/L	---	<500	<50	<500	<500
Hexachloroethane, ug/L	---	<100	<10	<100	<100
Indeno(1,2,3-c,d)pyrene, ug/L	---	<20	<2	<20	<20
Isophorone, ug/L	---	<50	<5	<50	<50
N-Nitrosodimethylamine, ug/L	---	<50	<5	<50	<50
N-Nitrosodiphenylamine, ug/L	---	<50	<5	<50	<50
N-Nitrosodi-n-propylamine, ug/L	---	<50	<5	<50	<50
Nitrobenzene, ug/L	---	<20	<2	<20	<20
Naphthalene, ug/L	---	<20	10	160	330
Phenanthrene, ug/L	---	<20	<2	<20	<20
Phenol, ug/L	---	<100	15	200	<100
Pentachlorophenol, ug/L	---	<200	<20	<200	<200
Pyrene, ug/L	---	<20	<2	<20	<20

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

Analytical Report

LOG NO: E90-07-506

Received: 20 JUL 90
Reported: 09 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: John DeReamer

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-1	LF-5-TB	20 JUL 90
07-506-2	LF-5	20 JUL 90
07-506-3	LF-4	20 JUL 90
07-506-4	LF-6	20 JUL 90
07-506-5	LF-2	20 JUL 90

PARAMETER	07-506-1	07-506-2	07-506-3	07-506-4	07-506-5
Bis(2-chloroethoxy)methane, ug/L	---	<50	<5	<50	<50
Bis(2-chloroethyl)ether, ug/L	---	<20	<2	<20	<20
Bis(2-chloroisopropyl)ether, ug/L	---	<50	<5	<50	<50
Bis(2-ethylhexyl)phthalate, ug/L	---	<200	<20	<200	<200
Semi-Quantified Results **					
C3 Benzene, ug/L	---	300	---	400	---
C6H12O Alcohol, ug/L	---	20000	---	30000	2000
C6H14O3, ug/L	---	6000	90	10000	---
C7H16O(Alcohol), ug/L	---	---	---	600	---
C8-C15 Hydrocarbon Matrix, ug/L	---	---	10000	---	70000
C8H16O2, ug/L	---	---	---	3000	---
C9H14O3, ug/L	---	---	---	3000	---
C9H16O, ug/L	---	---	---	2000	---
C9H16O Ketone, ug/L	---	2000	---	2000	---
C9H18 Hydrocarbon, ug/L	---	2000	---	---	---
C9H18O Alcohol, ug/L	---	---	---	3000	---
C9H8O4, ug/L	---	---	---	1000	---

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-1	LF-5-TB	20 JUL 90
07-506-2	LF-5	20 JUL 90
07-506-3	LF-4	20 JUL 90
07-506-4	LF-6	20 JUL 90
07-506-5	LF-2	20 JUL 90

PARAMETER	07-506-1	07-506-2	07-506-3	07-506-4	07-506-5
Vol.Pri.Poll. (EPA-8240)					
Date Analyzed	---	07.30.90	08.01.90	07.30.90	08.01.90
Date Extracted	---	07.30.90	08.01.90	07.30.90	08.01.90
Dilution Factor, Times	---	1000	100	1000	50
1,1,1-Trichloroethane, ug/L	---	<1000	<100	<1000	<50
1,1,2,2-Tetrachloroethane, ug/L	---	<1000	<100	<1000	<50
1,1,2-Trichloroethane, ug/L	---	<1000	<100	<1000	<50
1,1-Dichloroethane, ug/L	---	<1000	<100	<1000	<50
1,1-Dichloroethene, ug/L	---	<1000	<100	<1000	<50
1,2-Dichloroethane, ug/L	---	<1000	<100	<1000	<50
1,2-Dichlorobenzene, ug/L	---	<1000	<100	<1000	<50
1,2-Dichloropropane, ug/L	---	<1000	<100	<1000	<50
1,3-Dichlorobenzene, ug/L	---	<1000	<100	<1000	<50
1,3-Dichloropropene, ug/L	---	<1000	<100	<1000	<50
1,4-Dichlorobenzene, ug/L	---	<1000	<100	<1000	<50
2-Chloroethylvinylether, ug/L	---	<1000	<100	<1000	<50
2-Hexanone, ug/L	---	6700	<100	24000	12000
4-Methyl-2-Pentanone, ug/L	---	<1000	<100	<1000	<50
Acetone, ug/L	---	<10000	<1000	200000	<500
Acrolein, ug/L	---	<10000	<1000	<10000	<500
Acrylonitrile, ug/L	---	<10000	<1000	<10000	<500
Bromodichloromethane, ug/L	---	<1000	<100	<1000	<50
Bromomethane, ug/L	---	<1000	<100	<1000	<50

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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-1	LF-5-TB	20 JUL 90
07-506-2	LF-5	20 JUL 90
07-506-3	LF-4	20 JUL 90
07-506-4	LF-6	20 JUL 90
07-506-5	LF-2	20 JUL 90

PARAMETER	07-506-1	07-506-2	07-506-3	07-506-4	07-506-5
Benzene, ug/L	---	<1000	<100	<1000	<50
Bromoform, ug/L	---	<1000	<100	<1000	<50
Chlorobenzene, ug/L	---	<1000	<100	<1000	<50
Carbon Tetrachloride, ug/L	---	<1000	<100	<1000	<50
Chloroethane, ug/L	---	<1000	<100	<1000	<50
Chloroform, ug/L	---	<1000	<100	<1000	<50
Chloromethane, ug/L	---	<1000	<100	<1000	<50
Carbon Disulfide, ug/L	---	<1000	<100	<1000	<50
Dibromochloromethane; ug/L	---	<1000	<100	<1000	<50
Ethylbenzene, ug/L	---	1100	<100	4000	66
Freon 113, ug/L	---	<1000	<100	<1000	<50
Methyl ethyl ketone, ug/L	---	170000	<2000	720000	8800
Methylene chloride, ug/L	---	<5000	<500	<5000	<200
Styrene, ug/L	---	<1000	<100	<1000	<50
Trichloroethene, ug/L	---	<1000	<100	<1000	<50
Trichlorofluoromethane, ug/L	---	<1000	<100	<1000	<50
Toluene, ug/L	---	170000	<100	45000	51
Tetrachloroethene, ug/L	---	<1000	<100	<1000	<50
Vinyl acetate, ug/L	---	<1000	<100	<1000	<50
Vinyl chloride, ug/L	---	<1000	<100	<1000	<50
Total Xylene Isomers, ug/L	---	2600	380	13000	910
cis-1,2-Dichloroethene, ug/L	---	<1000	<100	<1000	<50
trans-1,2-Dichloroethene, ug/L	---	<1000	<100	<1000	<50

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-1	LF-5-TB	20 JUL 90
07-506-2	LF-5	20 JUL 90
07-506-3	LF-4	20 JUL 90
07-506-4	LF-6	20 JUL 90
07-506-5	LF-2	20 JUL 90

PARAMETER	07-506-1	07-506-2	07-506-3	07-506-4	07-506-5
trans-1,3-Dichloropropene, ug/L	---	<1000	<100	<1000	<50
Semi-Quantified Results **					
Methyl Pentenoic Acid (C6H10O2), ug/L	---	---	---	7000	---

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

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BCA B C Analytical

Analytical Report

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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-6	LF-3	20 JUL 90
07-506-7	LF-1	20 JUL 90

PARAMETER	07-506-6	07-506-7
Arsenic, mg/L	21	120
Barium, mg/L	0.42	0.06
Cadmium, mg/L	<0.05	<0.05
Copper, mg/L	<0.05	<0.05
Lead, mg/L	<0.2	<0.2
Zinc, mg/L	<0.05	0.26
Filter & Digest, Date	07.23.90	07.23.90
Filter & GFA Digest, Date	08.01.90	08.01.90
TPH - Modified 8015		
Date Analyzed	07.25.90	07.25.90
Dilution Factor, Times	1	1
Total Fuel Hydrocarbons, mg/L	440	7.6
Fuel Characterization, .	GAS	GAS
Other TPH - Modified 8015	---	---

This Fuel characterization is a tentative identification based upon a visual comparison of sample chromatograms with those from authentic standards.

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-6	LF-3	20 JUL 90
07-506-7	LF-1	20 JUL 90

PARAMETER	07-506-6	07-506-7
B/N,A Ext.Pri.Poll. (EPA-8270)		
Date Analyzed	08.04.90	08.04.90
Date Extracted	07.23.90	07.23.90
Dilution Factor, Times	10	1
1,2,4-Trichlorobenzene, ug/L	<20	<2
1,2-Dichlorobenzene, ug/L	<20	<2
1,2-Diphenylhydrazine, ug/L	<100	<10
1,3-Dichlorobenzene, ug/L	<20	<2
1,4-Dichlorobenzene, ug/L	<20	<2
2,4,5-Trichlorophenol, ug/L	<100	<10
2,4,6-Trichlorophenol, ug/L	<100	<10
2,4-Dichlorophenol, ug/L	<50	<5
2,4-Dimethylphenol, ug/L	<50	<5
2,4-Dinitrophenol, ug/L	<200	<20
2,4-Dinitrotoluene, ug/L	<200	<20
2,6-Dinitrotoluene, ug/L	<50	<5
2-Chloronaphthalene, ug/L	<20	<2
2-Chlorophenol, ug/L	<50	<5
2-Methyl-4,6-dinitrophenol, ug/L	<200	<20
2-Methylnaphthalene, ug/L	<20	<2
2-Methylphenol, ug/L	240	<5
2-Nitroaniline, ug/L	<200	<20
2-Nitrophenol, ug/L	<50	<5
3,3'-Dichlorobenzidine, ug/L	<200	<20
3-Nitroaniline, ug/L	<200	<20
4-Bromophenylphenylether, ug/L	<50	<5

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-6	LF-3	20 JUL 90
07-506-7	LF-1	20 JUL 90

PARAMETER	07-506-6	07-506-7
4-Chloro-3-methylphenol, ug/L	<100	<10
4-Chloroaniline, ug/L	<100	<10
4-Chlorophenylphenylether, ug/L	<50	<5
4-Methylphenol, ug/L	800	<10
4-Nitroaniline, ug/L	<200	<20
4-Nitrophenol, ug/L	<500	<50
Acenaphthene, ug/L	<20	<2
Acenaphthylene, ug/L	<20	<2
Aniline, ug/L	<200	<20
Anthracene, ug/L	<20	<2
Benzidine, ug/L	<2000	<200
Benzo(a)anthracene, ug/L	<20	<2
Benzo(a)pyrene, ug/L	<20	<2
Benzo(b)fluoranthene, ug/L	<20	<2
Benzo(g,h,i)perylene, ug/L	<20	<2
Benzo(k)fluoranthene, ug/L	<20	<2
Benzyl alcohol, ug/L	<100	<10
Benzoic acid, ug/L	<500	<50
Butylbenzylphthalate, ug/L	<100	<10
Chrysene, ug/L	<20	<2
Di-n-octylphthalate, ug/L	<100	<10
Dibenzo(a,h)anthracene, ug/L	<20	<2
Dibenzofuran, ug/L	<50	<5
Dibutylphthalate, ug/L	<100	<10
Diethylphthalate, ug/L	<100	<10
Dimethylphthalate, ug/L	<100	<10

Analytical Report

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CC: John DeReamer

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-6	LF-3	20 JUL 90
07-506-7	LF-1	20 JUL 90

PARAMETER	07-506-6	07-506-7
Fluoranthene, ug/L	<20	<2
Fluorene, ug/L	<20	<2
Hexachlorobenzene, ug/L	<20	<2
Hexachlorobutadiene, ug/L	<50	<5
Hexachlorocyclopentadiene, ug/L	<500	<50
Hexachloroethane, ug/L	<100	<10
Indeno(1,2,3-c,d)pyrene, ug/L	<20	<2
Isophorone, ug/L	<50	<5
N-Nitrosodimethylamine, ug/L	<50	<5
N-Nitrosodiphenylamine, ug/L	<50	<5
N-Nitrosodi-n-propylamine, ug/L	<50	<5
Nitrobenzene, ug/L	<20	<2
Naphthalene, ug/L	160	<2
Phenanthrene, ug/L	<20	<2
Phenol, ug/L	<100	11
Pentachlorophenol, ug/L	<200	<20
Pyrene, ug/L	<20	<2
Bis(2-chloroethoxy)methane, ug/L	<50	<5
Bis(2-chloroethyl)ether, ug/L	<20	<2
Bis(2-chloroisopropyl)ether, ug/L	<50	<5
Bis(2-ethylhexyl)phthalate, ug/L	<200	<20
Semi-Quantified Results **		
C3 Benzene, ug/L	300	70
C4H8O2(Acid), ug/L	600	---
C6C12O2 (Alcohol), ug/L	600	---

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BCA B C Analytical

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CC: John DeReamer

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-6	LF-3	20 JUL 90
07-506-7	LF-1	20 JUL 90

PARAMETER	07-506-6	07-506-7
C6H10O, ug/L	---	70
C6H10O (Ketone), ug/L	600	---
C6H12O2 (Acid), ug/L	7000	---
C7H9O2N, ug/L	400	---
C8H14O2, ug/L	700	---
C8H16O2(Acid), ug/L	30000	---
C8H8O2(Acid), ug/L	2000	---

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-6	LF-3	20 JUL 90
07-506-7	LF-1	20 JUL 90

PARAMETER	07-506-6	07-506-7
Vol.Pri.Poll. (EPA-8240)		
Date Analyzed	08.01.90	08.01.90
Date Extracted	08.01.90	08.01.90
Dilution Factor, Times	50	1
1,1,1-Trichloroethane, ug/L	<50	<1
1,1,2,2-Tetrachloroethane, ug/L	<50	<1
1,1,2-Trichloroethane, ug/L	<50	<1
1,1-Dichloroethane, ug/L	<50	<1
1,1-Dichloroethene, ug/L	<50	<1
1,2-Dichloroethane, ug/L	<50	<1
1,2-Dichlorobenzene, ug/L	<50	<1
1,2-Dichloropropane, ug/L	<50	<1
1,3-Dichlorobenzene, ug/L	<50	<1
1,3-Dichloropropene, ug/L	<50	<1
1,4-Dichlorobenzene, ug/L	<50	<1
2-Chloroethylvinylether, ug/L	<50	<1
2-Hexanone, ug/L	1900	<1
4-Methyl-2-Pentanone, ug/L	<50	<1
Acetone, ug/L	10000	450
Acrolein, ug/L	<500	<10
Acrylonitrile, ug/L	<500	<10
Bromodichloromethane, ug/L	<50	<1
Bromomethane, ug/L	<50	<1
Benzene, ug/L	110	2
Bromoform, ug/L	<50	<1
Chlorobenzene, ug/L	<50	<1

Analytical Report

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-506-6	LF-3	20 JUL 90
07-506-7	LF-1	20 JUL 90

PARAMETER	07-506-6	07-506-7
Carbon Tetrachloride, ug/L	<50	<1
Chloroethane, ug/L	<50	<1
Chloroform, ug/L	<50	<1
Chloromethane, ug/L	<50	<1
Carbon Disulfide, ug/L	<50	<1
Dibromochloromethane, ug/L	<50	<1
Ethylbenzene, ug/L	5000	<1
Freon 113, ug/L	<50	<1
Methyl ethyl ketone, ug/L	7700	200
Methylene chloride, ug/L	<200	<5
Styrene, ug/L	<50	<1
Trichloroethene, ug/L	<50	4
Trichlorofluoromethane, ug/L	<50	<1
Toluene, ug/L	52000	18
Tetrachloroethene, ug/L	<50	5
Vinyl acetate, ug/L	<50	<1
Vinyl chloride, ug/L	<50	<1
Total Xylene Isomers, ug/L	22000	160
cis-1,2-Dichloroethene, ug/L	<50	1
trans-1,2-Dichloroethene, ug/L	<50	<1
trans-1,3-Dichloropropene, ug/L	<50	<1

Hedy J. Ficklin for
Sim D. Lessley, Ph.D., Laboratory Director

1255 Powell Street
Emeryville, CA 94608

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BCA B C Analytical

BATCH QC REPORT: Definitions and Terms

Accuracy	The ability of a procedure to determine the "true" concentration of an analyte
Precision	The reproducibility of a procedure demonstrated by the agreement between analyses performed on either duplicates of the same sample or a pair of duplicate spikes
Batch	A group of samples analyzed sequentially using the same calibration curve, reagents, and instrument
Laboratory Control Standard (LCS)	Laboratory reagent water spiked with known compounds and subjected to the same procedures as the samples. The LCS thus indicates the accuracy of the analytical method and, because it is prepared from a different source than the standard used to calibrate the instrument, it also serves to double-check the calibration
Matrix QC	Quality control tests performed on actual client samples. For most inorganic analyses, the laboratory uses a pair of duplicate samples and a spiked sample. For most organic analyses, the laboratory uses a pair of spiked samples (duplicate spikes)
LC Result	Laboratory result of an LCS analysis
LT Result	Expected result, or true value, of the LCS analysis
R1, R2 Result:	Result of the analysis of replicate aliquots of a sample, with R1 indicating the first analysis of the sample and R2 its corresponding duplicate; used to determine precision
S1, S2 Result	Result of the analysis of replicate spiked aliquots, with S1 indicating one spike of the sample and S2 the second spike; used to determine precision and accuracy
R Bar Result	The average of replicate analysis results
S Bar Result:	The average of spike analysis results
True value	The theoretical, or expected, result of a spike sample analysis
Percent Recovery	The percentage of analyte recovered. For LCS, the percent recovery calculation is: $LC \div LT \times 100$ For spike recoveries, the percent recovery calculatiion is: $\frac{(\text{S Bar} - \text{Sample Concentration})}{\text{Spike Amount}} \times 100$
Relative Percent Difference (RPD)	Calculated using one of the following: $\frac{(R1 - R2) \times 100}{(R1 + R2) \div 2}$ $\frac{(S1 - S2) \times 100}{(S1 + S2) \div 2}$
Blank Result	The result of the analysis of a method blank,which is reagent water that is analysed using the same reagents, instruments and procedures as the samples in a batch; used to determine laboratory contamination
Reporting Detection Limit (RDL)	BCA-assigned limit based on—but not the same as—method detection limits (MDLs) determined using EPA guidelines

: ORDER PLACED FOR CLIENT: Levine - Fricke 9007506 :
: BC ANALYTICAL : EMVL LAB : 10:50:01 10 AUG 1990 - P. 1 :

SAMPLES...	SAMPLE DESCRIPTION..	DETERM CODE....	DATE.... ANALYZED	METHOD.....	EQUIP.	BATCH	ID.NO
9007506*1	LF-5-TB	AS	08.03.90	7060	514-01	216	7701
		BA	08.07.90	6010	515-01	239	7708
		CD	08.07.90	6010	515-01	239	7708
		CU	08.07.90	6010	515-01	239	7708
		PB	08.07.90	6010	515-01	239	7708
		ZN	08.07.90	6010	515-01	239	7708
		DIG,DISS	07.23.90			865	7553
		DIG,DISS,GFA	08.01.90			216	
9007506*2	LF-5	AS	08.03.90	7060	514-01	216	7701
		BA	08.07.90	6010	515-01	239	7708
		CD	08.07.90	6010	515-01	239	7708
		CU	08.07.90	6010	515-01	239	7708
		PB	08.07.90	6010	515-01	239	7708
		ZN	08.07.90	6010	515-01	239	7708
		DIG,DISS	07.23.90			865	7553
		DIG,DISS,GFA	08.01.90			216	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.03.90	8270	517-02	138	3002
		VOA.8240.HSL	07.30.90	8240	517-04	261	7038
9007506*3	LF-4	AS	08.03.90	7060	514-01	216	7701
		BA	08.07.90	6010	515-01	239	7708
		CD	08.07.90	6010	515-01	239	7708
		CU	08.07.90	6010	515-01	239	7708
		PB	08.07.90	6010	515-01	239	7708
		ZN	08.07.90	6010	515-01	239	7708
		DIG,DISS	07.23.90			865	7553
		DIG,DISS,GFA	08.01.90			216	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	07.28.90	8270	517-02	138	3002
		VOA.8240.HSL	08.01.90	8240	517-03	265	5850
9007506*4	LF-6	AS	08.03.90	7060	514-01	216	7701
		BA	08.07.90	6010	515-01	239	7708
		CD	08.07.90	6010	515-01	239	7708
		CU	08.07.90	6010	515-01	239	7708
		PB	08.07.90	6010	515-01	239	7708
		ZN	08.07.90	6010	515-01	239	7708
		DIG,DISS	07.23.90			865	7553
		DIG,DISS,GFA	08.01.90			216	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.04.90	8270	517-02	138	3002
		VOA.8240.HSL	07.30.90	8240	517-04	261	7038
9007506*5	LF-2	AS	08.03.90	7060	514-01	216	7701
		BA	08.07.90	6010	515-01	239	7708
		CD	08.07.90	6010	515-01	239	7708

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

SAMPLES...	SAMPLE DESCRIPTION..	DETERM CODE....	DATE.... ANALYZED	METHOD.....	EQUIP.	BATCH	ID.NO
		CU	08.07.90	6010	515-01	239	7708
		PB	08.07.90	6010	515-01	239	7708
		ZN	08.07.90	6010	515-01	239	7708
		DIG,DISS	07.23.90			865	7553
		DIG,DISS,GFA	08.01.90			216	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.04.90	8270	517-02	138	3002
		VOA.8240.HSL	08.01.90	8240	517-03	265	5850
9007506*6	LF-3	AS	08.03.90	7060	514-01	216	7701
		BA	08.07.90	6010	515-01	239	7708
		CD	08.07.90	6010	515-01	239	7708
		CU	08.07.90	6010	515-01	239	7708
		PB	08.07.90	6010	515-01	239	7708
		ZN	08.07.90	6010	515-01	239	7708
		DIG,DISS	07.23.90			865	7553
		DIG,DISS,GFA	08.01.90			216	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.04.90	8270	517-02	138	3002
		VOA.8240.HSL	08.01.90	8240	517-03	265	5850
9007506*7	LF-1	AS	08.03.90	7060	514-01	216	7701
		BA	08.07.90	6010	515-01	239	7708
		CD	08.07.90	6010	515-01	239	7708
		CU	08.07.90	6010	515-01	239	7708
		PB	08.07.90	6010	515-01	239	7708
		ZN	08.07.90	6010	515-01	239	7708
		DIG,DISS	07.23.90			865	7553
		DIG,DISS,GFA	08.01.90			216	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.02.90	8270	517-02	138	3002
		VOA.8240.HSL	08.01.90	8240	517-03	265	5850

***

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9007506

DATE REPORTED : 08/10/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Arsenic	08.03.90	216	0.0005	0.002	mg/L
TPH - Modified 8015					
Date Analyzed	07.25.90	188	7.25.90	NA	Date
Dilution Factor	07.25.90	188	1	NA	Times
Total Fuel Hydrocarbons	07.25.90	188	2.4	10	mg/L
Fuel Characterization	07.25.90	188	GAS	NA	.
B/N,A Ext.Pri.Poll. (EPA-8270)					
Date Analyzed	07.27.90	138	7.27.90	NA	Date
Date Extracted	07.27.90	138	7.23.90	NA	Date
Dilution Factor	07.27.90	138	1	NA	Times
1,2,4-Trichlorobenzene	07.27.90	138	0	2	ug/L
1,2-Dichlorobenzene	07.27.90	138	0	2	ug/L
1,2-Diphenylhydrazine	07.27.90	138	0	10	ug/L
1,3-Dichlorobenzene	07.27.90	138	0	2	ug/L
1,4-Dichlorobenzene	07.27.90	138	0	2	ug/L
2,4,5-Trichlorophenol	07.27.90	138	0	10	ug/L
2,4,6-Trichlorophenol	07.27.90	138	0	10	ug/L
2,4-Dichlorophenol	07.27.90	138	0	5	ug/L
2,4-Dimethylphenol	07.27.90	138	0	5	ug/L
2,4-Dinitrophenol	07.27.90	138	0	20	ug/L
2,4-Dinitrotoluene	07.27.90	138	0	20	ug/L
2,6-Dinitrotoluene	07.27.90	138	0	5	ug/L
2-Chloronaphthalene	07.27.90	138	0	2	ug/L
2-Chlorophenol	07.27.90	138	0	5	ug/L
2-Methyl-4,6-dinitrophenol	07.27.90	138	0	20	ug/L
2-Methylnaphthalene	07.27.90	138	0	2	ug/L
2-Methylphenol	07.27.90	138	0	5	ug/L
2-Nitroaniline	07.27.90	138	0	20	ug/L
2-Nitrophenol	07.27.90	138	0	5	ug/L
3,3'-Dichlorobenzidine	07.27.90	138	0	20	ug/L
3-Nitroaniline	07.27.90	138	0	20	ug/L
4-Bromophenylphenylether	07.27.90	138	0	5	ug/L
4-Chloro-3-methylphenol	07.27.90	138	0	10	ug/L
4-Chloroaniline	07.27.90	138	0	10	ug/L
4-Chlorophenylphenylether	07.27.90	138	0	5	ug/L
4-Methylphenol	07.27.90	138	0	10	ug/L
4-Nitroaniline	07.27.90	138	0	20	ug/L
4-Nitrophenol	07.27.90	138	0	50	ug/L
Acenaphthene	07.27.90	138	0	2	ug/L

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Acenaphthylene	07.27.90	138	0	2	ug/L
Aniline	07.27.90	138	0	20	ug/L
Anthracene	07.27.90	138	0	2	ug/L
Benzidine	07.27.90	138	0	200	ug/L
Benzo(a)anthracene	07.27.90	138	0	2	ug/L
Benzo(a)pyrene	07.27.90	138	0	2	ug/L
Benzo(b)fluoranthene	07.27.90	138	0	2	ug/L
Benzo(g,h,i)perylene	07.27.90	138	0	2	ug/L
Benzo(k)fluoranthene	07.27.90	138	0	2	ug/L
Benzyl alcohol	07.27.90	138	0	10	ug/L
Benzoic acid	07.27.90	138	0	50	ug/L
Butylbenzylphthalate	07.27.90	138	0	10	ug/L
Di-n-octylphthalate	07.27.90	138	0	10	ug/L
Dibenzo(a,h)anthracene	07.27.90	138	0	2	ug/L
Dibenzofuran	07.27.90	138	0	5	ug/L
Dibutylphthalate	07.27.90	138	0	10	ug/L
Diethylphthalate	07.27.90	138	0	10	ug/L
Dimethylphthalate	07.27.90	138	0	10	ug/L
Fluoranthene	07.27.90	138	0	2	ug/L
Fluorene	07.27.90	138	0	2	ug/L
Hexachlorobenzene	07.27.90	138	0	2	ug/L
Hexachlorobutadiene	07.27.90	138	0	5	ug/L
Hexachlorocyclopentadiene	07.27.90	138	0	50	ug/L
Hexachloroethane	07.27.90	138	0	10	ug/L
Indeno(1,2,3-c,d)pyrene	07.27.90	138	0	2	ug/L
Isophorone	07.27.90	138	0	5	ug/L
N-Nitrosodimethylamine	07.27.90	138	0	5	ug/L
N-Nitrosodiphenylamine	07.27.90	138	0	5	ug/L
N-Nitrosodi-n-propylamine	07.27.90	138	0	5	ug/L
Nitrobenzene	07.27.90	138	0	2	ug/L
Naphthalene	07.27.90	138	0	2	ug/L
Phenanthrene	07.27.90	138	0	2	ug/L
Phenol	07.27.90	138	0	10	ug/L
Pentachlorophenol	07.27.90	138	0	20	ug/L
Pyrene	07.27.90	138	0	2	ug/L
Bis(2-chloroethoxy)methane	07.27.90	138	0	5	ug/L
Bis(2-chloroethyl)ether	07.27.90	138	0	2	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9007506

DATE REPORTED : 08/10/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Bis(2-chloroisopropyl)ether	07.27.90	138	0	5	ug/L
Bis(2-ethylhexyl)phthalate	07.27.90	138	2.4	20	ug/L
2-Fluorobiphenyl Reported	07.27.90	138	28	NA	ug/L
2-Fluorobiphenyl Theoretical	07.27.90	138	50	NA	ug/L
2-Fluorophenol Reported	07.27.90	138	63	NA	ug/L
2-Fluorophenol Theoretical	07.27.90	138	100	NA	ug/L
2,4,6-Tribromophenol Reported	07.27.90	138	52	NA	ug/L
2,4,6-Tribromophenol Theoretical	07.27.90	138	100	NA	ug/L
Nitrobenzene-d5 Reported	07.27.90	138	23	NA	ug/L
Nitrobenzene-d5 Theoretical	07.27.90	138	50	NA	ug/L
Phenol-d5 Reported	07.27.90	138	47	NA	ug/L
Phenol-d5 Theoretical	07.27.90	138	100	NA	ug/L
Terphenyl-d14 Reported	07.27.90	138	29	NA	ug/L
Terphenyl-d14 Theoretical	07.27.90	138	50	NA	ug/L
Vol.Pri.Poll. (EPA-8240)					
Date Analyzed	07.30.90	261	7.30.90	NA	Date
Date Extracted	07.30.90	261	7.30.90	NA	Date
Dilution Factor	07.30.90	261	1	NA	Times
1,1,1-Trichloroethane	07.30.90	261	0	1	ug/L
1,1,2,2-Tetrachloroethane	07.30.90	261	0	1	ug/L
1,1,2-Trichloroethane	07.30.90	261	0	1	ug/L
1,1-Dichloroethane	07.30.90	261	0	1	ug/L
1,1-Dichloroethene	07.30.90	261	0	1	ug/L
1,2-Dichloroethane	07.30.90	261	0	1	ug/L
1,2-Dichlorobenzene	07.30.90	261	0	1	ug/L
1,2-Dichloropropane	07.30.90	261	0	1	ug/L
1,3-Dichlorobenzene	07.30.90	261	4.2	1	ug/L
1,3-Dichloropropene	07.30.90	261	0	1	ug/L
1,4-Dichlorobenzene	07.30.90	261	0	1	ug/L
2-Chloroethylvinylether	07.30.90	261	0	1	ug/L
2-Hexanone	07.30.90	261	0	1	ug/L
4-Methyl-2-Pentanone	07.30.90	261	0	1	ug/L
Acetone	07.30.90	261	0	10	ug/L
Acrolein	07.30.90	261	0	10	ug/L
Acrylonitrile	07.30.90	261	0	10	ug/L
Bromodichloromethane	07.30.90	261	0	1	ug/L
Bromomethane	07.30.90	261	0	1	ug/L
Benzene	07.30.90	261	0	1	ug/L

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Bromoform	07.30.90	261	0	1	ug/L
Chlorobenzene	07.30.90	261	0	1	ug/L
Carbon Tetrachloride	07.30.90	261	0	1	ug/L
Chloroethane	07.30.90	261	0	1	ug/L
Chloroform	07.30.90	261	0	1	ug/L
Chloromethane	07.30.90	261	0	1	ug/L
Carbon Disulfide	07.30.90	261	0	1	ug/L
Dibromochloromethane	07.30.90	261	0	1	ug/L
Ethylbenzene	07.30.90	261	0	1	ug/L
Freon 113	07.30.90	261	0	1	ug/L
Methyl ethyl ketone	07.30.90	261	0	20	ug/L
Methylene chloride	07.30.90	261	0	5	ug/L
Styrene	07.30.90	261	0	1	ug/L
Trichloroethene	07.30.90	261	0	1	ug/L
Trichlorofluoromethane	07.30.90	261	0	1	ug/L
Toluene	07.30.90	261	0	1	ug/L
Tetrachloroethene	07.30.90	261	0	1	ug/L
Vinyl acetate	07.30.90	261	0	1	ug/L
Vinyl chloride	07.30.90	261	0	1	ug/L
Total Xylene Isomers	07.30.90	261	0	1	ug/L
cis-1,2-Dichloroethene	07.30.90	261	0	1	ug/L
trans-1,2-Dichloroethene	07.30.90	261	0	1	ug/L
trans-1,3-Dichloropropene	07.30.90	261	0	1	ug/L
1,2-Dichloroethane-d4 Reported	07.30.90	261	48	NA	ug/L
1,2-Dichloroethane-d4 Theo.	07.30.90	261	50	NA	ug/L
4-Bromofluorobenzene Reported	07.30.90	261	51	NA	ug/L
4-Bromofluorobenzene Theo.	07.30.90	261	50	NA	ug/L
Toluene-d8 Reported	07.30.90	261	50	NA	ug/L
Toluene-d8 Theo.	07.30.90	261	50	NA	ug/L
Vol.Pri.Poll. (EPA-8240)					
Date Analyzed	08.01.90	265	8.01.90	NA	Date
Date Extracted	08.01.90	265	8.01.90	NA	Date
Dilution Factor	08.01.90	265	1	NA	Times
1,1,1-Trichloroethane	08.01.90	265	0	1	ug/L
1,1,2,2-Tetrachloroethane	08.01.90	265	0	1	ug/L
1,1,2-Trichloroethane	08.01.90	265	0	1	ug/L
1,1-Dichloroethane	08.01.90	265	0	1	ug/L
1,1-Dichloroethene	08.01.90	265	0	1	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9007506

DATE REPORTED : 08/10/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
1,2-Dichloroethane	08.01.90	265	0	1	ug/L
1,2-Dichlorobenzene	08.01.90	265	0	1	ug/L
1,2-Dichloropropane	08.01.90	265	0	1	ug/L
1,3-Dichlorobenzene	08.01.90	265	0	1	ug/L
1,3-Dichloropropene	08.01.90	265	0	1	ug/L
1,4-Dichlorobenzene	08.01.90	265	0	1	ug/L
2-Chloroethylvinylether	08.01.90	265	0	1	ug/L
2-Hexanone	08.01.90	265	0	1	ug/L
4-Methyl-2-Pentanone	08.01.90	265	0	1	ug/L
Acetone	08.01.90	265	0	10	ug/L
Acrolein	08.01.90	265	0	10	ug/L
Acrylonitrile	08.01.90	265	0	10	ug/L
Bromodichloromethane	08.01.90	265	0	1	ug/L
Bromomethane	08.01.90	265	0	1	ug/L
Benzene	08.01.90	265	0	1	ug/L
Bromoform	08.01.90	265	0	1	ug/L
Chlorobenzene	08.01.90	265	0	1	ug/L
Carbon Tetrachloride	08.01.90	265	0	1	ug/L
Chloroethane	08.01.90	265	0	1	ug/L
Chloroform	08.01.90	265	0	1	ug/L
Chloromethane	08.01.90	265	0	1	ug/L
Carbon Disulfide	08.01.90	265	0	1	ug/L
Dibromochloromethane	08.01.90	265	0	1	ug/L
Ethylbenzene	08.01.90	265	0	1	ug/L
Freon 113	08.01.90	265	0	1	ug/L
Methyl ethyl ketone	08.01.90	265	0	20	ug/L
Methylene chloride	08.01.90	265	0	5	ug/L
Styrene	08.01.90	265	0	1	ug/L
Trichloroethene	08.01.90	265	0	1	ug/L
Trichlorofluoromethane	08.01.90	265	0	1	ug/L
Toluene	08.01.90	265	0	1	ug/L
Tetrachloroethene	08.01.90	265	0	1	ug/L
Vinyl acetate	08.01.90	265	0	1	ug/L
Vinyl chloride	08.01.90	265	0	1	ug/L
Total Xylene Isomers	08.01.90	265	0	1	ug/L
cis-1,2-Dichloroethene	08.01.90	265	0	1	ug/L
trans-1,2-Dichloroethene	08.01.90	265	0	1	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9007506

DATE REPORTED : 08/10/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
trans-1,3-Dichloropropene	08.01.90	265	0	1	ug/L
1,2-Dichloroethane-d4 Reported	08.01.90	265	50	NA	ug/L
1,2-Dichloroethane-d4 Theo.	08.01.90	265	50	NA	ug/L
4-Bromofluorobenzene Reported	08.01.90	265	50	NA	ug/L
4-Bromofluorobenzene Theo.	08.01.90	265	50	NA	ug/L
Toluene-d8 Reported	08.01.90	265	51	NA	ug/L
Toluene-d8 Theo.	08.01.90	265	50	NA	ug/L

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

LOG # 9007506

Project No.: 1563 06	Field Logbook No.:	Date: 7.20.90	Serial No.: № 1365
Project Name: Sherwin Williams	Project Location: Emeryville, CA		
Sampler (Signature): [signature]			Samplers: Ron G + John DR

SAMPLES / ANALYSES

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	~~EPA 601~~	~~EPA 624~~	8015	8270	8240	Metals	HOLD	RUSH	REMARKS
LF5-TB	7.20.90	915		~~8~~ 1							1			-8015 preserved w/ HCL
LF-5	7.20.90	920		~~8~~ 9	H2O			2	4	2	1			-Metals include:
LF-4	7.20	1010		7	H2O			2	2	2	1			As, Ba, Cd, Cu, Pb, Zn
LF-6	7.20	1200		↓				2	2	2	1			
LF-2	7.20	1240		↓				2	2	2	1			-Report to J. DeReamer
LF-3	7.2	1325		↓				2	2	2	1			
LF-1	7.2	1415		↓				2	2	2	1			-Metals require
														Filtering + preserving
														at Lab
														Please analyze samples
														in same order as
														listed on C-O-C form.
														J. DeReamer
														7/20/90

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
John DeReamer	7/20/90	3:00 pm	[signature]	7/20/90	5:00
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

Sample Collector:	Analytical Laboratory:
LEVINE-FRICKE 2140 Professional Drive, Suite 115 Roseville, California 95661 (916) 786-0320	Brown and Caldwell Emeryville, CA. BC

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink) FORM NO. 86/

JHDR

Analytical Report

LOG NO: E90-09-014

Received: 04 SEP 90
Reported: 19 SEP 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
09-014-1	LF-14	04 SEP 90
09-014-2	LF-15	04 SEP 90
09-014-3	LF-16	04 SEP 90
09-014-4	TB-1	04 SEP 90

PARAMETER	09-014-1	09-014-2	09-014-3	09-014-4
Arsenic, mg/L	0.092	0.002	0.003	<0.002
Cadmium, mg/L	<0.0005	<0.0005	<0.0005	<0.0005
Copper, mg/L	<0.005	<0.005	<0.005	<0.005
Lead, mg/L	0.007	0.043	<0.002	0.005
Barium, mg/L	0.06	0.06	0.06	<0.05
Zinc, mg/L	<0.05	<0.05	<0.05	<0.05
Filter & Digest, Date	09.07.90	09.07.90	09.07.90	09.07.90
Filter & GFA Digest, Date	09.07.90	09.07.90	09.07.90	09.07.90
TPH - Modified 8015				
Date Analyzed	09.08.90	09.08.90	09.08.90	---
Dilution Factor, Times	1	1	1	---
Total Fuel Hydrocarbons, mg/L	<1	<1	<1	---
Other TPH - Modified 8015	---	---	---	---

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

Analytical Report

LOG NO: E90-09-014

Received: 04 SEP 90
Reported: 19 SEP 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
09-014-1	LF-14	04 SEP 90
09-014-2	LF-15	04 SEP 90
09-014-3	LF-16	04 SEP 90
09-014-4	TB-1	04 SEP 90

PARAMETER	09-014-1	09-014-2	09-014-3	09-014-4
B/N,A Ext.Pri.Poll. (EPA-8270)				
Date Analyzed	09.14.90	09.14.90	09.14.90	---
Date Extracted	09.07.90	09.07.90	09.07.90	---
Dilution Factor, Times	1	1	1	---
1,2,4-Trichlorobenzene, ug/L	<2	<2	<2	---
1,2-Dichlorobenzene, ug/L	<2	<2	<2	---
1,2-Diphenylhydrazine, ug/L	<10	<10	<10	---
1,3-Dichlorobenzene, ug/L	<2	<2	<2	---
1,4-Dichlorobenzene, ug/L	<2	<2	<2	---
2,4,5-Trichlorophenol, ug/L	<10	<10	<10	---
2,4,6-Trichlorophenol, ug/L	<10	<10	<10	---
2,4-Dichlorophenol, ug/L	<5	<5	<5	---
2,4-Dimethylphenol, ug/L	<5	<5	<5	---
2,4-Dinitrophenol, ug/L	<20	<20	<20	---
2,4-Dinitrotoluene, ug/L	<20	<20	<20	---
2,6-Dinitrotoluene, ug/L	<5	<5	<5	---
2-Chloronaphthalene, ug/L	<2	<2	<2	---
2-Chlorophenol, ug/L	<5	<5	<5	---
2-Methyl-4,6-dinitrophenol, ug/L	<20	<20	<20	---
2-Methylnaphthalene, ug/L	<2	<2	<2	---
2-Methylphenol, ug/L	<5	<5	<5	---
2-Nitroaniline, ug/L	<20	<20	<20	---
2-Nitrophenol, ug/L	<5	<5	<5	---
3,3'-Dichlorobenzidine, ug/L	<20	<20	<20	---

1255 Powell Street
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B C Analytical

Analytical Report

LOG NO: E90-09-014

Received: 04 SEP 90
Reported: 19 SEP 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
09-014-1	LF-14	04 SEP 90
09-014-2	LF-15	04 SEP 90
09-014-3	LF-16	04 SEP 90
09-014-4	TB-1	04 SEP 90

PARAMETER	09-014-1	09-014-2	09-014-3	09-014-4
3-Nitroaniline, ug/L	<20	<20	<20	---
4-Bromophenylphenylether, ug/L	<5	<5	<5	---
4-Chloro-3-methylphenol, ug/L	<10	<10	<10	---
4-Chloroaniline, ug/L	<10	<10	<10	---
4-Chlorophenylphenylether, ug/L	<5	<5	<5	---
4-Methylphenol, ug/L	<10	<10	<10	---
4-Nitroaniline, ug/L	<20	<20	<20	---
4-Nitrophenol, ug/L	<50	<50	<50	---
Acenaphthene, ug/L	<2	<2	<2	---
Acenaphthylene, ug/L	<2	<2	<2	---
Aniline, ug/L	<20	<20	<20	---
Anthracene, ug/L	<2	<2	<2	---
Benzidine, ug/L	<200	<200	<200	---
Benzo(a)anthracene, ug/L	<2	<2	<2	---
Benzo(a)pyrene, ug/L	<2	<2	<2	---
Benzo(b)fluoranthene, ug/L	<2	<2	<2	---
Benzo(g,h,i)perylene, ug/L	<2	<2	<2	---
Benzo(k)fluoranthene, ug/L	<2	<2	<2	---
Benzyl alcohol, ug/L	<10	<10	<10	---
Benzoic acid, ug/L	<50	<50	<50	---
Butylbenzylphthalate, ug/L	<10	<10	<10	---
Chrysene, ug/L	<2	<2	<2	---
Di-n-octylphthalate, ug/L	<10	<10	<10	---
Dibenzo(a,h)anthracene, ug/L	<2	<2	<2	---

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
09-014-1	LF-14	04 SEP 90
09-014-2	LF-15	04 SEP 90
09-014-3	LF-16	04 SEP 90
09-014-4	TB-1	04 SEP 90

PARAMETER	09-014-1	09-014-2	09-014-3	09-014-4
Dibenzofuran, ug/L	<5	<5	<5	---
Dibutylphthalate, ug/L	<10	<10	<10	---
Diethylphthalate, ug/L	<10	<10	<10	---
Dimethylphthalate, ug/L	<10	<10	<10	---
Fluoranthene, ug/L	<2	<2	<2	---
Fluorene, ug/L	<2	<2	<2	---
Hexachlorobenzene, ug/L	<2	<2	<2	---
Hexachlorobutadiene, ug/L	<5	<5	<5	---
Hexachlorocyclopentadiene, ug/L	<50	<50	<50	---
Hexachloroethane, ug/L	<10	<10	<10	---
Indeno(1,2,3-c,d)pyrene, ug/L	<2	<2	<2	---
Isophorone, ug/L	<5	<5	<5	---
N-Nitrosodimethylamine, ug/L	<5	<5	<5	---
N-Nitrosodiphenylamine, ug/L	<5	<5	<5	---
N-Nitrosodi-n-propylamine, ug/L	<5	<5	<5	---
Nitrobenzene, ug/L	<2	<2	<2	---
Naphthalene, ug/L	<2	<2	<2	---
Phenanthrene, ug/L	<2	<2	<2	---
Phenol, ug/L	<10	<10	<10	---
Pentachlorophenol, ug/L	<20	<20	<20	---
Pyrene, ug/L	<2	<2	<2	---
Bis(2-chloroethoxy)methane, ug/L	<5	<5	<5	---
Bis(2-chloroethyl)ether, ug/L	<2	<2	<2	---
Bis(2-chloroisopropyl)ether, ug/L	<5	<5	<5	---

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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
09-014-1	LF-14	04 SEP 90
09-014-2	LF-15	04 SEP 90
09-014-3	LF-16	04 SEP 90
09-014-4	TB-1	04 SEP 90

PARAMETER	09-014-1	09-014-2	09-014-3	09-014-4
Bis(2-ethylhexyl)phthalate, ug/L	<20	<20	<20	---
Other B/N,A Ext.Pri.Poll. (EPA-8270)	---	---	---	---
Semi-Quantified Results **				
Unidentified Compound, ug/L	8	8	---	---

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

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BCA B C Analytical

Analytical Report

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Mr. Glenn Leong
Levine - Fricke
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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
09-014-1	LF-14	04 SEP 90
09-014-2	LF-15	04 SEP 90
09-014-3	LF-16	04 SEP 90
09-014-4	TB-1	04 SEP 90

PARAMETER	09-014-1	09-014-2	09-014-3	09-014-4
Purgeable Priority Pollutants				
Date Analyzed	09.10.90	09.10.90	09.10.90	---
Date Extracted	09.10.90	09.10.90	09.10.90	---
Dilution Factor, Times	1	1	1	---
1,1,1-Trichloroethane, ug/L	<1	<1	<1	---
1,1,2,2-Tetrachloroethane, ug/L	<1	<1	<1	---
1,1,2-Trichloroethane, ug/L	<1	<1	<1	---
1,1-Dichloroethane, ug/L	<1	<1	<1	---
1,1-Dichloroethene, ug/L	<1	<1	<1	---
1,2-Dichloroethane, ug/L	<1	<1	<1	---
1,2-Dichlorobenzene, ug/L	<1	<1	<1	---
1,2-Dichloropropane, ug/L	<1	<1	<1	---
1,3-Dichlorobenzene, ug/L	<1	<1	<1	---
1,4-Dichlorobenzene, ug/L	<1	<1	<1	---
2-Chloroethylvinylether, ug/L	<1	<1	<1	---
2-Hexanone, ug/L	<1	<1	<1	---
4-Methyl-2-Pentanone, ug/L	<1	<1	<1	---
Acetone, ug/L	<10	<10	<10	---
Acrolein, ug/L	<10	<10	<10	---
Acrylonitrile, ug/L	<10	<10	<10	---
Bromodichloromethane, ug/L	<1	<1	<1	---
Bromomethane, ug/L	<1	<1	<1	---
Benzene, ug/L	<1	<1	<1	---
Bromoform, ug/L	<1	<1	<1	---

Analytical Report

LOG NO: E90-09-014

Received: 04 SEP 90
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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
09-014-1	LF-14	04 SEP 90
09-014-2	LF-15	04 SEP 90
09-014-3	LF-16	04 SEP 90
09-014-4	TB-1	04 SEP 90

PARAMETER	09-014-1	09-014-2	09-014-3	09-014-4
Chlorobenzene, ug/L	<1	<1	<1	---
Carbon Tetrachloride, ug/L	<1	<1	<1	---
Chloroethane, ug/L	<1	<1	<1	---
Chloroform, ug/L	<1	<1	<1	---
Chloromethane, ug/L	<1	<1	<1	---
Carbon Disulfide, ug/L	<1	<1	<1	---
Dibromochloromethane, ug/L	<1	<1	<1	---
Ethylbenzene, ug/L	<1	<1	<1	---
Freon 113, ug/L	<1	<1	<1	---
Methyl ethyl ketone, ug/L	<20	<20	<20	---
Methylene chloride, ug/L	<5	<5	<5	---
Styrene, ug/L	<1	<1	<1	---
Trichloroethene, ug/L	<1	<1	<1	---
Trichlorofluoromethane, ug/L	<1	<1	<1	---
Toluene, ug/L	<1	<1	<1	---
Tetrachloroethene, ug/L	<1	<1	<1	---
Vinyl acetate, ug/L	<1	<1	<1	---
Vinyl chloride, ug/L	<1	<1	<1	---
Total Xylene Isomers, ug/L	<1	<1	<1	---
cis-1,2-Dichloroethene, ug/L	<1	<1	<1	---
cis-1,3-Dichloropropene, ug/L	<1	<1	<1	---
trans-1,2-Dichloroethene, ug/L	<1	<1	<1	---
trans-1,3-Dichloropropene, ug/L	<1	<1	<1	---

Results were transmitted by facsimile to John DeReamer on 09.19.90. T. Blake

RECEIVED
SEP 20 1990
LEVINE-FRICKE

Sim D. Lessley, Ph.D., Laboratory Director

1255 Powell Street
Emeryville, CA 94608
415 428-2300
Fax 415/547-7643

BCA B C Analytical

: ORDER PLACED FOR CLIENT: Levine - Fricke 9009014 :
: BC ANALYTICAL : EMVL LAB : 14:54:56 19 SEP 1990 - P. 1 :

SAMPLES...	SAMPLE DESCRIPTION..	DETERM CODE....	DATE.... ANALYZED	METHOD.....	EQUIP.	BATCH	ID.NO
9009014*1	LF-14	AS	09.10.90	7060	514-01	258	7701
		CD,GFA	09.12.90	7131	514-01	258	7701
		CU,GFA	09.10.90	220.2	514-05	258	7379
		PB,GFA	09.11.90	7421	514-05	258	7379
		ZN	09.10.90	7950	514-02	294	7648
		DIG,DISS	09.07.90	3010		294	7414
		DIG,DISS,GFA	09.07.90	3020		258	7414
		FUEL.TOT	09.08.90	8015	516-08	214	7258
		BNA.8270	09.14.90	8270	517-02	169	3002
		VOA.8240	09.10.90	8240	517-04	306	7038
		BA	09.09.90	200.7	515-01	294	7708
9009014*2	LF-15	AS	09.10.90	7060	514-01	258	7701
		CD,GFA	09.12.90	7131	514-01	258	7701
		CU,GFA	09.10.90	220.2	514-05	258	7379
		PB,GFA	09.11.90	7421	514-05	258	7379
		ZN	09.09.90	6010	514-02	294	7708
		DIG,DISS	09.07.90	3010		294	7414
		DIG,DISS,GFA	09.07.90	3020		258	7414
		FUEL.TOT	09.08.90	8015	516-08	214	7258
		BNA.8270	09.14.90	8270	517-02	169	3002
		VOA.8240	09.10.90	8240	517-04	306	7038
		BA	09.09.90	200.7	515-01	294	7708
9009014*3	LF-16	AS	09.10.90	7060	514-01	258	7701
		CD,GFA	09.12.90	7131	514-01	258	7701
		CU,GFA	09.10.90	220.2	514-05	258	7379
		PB,GFA	09.11.90	7421	514-05	258	7379
		ZN	09.09.90	6010	514-02	294	7708
		DIG,DISS	09.07.90	3010		294	7414
		DIG,DISS,GFA	09.07.90	3020		258	7414
		FUEL.TOT	09.08.90	8015	516-08	214	7258
		BNA.8270	09.14.90	8270	517-02	169	3002
		VOA.8240	09.10.90	8240	517-04	306	7038
		BA	09.09.90	200.7	515-01	294	7708
9009014*4	TB-1	AS	09.10.90	7060	514-01	258	7701
		CD,GFA	09.12.90	7131	514-01	258	7701
		CU,GFA	09.10.90	220.2	514-05	258	7379
		PB,GFA	09.11.90	7421	514-05	258	7379
		ZN	09.09.90	6010	514-02	294	7708
		DIG,DISS	09.07.90	3010		294	7414
		DIG,DISS,GFA	09.07.90	3020		258	7414
		BA	09.09.90	200.7	515-01	294	7708

***

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9009014

DATE REPORTED : 09/19/90

LABORATORY CONTROL STANDARDS

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
Arsenic	09.10.90	258	0.025	0.025	mg/L	100
Cadmium	09.11.90	258	0.0016	0.0015	mg/L	107
Copper	09.10.90	258	0.038	0.040	mg/L	95
Lead	09.11.90	258	0.025	0.025	mg/L	100
Lead	09.11.90	258	0.025	0.025	mg/L	100
Zinc	09.09.90	294	9.9	10	mg/L	99
TPH - Modified 8015						
Dilution Factor	09.08.90	214	1	1	Times	100
Total Fuel Hydrocarbons	09.08.90	214	240	250	mg/L	96
TPH - Modified 8015						
Dilution Factor	09.08.90	214	1	1	Times	100
Total Fuel Hydrocarbons	09.08.90	214	200	250	mg/L	80
B/N,A Ext.Pri.Poll. (EPA-8270)						
Dilution Factor	09.14.90	169	1	1	Times	100
1,2,4-Trichlorobenzene	09.14.90	169	30	50	ug/L	60
1,4-Dichlorobenzene	09.14.90	169	29	50	ug/L	58
2,4-Dinitrotoluene	09.14.90	169	25	50	ug/L	50
2-Chlorophenol	09.14.90	169	66	100	ug/L	66
4-Chloro-3-methylphenol	09.14.90	169	54	100	ug/L	54
4-Nitrophenol	09.14.90	169	16	100	ug/L	16
Acenaphthene	09.14.90	169	26	50	ug/L	52
N-Nitrosodi-n-propylamine	09.14.90	169	21	50	ug/L	42
Phenol	09.14.90	169	56	100	ug/L	56
Pentachlorophenol	09.14.90	169	67	100	ug/L	67
Pyrene	09.14.90	169	39	50	ug/L	78
Purgeable Priority Pollutants						
Dilution Factor	09.10.90	306	1	1	Times	100
1,1,1-Trichloroethane	09.10.90	306	55	50	ug/L	110
1,1,2,2-Tetrachloroethane	09.10.90	306	48	50	ug/L	96
1,1,2-Trichloroethane	09.10.90	306	51	50	ug/L	102
1,1-Dichloroethane	09.10.90	306	51	50	ug/L	102
1,1-Dichloroethene	09.10.90	306	49	50	ug/L	98
1,2-Dichloroethane	09.10.90	306	50	50	ug/L	100
1,2-Dichlorobenzene	09.10.90	306	50	50	ug/L	100
1,2-Dichloropropane	09.10.90	306	50	50	ug/L	100
1,3-Dichlorobenzene	09.10.90	306	51	50	ug/L	102
1,4-Dichlorobenzene	09.10.90	306	51	50	ug/L	102
2-Chloroethylvinylether	09.10.90	306	48	50	ug/L	96
2-Hexanone	09.10.90	306	47	50	ug/L	94
4-Methyl-2-Pentanone	09.10.90	306	44	50	ug/L	88
Acetone	09.10.90	306	62	50	ug/L	124

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9009014

DATE REPORTED : 09/19/90

LABORATORY CONTROL STANDARDS

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
Acrolein	09.10.90	306	200	250	ug/L	80
Acrylonitrile	09.10.90	306	240	250	ug/L	96
Bromodichloromethane	09.10.90	306	47	50	ug/L	94
Bromomethane	09.10.90	306	55	50	ug/L	110
Benzene	09.10.90	306	54	50	ug/L	108
Bromoform	09.10.90	306	45	50	ug/L	90
Chlorobenzene	09.10.90	306	48	50	ug/L	96
Carbon Tetrachloride	09.10.90	306	52	50	ug/L	104
Chloroethane	09.10.90	306	44	50	ug/L	88
Chloroform	09.10.90	306	53	50	ug/L	106
Chloromethane	09.10.90	306	46	50	ug/L	92
Carbon Disulfide	09.10.90	306	54	50	ug/L	108
Dibromochloromethane	09.10.90	306	47	50	ug/L	94
Ethylbenzene	09.10.90	306	46	50	ug/L	92
Freon 113	09.10.90	306	48	50	ug/L	96
Methyl ethyl ketone	09.10.90	306	44	50	ug/L	88
Methylene chloride	09.10.90	306	52	50	ug/L	104
Styrene	09.10.90	306	46	50	ug/L	92
Trichloroethene	09.10.90	306	47	50	ug/L	94
Trichlorofluoromethane	09.10.90	306	57	50	ug/L	114
Toluene	09.10.90	306	48	50	ug/L	96
Tetrachloroethene	09.10.90	306	45	50	ug/L	90
Vinyl acetate	09.10.90	306	43	50	ug/L	86
Vinyl chloride	09.10.90	306	44	50	ug/L	88
Total Xylene Isomers	09.10.90	306	93	100	ug/L	93
cis-1,2-Dichloroethene	09.10.90	306	50	50	ug/L	100
cis-1,3-Dichloropropene	09.10.90	306	49	50	ug/L	98
trans-1,2-Dichloroethene	09.10.90	306	52	50	ug/L	104
trans-1,3-Dichloropropene	09.10.90	306	49	50	ug/L	98
Barium	09.09.90	294	0.92	1.0	mg/L	92

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9009014

DATE REPORTED : 09/19/90

MATRIX QC PRECISION (DUPLICATES)

PARAMETER	DATE ANALYZED	BATCH NUMBER	R1 RESULT	R2 RESULT	UNIT	RELATIVE %DIFF
Arsenic	09.11.90	258	0.048	0.048	mg/L	0
Cadmium	09.11.90	258	<0.0005	<0.0005	mg/L	NA
Lead	09.11.90	258	0.032	0.032	mg/L	0
Zinc	09.10.90	294	<0.05	<0.05	mg/L	NA
Barium	09.09.90	294	0.11	0.11	mg/L	0
Barium	09.09.90	294	<0.05	<0.05	mg/L	NA
Barium	09.09.90	294	0.06	0.06	mg/L	0

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9009014

DATE REPORTED : 09/19/90

MATRIX QC PRECISION (DUPLICATE SPIKES)

PARAMETER	DATE ANALYZED	BATCH NUMBER	S1 RESULT	S2 RESULT	UNIT	RELATIVE %DIFF
TPH - Modified 8015						
Dilution Factor	09.08.90	214	1	1	Times	0
Total Fuel Hydrocarbons	09.08.90	214	260	230	mg/L	12
TPH - Modified 8015						
Dilution Factor	09.08.90	214	1	1	Times	0
Total Fuel Hydrocarbons	09.08.90	214	240	230	mg/L	4
B/N,A Ext.Pri.Poll. (EPA-8270)						
Dilution Factor	09.15.90	169	1	1	Times	0
1,2,4-Trichlorobenzene	09.15.90	169	26	27	ug/L	4
1,4-Dichlorobenzene	09.15.90	169	27	28	ug/L	4
2,4-Dinitrotoluene	09.15.90	169	27	28	ug/L	4
2-Chlorophenol	09.15.90	169	70	67	ug/L	4
4-Chloro-3-methylphenol	09.15.90	169	62	64	ug/L	3
4-Nitrophenol	09.15.90	169	63	65	ug/L	3
Acenaphthene	09.15.90	169	24	25	ug/L	4
N-Nitrosodi-n-propylamine	09.15.90	169	23	26	ug/L	12
Phenol	09.15.90	169	59	69	ug/L	16
Pentachlorophenol	09.15.90	169	71	81	ug/L	13
Pyrene	09.15.90	169	29	31	ug/L	7
2-Fluorobiphenyl Reported	09.15.90	169	22	24	ug/L	9
2-Fluorobiphenyl Theoretical	09.15.90	169	50	50	ug/L	0
2-Fluorophenol Reported	09.15.90	169	78	67	ug/L	15
2-Fluorophenol Theoretical	09.15.90	169	100	100	ug/L	0
2,4,6-Tribromophenol Reported	09.15.90	169	44	51	ug/L	15
2,4,6-Tribromophenol Theoretical	09.15.90	169	100	100	ug/L	0
Nitrobenzene-d5 Reported	09.15.90	169	25	26	ug/L	4
Nitrobenzene-d5 Theoretical	09.15.90	169	50	50	ug/L	0
Phenol-d5 Reported	09.15.90	169	55	51	ug/L	8
Phenol-d5 Theoretical	09.15.90	169	100	100	ug/L	0
Purgeable Priority Pollutants						
Dilution Factor	09.10.90	306	1	1	Times	0
1,1-Dichloroethene	09.10.90	306	44	44	ug/L	0
Benzene	09.10.90	306	47	48	ug/L	2
Chlorobenzene	09.10.90	306	54	52	ug/L	4
Trichloroethene	09.10.90	306	54	53	ug/L	2
Toluene	09.10.90	306	50	46	ug/L	8
1,2-Dichloroethane-d4 Reported	09.10.90	306	50	53	ug/L	6
1,2-Dichloroethane-d4 Theo.	09.10.90	306	50	50	ug/L	0
4-Bromofluorobenzene Reported	09.10.90	306	51	46	ug/L	10
4-Bromofluorobenzene Theo.	09.10.90	306	50	50	ug/L	0
Toluene-d8 Reported	09.10.90	306	52	48	ug/L	8

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9009014

DATE REPORTED : 09/19/90

MATRIX QC PRECISION (DUPLICATE SPIKES)

PARAMETER	DATE ANALYZED	BATCH NUMBER	S1 RESULT	S2 RESULT	UNIT	RELATIVE %DIFF
Toluene-d8 Theo.	09.10.90	306	50	50	ug/L	0

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9009014

DATE REPORTED : 09/19/90

MATRIX QC ACCURACY (SPIKES)

PARAMETER	DATE ANALYZED	BATCH NUMBER	SBAR RESULT	TRUE RESULT	RBAR RESULT	UNIT	PERCENT RECOVER
Arsenic	09.11.90	258	0.082	0.073	0.048	mg/L	136
Cadmium	09.11.90	258	0.0018	0.0015	<0.0005	mg/L	120
Lead	09.11.90	258	0.054	0.056	0.032	mg/L	92
Zinc	09.10.90	294	9.8	10	<0.05	mg/L	98
TPH - Modified 8015							
Total Fuel Hydrocarbons	09.08.90	214	245	250	<1	mg/L	98
TPH - Modified 8015							
Total Fuel Hydrocarbons	09.08.90	214	235	250	<1	mg/L	94
B/N,A Ext.Pri.Poll. (EPA-8270)							
1,2,4-Trichlorobenzene	09.15.90	169	26.5	50	<2	ug/L	53
1,4-Dichlorobenzene	09.15.90	169	27.5	50	<2	ug/L	55
2,4-Dinitrotoluene	09.15.90	169	27.5	50	<20	ug/L	55
2-Chlorophenol	09.15.90	169	68.5	100	<5	ug/L	69
4-Chloro-3-methylphenol	09.15.90	169	63	100	<10	ug/L	63
4-Nitrophenol	09.15.90	169	64	100	<50	ug/L	64
Acenaphthene	09.15.90	169	24.5	50	<2	ug/L	49
N-Nitrosodi-n-propylamine	09.15.90	169	24.5	50	<5	ug/L	49
Phenol	09.15.90	169	64	100	<10	ug/L	64
Pentachlorophenol	09.15.90	169	76	100	<20	ug/L	76
Pyrene	09.15.90	169	30	50	<2	ug/L	60
Purgeable Priority Pollutants							
1,1-Dichloroethene	09.10.90	306	44	50	<1	ug/L	88
Benzene	09.10.90	306	47.5	50	<1	ug/L	95
Chlorobenzene	09.10.90	306	53	50	<1	ug/L	106
Trichloroethene	09.10.90	306	53.5	50	<1	ug/L	107
Toluene	09.10.90	306	48	50	<1	ug/L	96
Barium	09.09.90	294	0.96	1.1	0.11	mg/L	86
Barium	09.09.90	294	1.0	1.0	<0.05	mg/L	100
Barium	09.09.90	294	0.98	1.1	0.06	mg/L	88

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9009014

DATE REPORTED : 09/19/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Arsenic	09.10.90	258	0.0004	0.002	mg/L
Cadmium	09.11.90	258	0	0.0005	mg/L
Copper	09.10.90	258	0.0012	0.005	mg/L
Lead	09.11.90	258	0.0019	0.002	mg/L
Lead	09.11.90	258	0.0019	0.002	mg/L
Zinc	09.09.90	294	0.11	0.05	mg/L
TPH - Modified 8015					
Date Analyzed	09.08.90	214	9.08.90	NA	Date
Dilution Factor	09.08.90	214	1	NA	Times
Total Fuel Hydrocarbons	09.08.90	214	0.022	1	mg/L
B/N,A Ext.Pri.Poll. (EPA-8270)					
Date Analyzed	09.14.90	169	9.14.90	NA	Date
Date Extracted	09.14.90	169	9.07.90	NA	Date
Dilution Factor	09.14.90	169	1	NA	Times
1,2,4-Trichlorobenzene	09.14.90	169	0	2	ug/L
1,2-Dichlorobenzene	09.14.90	169	0	2	ug/L
1,2-Diphenylhydrazine	09.14.90	169	0	10	ug/L
1,3-Dichlorobenzene	09.14.90	169	0	2	ug/L
1,4-Dichlorobenzene	09.14.90	169	0	2	ug/L
2,4,5-Trichlorophenol	09.14.90	169	0	10	ug/L
2,4,6-Trichlorophenol	09.14.90	169	0	10	ug/L
2,4-Dichlorophenol	09.14.90	169	0	5	ug/L
2,4-Dimethylphenol	09.14.90	169	0	5	ug/L
2,4-Dinitrophenol	09.14.90	169	0	20	ug/L
2,4-Dinitrotoluene	09.14.90	169	0	20	ug/L
2,6-Dinitrotoluene	09.14.90	169	0	5	ug/L
2-Chloronaphthalene	09.14.90	169	0	2	ug/L
2-Chlorophenol	09.14.90	169	0	5	ug/L
2-Methyl-4,6-dinitrophenol	09.14.90	169	0	20	ug/L
2-Methylnaphthalene	09.14.90	169	0	2	ug/L
2-Methylphenol	09.14.90	169	0	5	ug/L
2-Nitroaniline	09.14.90	169	0	20	ug/L
2-Nitrophenol	09.14.90	169	0	5	ug/L
3,3'-Dichlorobenzidine	09.14.90	169	0	20	ug/L
3-Nitroaniline	09.14.90	169	0	20	ug/L
4-Bromophenylphenylether	09.14.90	169	0	5	ug/L
4-Chloro-3-methylphenol	09.14.90	169	0	10	ug/L
4-Chloroaniline	09.14.90	169	0	10	ug/L
4-Chlorophenylphenylether	09.14.90	169	0	5	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9009014

DATE REPORTED : 09/19/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
4-Methylphenol	09.14.90	169	0	10	ug/L
4-Nitroaniline	09.14.90	169	0	20	ug/L
4-Nitrophenol	09.14.90	169	0	50	ug/L
Acenaphthene	09.14.90	169	0	2	ug/L
Acenaphthylene	09.14.90	169	0	2	ug/L
Aniline	09.14.90	169	0	20	ug/L
Anthracene	09.14.90	169	0	2	ug/L
Benzidine	09.14.90	169	0	200	ug/L
Benzo(a)anthracene	09.14.90	169	0	2	ug/L
Benzo(a)pyrene	09.14.90	169	0	2	ug/L
Benzo(b)fluoranthene	09.14.90	169	0	2	ug/L
Benzo(g,h,i)perylene	09.14.90	169	0	2	ug/L
Benzo(k)fluoranthene	09.14.90	169	0	2	ug/L
Benzyl alcohol	09.14.90	169	0	10	ug/L
Benzoic acid	09.14.90	169	0	50	ug/L
Butylbenzylphthalate	09.14.90	169	0	10	ug/L
Chrysene	09.14.90	169	0	2	ug/L
Di-n-octylphthalate	09.14.90	169	0	10	ug/L
Dibenzo(a,h)anthracene	09.14.90	169	0	2	ug/L
Dibenzofuran	09.14.90	169	0	5	ug/L
Dibutylphthalate	09.14.90	169	0	10	ug/L
Diethylphthalate	09.14.90	169	0	10	ug/L
Dimethylphthalate	09.14.90	169	0	10	ug/L
Fluoranthene	09.14.90	169	0	2	ug/L
Fluorene	09.14.90	169	0	2	ug/L
Hexachlorobenzene	09.14.90	169	0	2	ug/L
Hexachlorobutadiene	09.14.90	169	0	5	ug/L
Hexachlorocyclopentadiene	09.14.90	169	0	50	ug/L
Hexachloroethane	09.14.90	169	0	10	ug/L
Indeno(1,2,3-c,d)pyrene	09.14.90	169	0	2	ug/L
Isophorone	09.14.90	169	0	5	ug/L
N-Nitrosodimethylamine	09.14.90	169	0	5	ug/L
N-Nitrosodiphenylamine	09.14.90	169	0	5	ug/L
N-Nitrosodi-n-propylamine	09.14.90	169	0	5	ug/L
Nitrobenzene	09.14.90	169	0	2	ug/L
Naphthalene	09.14.90	169	0	2	ug/L
Phenanthrene	09.14.90	169	0	2	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9009014

DATE REPORTED : 09/19/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Phenol	09.14.90	169	0	10	ug/L
Pentachlorophenol	09.14.90	169	0	20	ug/L
Pyrene	09.14.90	169	0	2	ug/L
Bis(2-chloroethoxy)methane	09.14.90	169	0	5	ug/L
Bis(2-chloroethyl)ether	09.14.90	169	0	2	ug/L
Bis(2-chloroisopropyl)ether	09.14.90	169	0	5	ug/L
Bis(2-ethylhexyl)phthalate	09.14.90	169	1.8	20	ug/L
2-Fluorobiphenyl Reported	09.14.90	169	21	NA	ug/L
2-Fluorobiphenyl Theoretical	09.14.90	169	50	NA	ug/L
2-Fluorophenol Reported	09.14.90	169	79	NA	ug/L
2-Fluorophenol Theoretical	09.14.90	169	100	NA	ug/L
2,4,6-Tribromophenol Reported	09.14.90	169	45	NA	ug/L
2,4,6-Tribromophenol Theoretical	09.14.90	169	100	NA	ug/L
Nitrobenzene-d5 Reported	09.14.90	169	21	NA	ug/L
Nitrobenzene-d5 Theoretical	09.14.90	169	50	NA	ug/L
Phenol-d5 Reported	09.14.90	169	44	NA	ug/L
Phenol-d5 Theoretical	09.14.90	169	100	NA	ug/L
Purgeable Priority Pollutants					
Date Analyzed	09.10.90	306	9.10.90	NA	Date
Date Extracted	09.10.90	306	9.10.90	NA	Date
Dilution Factor	09.10.90	306	1	NA	Times
1,1,1-Trichloroethane	09.10.90	306	0	1	ug/L
1,1,2,2-Tetrachloroethane	09.10.90	306	0	1	ug/L
1,1,2-Trichloroethane	09.10.90	306	0	1	ug/L
1,1-Dichloroethane	09.10.90	306	0	1	ug/L
1,1-Dichloroethene	09.10.90	306	0	1	ug/L
1,2-Dichloroethane	09.10.90	306	0	1	ug/L
1,2-Dichlorobenzene	09.10.90	306	0	1	ug/L
1,2-Dichloropropane	09.10.90	306	0	1	ug/L
1,3-Dichlorobenzene	09.10.90	306	0	1	ug/L
1,4-Dichlorobenzene	09.10.90	306	0	1	ug/L
2-Chloroethylvinylether	09.10.90	306	0	1	ug/L
2-Hexanone	09.10.90	306	0	1	ug/L
4-Methyl-2-Pentanone	09.10.90	306	0	1	ug/L
Acetone	09.10.90	306	0	10	ug/L
Acrolein	09.10.90	306	0	10	ug/L
Acrylonitrile	09.10.90	306	0	10	ug/L
Bromodichloromethane	09.10.90	306	0	1	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9009014

DATE REPORTED : 09/19/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Bromomethane	09.10.90	306	0	1	ug/L
Benzene	09.10.90	306	0	1	ug/L
Bromoform	09.10.90	306	0	1	ug/L
Chlorobenzene	09.10.90	306	0	1	ug/L
Carbon Tetrachloride	09.10.90	306	0	1	ug/L
Chloroethane	09.10.90	306	0	1	ug/L
Chloroform	09.10.90	306	0	1	ug/L
Chloromethane	09.10.90	306	0	1	ug/L
Carbon Disulfide	09.10.90	306	0	1	ug/L
Dibromochloromethane	09.10.90	306	0	1	ug/L
Ethylbenzene	09.10.90	306	0	1	ug/L
Freon 113	09.10.90	306	0	1	ug/L
Methyl ethyl ketone	09.10.90	306	0	20	ug/L
Methylene chloride	09.10.90	306	4.0	5	ug/L
Styrene	09.10.90	306	0	1	ug/L
Trichloroethene	09.10.90	306	0	1	ug/L
Trichlorofluoromethane	09.10.90	306	0	1	ug/L
Toluene	09.10.90	306	0	1	ug/L
Tetrachloroethene	09.10.90	306	0	1	ug/L
Vinyl acetate	09.10.90	306	0	1	ug/L
Vinyl chloride	09.10.90	306	0	1	ug/L
Total Xylene Isomers	09.10.90	306	0	1	ug/L
cis-1,2-Dichloroethene	09.10.90	306	0	1	ug/L
cis-1,3-Dichloropropene	09.10.90	306	0	1	ug/L
trans-1,2-Dichloroethene	09.10.90	306	0	1	ug/L
trans-1,3-Dichloropropene	09.10.90	306	0	1	ug/L
1,2-Dichloroethane-d4 Reported	09.10.90	306	49	NA	ug/L
1,2-Dichloroethane-d4 Theo.	09.10.90	306	50	NA	ug/L
4-Bromofluorobenzene Reported	09.10.90	306	56	NA	ug/L
4-Bromofluorobenzene Theo.	09.10.90	306	50	NA	ug/L
Toluene-d8 Reported	09.10.90	306	52	NA	ug/L
Toluene-d8 Theo.	09.10.90	306	50	NA	ug/L
Barium	09.09.90	294	0	0.05	mg/L
Barium	09.09.90	294	0.008	0.05	mg/L

LOG # 9009014

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1563.06	Field Logbook No.:	Date: 9/4/90	Serial No.: No 6412
Project Name: Sherwin-Williams	Project Location: Emeryville CA		
Sampler (Signature): J. DeRoamer			Samplers:

SAMPLES						ANALYSES								
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	8240	8270	6015	5 Metals and Filtered	HOLD	RUSH	REMARKS
LF-14	9/4/90	10:15		7	H_2O			X	X	X	X			5 metals: Arsenic, Cadmium, Copper, Lead, Zinc
LF-15	9/4/90	11:25		7	H_2O			X	X	X	X			*Metals to be Lab Filtered
LF-16	9/4/90	1:40		7	H_2O			X	X	X	X			
TB-1	9/4/90	2:00		1	H_2O						X			Ba added 9/5 per John D YHF

RELINQUISHED BY: (Signature) John DeRoamer	DATE 9/4/90	TIME 2:40	RECEIVED BY: (Signature)	DATE 9/4/90	TIME 2:40
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

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

Analytical Laboratory:
Brown and Caldwell
Emeryville, CA.
Attn: Tony Blake

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink) FORM NO. 86/COC/ARF

JHR

Analytical Report

LOG NO: E90-07-444

Received: 18 JUL 90
Reported: 17 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-1	LF-B4-TB	
07-444-2	LF-B4-BB	
07-444-3	LF-B4	
07-444-4	LF-13	
07-444-5	LF-12	

PARAMETER	07-444-1	07-444-2	07-444-3	07-444-4	07-444-5
Arsenic, mg/L	<0.002	<0.002	0.003	<0.002	0.004
Barium, mg/L	<0.05	<0.05	0.08	<0.05	0.06
Cadmium, mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Lead, mg/L	0.2	<0.2	<0.2	<0.2	<0.2
Zinc, mg/L	<0.05	0.06	<0.05	<0.05	0.07
Filter & Digest, Date	07.26.90	07.26.90	07.26.90	07.26.90	07.26.90
Filter & GFA Digest, Date	07.26.90	07.26.90	07.26.90	07.26.90	07.26.90
TPH - Modified 8015					
Date Analyzed	07.25.90	07.25.90	07.25.90	07.25.90	07.25.90
Dilution Factor, Times	1	1	1	1	1
Total Fuel Hydrocarbons, mg/L	<1	<1	<1	5	<1
Fuel Characterization, .	---	---	---	GAS	---
Other TPH - Modified 8015	---	---	---	---	---

This Fuel characterization is a tentative identification based upon visual comparison of sample chromatograms with those from authentic standards.

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

Analytical Report

LOG NO: E90-07-444

Received: 18 JUL 90
Reported: 17 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-1	LF-B4-TB	18 JUL 90
07-444-2	LF-B4-BB	18 JUL 90
07-444-3	LF-B4	18 JUL 90
07-444-4	LF-13	18 JUL 90
07-444-5	LF-12	18 JUL 90

PARAMETER	07-444-1	07-444-2	07-444-3	07-444-4	07-444-5
B/N,A Ext.Pri.Poll. (EPA-8270)					
Date Analyzed	08.14.90	08.03.90	08.03.90	08.03.90	08.03.90
Date Extracted	08.08.90	07.25.90	07.25.90	07.25.90	07.25.90
Dilution Factor, Times	1	1	1	1	1
1,2,4-Trichlorobenzene, ug/L	<2	<2	<2	<2	<2
1,2-Dichlorobenzene, ug/L	<2	<2	<2	<2	<2
1,2-Diphenylhydrazine, ug/L	<10	<10	<10	<10	<10
1,3-Dichlorobenzene, ug/L	<2	<2	<2	<2	<2
1,4-Dichlorobenzene, ug/L	<2	<2	<2	<2	<2
2,4,5-Trichlorophenol, ug/L	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol, ug/L	<10	<10	<10	<10	<10
2,4-Dichlorophenol, ug/L	<5	<5	<5	<5	<5
2,4-Dimethylphenol, ug/L	<5	<5	<5	<5	<5
2,4-Dinitrophenol, ug/L	<20	<20	<20	<20	<20
2,4-Dinitrotoluene, ug/L	<20	<20	<20	<20	<20
2,6-Dinitrotoluene, ug/L	<5	<5	<5	<5	<5
2-Chloronaphthalene, ug/L	<2	<2	<2	<2	<2
2-Chlorophenol, ug/L	<5	<5	<5	<5	<5
2-Methyl-4,6-dinitrophenol, ug/L	<20	<20	<20	<20	<20
2-Methylnaphthalene, ug/L	<2	<2	<2	<2	<2
2-Methylphenol, ug/L	<5	<5	<5	<5	<5
2-Nitroaniline, ug/L	<20	<20	<20	<20	<20
2-Nitrophenol, ug/L	<5	<5	<5	<5	<5

Analytical Report

LOG NO: E90-07-444

Received: 18 JUL 90
Reported: 17 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-1	LF-B4-TB	18 JUL 90
07-444-2	LF-B4-BB	18 JUL 90
07-444-3	LF-B4	18 JUL 90
07-444-4	LF-13	18 JUL 90
07-444-5	LF-12	18 JUL 90

PARAMETER	07-444-1	07-444-2	07-444-3	07-444-4	07-444-5
3,3'-Dichlorobenzidine, ug/L	<20	<20	<20	<20	<20
3-Nitroaniline, ug/L	<20	<20	<20	<20	<20
4-Bromophenylphenylether, ug/L	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol, ug/L	<10	<10	<10	<10	<10
4-Chloroaniline, ug/L	<10	<10	<10	<10	<10
4-Chlorophenylphenylether, ug/L	<5	<2	<2	<5	<5
4-Methylphenol, ug/L	<10	<10	<10	<10	<10
4-Nitroaniline, ug/L	<20	<20	<20	<20	<20
4-Nitrophenol, ug/L	<50	<50	<50	<50	<50
Acenaphthene, ug/L	<2	<2	<2	<2	<2
Acenaphthylene, ug/L	<2	<2	<2	<2	<2
Aniline, ug/L	<20	<20	<20	<20	<20
Anthracene, ug/L	<2	<2	<2	<2	<2
Benzidine, ug/L	<200	<200	<200	<200	<200
Benzo(a)anthracene, ug/L	<2	<2	<2	<2	<2
Benzo(a)pyrene, ug/L	<2	<2	<2	<2	<2
Benzo(b)fluoranthene, ug/L	<2	<2	<2	<2	<2
Benzo(g,h,i)perylene, ug/L	<2	<2	<2	<2	<2
Benzo(k)fluoranthene, ug/L	<2	<2	<2	<2	<2
Benzyl alcohol, ug/L	<10	<10	<10	<10	<10
Benzoic acid, ug/L	<50	<50	<50	<50	<50
Butylbenzylphthalate, ug/L	<10	<10	<10	<10	<10
Chrysene, ug/L	<2	<2	<2	<2	<2

Analytical Report

LOG NO: E90-07-444

Received: 18 JUL 90
Reported: 17 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-1	LF-B4-TB	18 JUL 90
07-444-2	LF-B4-BB	18 JUL 90
07-444-3	LF-B4	18 JUL 90
07-444-4	LF-13	18 JUL 90
07-444-5	LF-12	18 JUL 90

PARAMETER	07-444-1	07-444-2	07-444-3	07-444-4	07-444-5
Di-n-octylphthalate, ug/L	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene, ug/L	<2	<2	<2	<2	<2
Dibenzofuran, ug/L	<5	<5	<5	<5	<5
Dibutylphthalate, ug/L	<10	<10	<10	<10	<10
Diethylphthalate, ug/L	<10	<10	<10	<10	<10
Dimethylphthalate, ug/L	<10	<10	<10	<10	<10
Fluoranthene, ug/L	<2	<2	<2	<2	<2
Fluorene, ug/L	<2	<2	<2	<2	<2
Hexachlorobenzene, ug/L	<2	<2	<2	<2	<2
Hexachlorobutadiene, ug/L	<5	<5	<5	<5	<5
Hexachlorocyclopentadiene, ug/L	<50	<50	<50	<50	<50
Hexachloroethane, ug/L	<10	<10	<10	<10	<10
Indeno(1,2,3-c,d)pyrene, ug/L	<2	<2	<2	<2	<2
Isophorone, ug/L	<5	<5	<5	<5	<5
N-Nitrosodimethylamine, ug/L	<5	<5	<5	<5	<5
N-Nitrosodiphenylamine, ug/L	<5	<5	<5	<5	<5
N-Nitrosodi-n-propylamine, ug/L	<5	<5	<5	<5	<5
Nitrobenzene, ug/L	<2	<2	<2	<2	<2
Naphthalene, ug/L	<2	<2	<2	<2	<2
Phenanthrene, ug/L	<2	<2	<2	<2	<2
Phenol, ug/L	<10	<10	<10	<10	<10
Pentachlorophenol, ug/L	<20	<20	<20	<20	<20
Pyrene, ug/L	<2	<2	<2	<2	<2

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Analytical Report

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-1	LF-B4-TB	18 JUL 90
07-444-2	LF-B4-BB	18 JUL 90
07-444-3	LF-B4	18 JUL 90
07-444-4	LF-13	18 JUL 90
07-444-5	LF-12	18 JUL 90

PARAMETER	07-444-1	07-444-2	07-444-3	07-444-4	07-444-5
Bis(2-chloroethoxy)methane, ug/L	<5	<5	<5	<5	<5
Bis(2-chloroethyl)ether, ug/L	<2	<2	<2	<2	<2
Bis(2-chloroisopropyl)ether, ug/L	<5	<5	<5	<5	<5
Bis(2-ethylhexyl)phthalate, ug/L	<20	<20	23	<20	28
Semi-Quantified Results **					
C14H22O(Phenol), ug/L	5	---	---	---	---
C20H27O4P(Ester), ug/L	200	---	---	---	---
C8H18O2, ug/L	---	---	2	---	---

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-1	LF-B4-TB	18 JUL 90
07-444-2	LF-B4-BB	18 JUL 90
07-444-3	LF-B4	18 JUL 90
07-444-4	LF-13	18 JUL 90
07-444-5	LF-12	18 JUL 90

PARAMETER	07-444-1	07-444-2	07-444-3	07-444-4	07-444-5
Vol.Pri.Poll. (EPA-8240)					
Date Analyzed	07.23.90	07.23.90	07.23.90	07.23.90	07.23.90
Date Extracted	07.23.90	07.23.90	07.23.90	07.23.90	07.23.90
Dilution Factor, Times	1	1	1	1	1
1,1,1-Trichloroethane, ug/L	<1	<1	<1	56	<1
1,1,2,2-Tetrachloroethane, ug/L	<1	<1	<1	<1	<1
1,1,2-Trichloroethane, ug/L	<1	<1	<1	<1	<1
1,1-Dichloroethane, ug/L	<1	<1	<1	2	<1
1,1-Dichloroethene, ug/L	<1	<1	<1	2	<1
1,2-Dichloroethane, ug/L	<1	<1	1	<1	<1
1,2-Dichlorobenzene, ug/L	<1	<1	<1	<1	<1
1,2-Dichloropropane, ug/L	<1	<1	<1	<1	<1
1,3-Dichlorobenzene, ug/L	<1	<1	<1	<1	<1
1,3-Dichloropropene, ug/L	<1	<1	<1	<1	<1
1,4-Dichlorobenzene, ug/L	<1	<1	<1	<1	<1
2-Chloroethylvinylether, ug/L	<1	<1	<1	<1	<1
2-Hexanone, ug/L	<1	<1	<1	<1	<1
4-Methyl-2-Pentanone, ug/L	<1	<1	<1	<1	<1
Acetone, ug/L	<10	<10	<10	<10	<10
Acrolein, ug/L	<10	<10	<10	<10	<10
Acrylonitrile, ug/L	<10	<10	<10	<10	<10
Bromodichloromethane, ug/L	<1	<1	<1	<1	<1
Bromomethane, ug/L	<1	<1	<1	<1	<1

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-1	LF-B4-TB	18 JUL 90
07-444-2	LF-B4-BB	18 JUL 90
07-444-3	LF-B4	18 JUL 90
07-444-4	LF-13	18 JUL 90
07-444-5	LF-12	18 JUL 90

PARAMETER	07-444-1	07-444-2	07-444-3	07-444-4	07-444-5
Benzene, ug/L	<1	<1	<1	<1	<1
Bromoform, ug/L	<1	<1	<1	<1	<1
Chlorobenzene, ug/L	<1	<1	<1	<1	<1
Carbon Tetrachloride, ug/L	<1	<1	<1	<1	<1
Chloroethane, ug/L	<1	<1	<1	<1	<1
Chloroform, ug/L	<1	<1	<1	<1	<1
Chloromethane, ug/L	<1	<1	<1	<1	<1
Carbon Disulfide, ug/L	<1	<1	<1	<1	<1
Dibromochloromethane, ug/L	<1	<1	<1	<1	<1
Ethylbenzene, ug/L	<1	<1	<1	<1	<1
Freon 113, ug/L	<1	<1	<1	<1	<1
Methyl ethyl ketone, ug/L	<20	<20	<20	<20	<20
Methylene chloride, ug/L	<5	<5	<5	<5	<5
Styrene, ug/L	<1	<1	<1	<1	<1
Trichloroethene, ug/L	<1	<1	<1	<1	2
Trichlorofluoromethane, ug/L	<1	<1	<1	<1	<1
Toluene, ug/L	<1	<1	2	2	<1
Tetrachloroethene, ug/L	<1	<1	<1	1	1
Vinyl acetate, ug/L	<1	<1	<1	<1	<1
Vinyl chloride, ug/L	<1	<1	<1	<1	<1
Total Xylene Isomers, ug/L	<1	<1	<1	1	<1
cis-1,2-Dichloroethene, ug/L	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene, ug/L	<1	<1	<1	<1	<1

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Analytical Report

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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-1	LF-B4-TB	18 JUL 90
07-444-2	LF-B4-BB	18 JUL 90
07-444-3	LF-B4	18 JUL 90
07-444-4	LF-13	18 JUL 90
07-444-5	LF-12	18 JUL 90

PARAMETER	07-444-1	07-444-2	07-444-3	07-444-4	07-444-5
trans-1,3-Dichloropropene, ug/L	<1	<1	<1	<1	<1

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-6	LF-B2	18 JUL 90
07-444-7	LF-B2D	18 JUL 90
07-444-8	LF-B3	18 JUL 90
07-444-9	LF-B1	18 JUL 90

PARAMETER	07-444-6	07-444-7	07-444-8	07-444-9
Arsenic, mg/L	0.005	0.004	0.003	0.007
Barium, mg/L	0.14	0.15	0.10	0.08
Cadmium, mg/L	<0.05	<0.05	<0.05	<0.05
Copper, mg/L	<0.05	<0.05	<0.05	<0.05
Lead, mg/L	<0.2	<0.2	0.2	<0.2
Zinc, mg/L	<0.05	<0.05	<0.05	<0.05
Filter & Digest, Date	07.26.90	07.26.90	07.26.90	07.26.90
Filter & GFA Digest, Date	07.26.90	07.26.90	07.26.90	07.26.90
TPH - Modified 8015				
Date Analyzed	07.25.90	07.25.90	07.25.90	07.25.90
Dilution Factor, Times	1	1	1	1
Total Fuel Hydrocarbons, mg/L	<1	<1	<1	<1
Other TPH - Modified 8015	---	---	---	---

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-6	LF-B2	18 JUL 90
07-444-7	LF-B2D	18 JUL 90
07-444-8	LF-B3	18 JUL 90
07-444-9	LF-B1	18 JUL 90

PARAMETER	07-444-6	07-444-7	07-444-8	07-444-9
B/N,A Ext.Pri.Poll. (EPA-8270)				
Date Analyzed	08.03.90	08.03.90	08.03.90	08.03.90
Date Extracted	07.25.90	07.25.90	07.25.90	07.25.90
Dilution Factor, Times	1	1	1	1
1,2,4-Trichlorobenzene, ug/L	<2	<2	<2	<2
1,2-Dichlorobenzene, ug/L	<2	<2	<2	<2
1,2-Diphenylhydrazine, ug/L	<10	<10	<10	<10
1,3-Dichlorobenzene, ug/L	<2	<2	<2	<2
1,4-Dichlorobenzene, ug/L	<2	<2	<2	<2
2,4,5-Trichlorophenol, ug/L	<10	<10	<10	<10
2,4,6-Trichlorophenol, ug/L	<10	<10	<10	<10
2,4-Dichlorophenol, ug/L	<5	<5	<5	<5
2,4-Dimethylphenol, ug/L	<5	<5	<5	<5
2,4-Dinitrophenol, ug/L	<20	<20	<20	<20
2,4-Dinitrotoluene, ug/L	<20	<20	<20	<20
2,6-Dinitrotoluene, ug/L	<5	<5	<5	<5
2-Chloronaphthalene, ug/L	<2	<2	<2	<2
2-Chlorophenol, ug/L	<5	<5	<5	<5
2-Methyl-4,6-dinitrophenol, ug/L	<20	<20	<20	<20
2-Methylnaphthalene, ug/L	<2	<2	<2	<2
2-Methylphenol, ug/L	<5	<5	<5	<5
2-Nitroaniline, ug/L	<20	<20	<20	<20
2-Nitrophenol, ug/L	<5	<5	<5	<5
3,3'-Dichlorobenzidine, ug/L	<20	<20	<20	<20

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-6	LF-B2	18 JUL 90
07-444-7	LF-B2D	18 JUL 90
07-444-8	LF-B3	18 JUL 90
07-444-9	LF-B1	18 JUL 90

PARAMETER	07-444-6	07-444-7	07-444-8	07-444-9
3-Nitroaniline, ug/L	<20	<20	<20	<20
4-Bromophenylphenylether, ug/L	<5	<5	<5	<5
4-Chloro-3-methylphenol, ug/L	<10	<10	<10	<10
4-Chloroaniline, ug/L	<10	<10	<10	<10
4-Chlorophenylphenylether, ug/L	<5	<5	<5	<5
4-Methylphenol, ug/L	<10	<10	<10	<10
4-Nitroaniline, ug/L	<20	<20	<20	<20
4-Nitrophenol, ug/L	<50	<50	<50	<50
Acenaphthene, ug/L	<2	<2	<2	<2
Acenaphthylene, ug/L	<2	<2	<2	<2
Aniline, ug/L	<20	<20	<20	<20
Anthracene, ug/L	<2	<2	<2	<2
Benzidine, ug/L	<200	<200	<200	<200
Benzo(a)anthracene, ug/L	<2	<2	<2	<2
Benzo(a)pyrene, ug/L	<2	<2	<2	<2
Benzo(b)fluoranthene, ug/L	<2	<2	<2	<2
Benzo(g,h,i)perylene, ug/L	<2	<2	<2	<2
Benzo(k)fluoranthene, ug/L	<2	<2	<2	<2
Benzyl alcohol, ug/L	<10	<10	<10	<10
Benzoic acid, ug/L	<50	<50	<50	<50
Butylbenzylphthalate, ug/L	<10	<10	<10	<10
Chrysene, ug/L	<2	<2	<2	<2
Di-n-octylphthalate, ug/L	<10	<10	<10	<10
Dibenzo(a,h)anthracene, ug/L	<2	<2	<2	<2

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-6	LF-B2	18 JUL 90
07-444-7	LF-B2D	18 JUL 90
07-444-8	LF-B3	18 JUL 90
07-444-9	LF-B1	18 JUL 90

PARAMETER	07-444-6	07-444-7	07-444-8	07-444-9
Dibenzofuran, ug/L	<5	<5	<5	<5
Dibutylphthalate, ug/L	<10	<10	<10	<10
Diethylphthalate, ug/L	<10	<10	<10	<10
Dimethylphthalate, ug/L	<10	<10	<10	<10
Fluoranthene, ug/L	<2	<2	<2	<2
Fluorene, ug/L	<2	<2	<2	<2
Hexachlorobenzene, ug/L	<2	<2	<2	<2
Hexachlorobutadiene, ug/L	<5	<5	<5	<5
Hexachlorocyclopentadiene, ug/L	<50	<50	<50	<50
Hexachloroethane, ug/L	<10	<10	<10	<10
Indeno(1,2,3-c,d)pyrene, ug/L	<2	<2	<2	<2
Isophorone, ug/L	<5	<5	<5	<5
N-Nitrosodimethylamine, ug/L	<5	<5	<5	<5
N-Nitrosodiphenylamine, ug/L	<5	<5	<5	<5
N-Nitrosodi-n-propylamine, ug/L	<5	<5	<5	<5
Nitrobenzene, ug/L	<2	<2	<2	<2
Naphthalene, ug/L	<2	<2	<2	<2
Phenanthrene, ug/L	<2	<2	<2	<2
Phenol, ug/L	140	88	<10	460
Pentachlorophenol, ug/L	<20	<20	<20	<20
Pyrene, ug/L	<2	<2	<2	<2
Bis(2-chloroethoxy)methane, ug/L	<5	<5	<5	<5
Bis(2-chloroethyl)ether, ug/L	<2	<2	<2	<2
Bis(2-chloroisopropyl)ether, ug/L	<5	<5	<5	<5

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-6	LF-B2	18 JUL 90
07-444-7	LF-B2D	18 JUL 90
07-444-8	LF-B3	18 JUL 90
07-444-9	LF-B1	18 JUL 90

PARAMETER	07-444-6	07-444-7	07-444-8	07-444-9
Bis(2-ethylhexyl)phthalate, ug/L	32	60	190	140
Semi-Quantified Results **				
C14H22O(Phenol), ug/L	---	10	---	---
C7H16O3, ug/L	6	---	---	---
C8H16O2, ug/L	10	6	---	---

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

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Analytical Report

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-6	LF-B2	18 JUL 90
07-444-7	LF-B2D	18 JUL 90
07-444-8	LF-B3	18 JUL 90
07-444-9	LF-B1	18 JUL 90

PARAMETER	07-444-6	07-444-7	07-444-8	07-444-9
Vol.Pri.Poll. (EPA-8240)				
Date Analyzed	07.23.90	07.23.90	07.23.90	07.23.90
Date Extracted	07.23.90	07.23.90	07.23.90	07.23.90
Dilution Factor, Times	1	1	1	1
1,1,1-Trichloroethane, ug/L	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane, ug/L	<1	<1	<1	<1
1,1,2-Trichloroethane, ug/L	<1	<1	<1	<1
1,1-Dichloroethane, ug/L	<1	<1	<1	<1
1,1-Dichloroethene, ug/L	<1	<1	<1	<1
1,2-Dichloroethane, ug/L	7	7	86	170
1,2-Dichlorobenzene, ug/L	<1	<1	<1	<1
1,2-Dichloropropane, ug/L	<1	<1	<1	<1
1,3-Dichlorobenzene, ug/L	<1	<1	<1	<1
1,3-Dichloropropene, ug/L	<1	<1	<1	<1
1,4-Dichlorobenzene, ug/L	<1	<1	<1	<1
2-Chloroethylvinylether, ug/L	<1	<1	<1	<1
2-Hexanone, ug/L	<1	<1	<1	<1
4-Methyl-2-Pentanone, ug/L	<1	<1	<1	<1
Acetone, ug/L	<10	<10	<10	<10
Acrolein, ug/L	<10	<10	<10	<10
Acrylonitrile, ug/L	<10	<10	<10	<10
Bromodichloromethane, ug/L	<1	<1	<1	<1
Bromomethane, ug/L	<1	<1	<1	<1
Benzene, ug/L	<1	<1	<1	<1

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

Analytical Report

LOG NO: E90-07-444

Received: 18 JUL 90
Reported: 17 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-6	LF-B2	18 JUL 90
07-444-7	LF-B2D	18 JUL 90
07-444-8	LF-B3	18 JUL 90
07-444-9	LF-B1	18 JUL 90

PARAMETER	07-444-6	07-444-7	07-444-8	07-444-9
Bromoform, ug/L	<1	<1	<1	<1
Chlorobenzene, ug/L	<1	<1	<1	<1
Carbon Tetrachloride, ug/L	<1	<1	<1	<1
Chloroethane, ug/L	<1	<1	<1	<1
Chloroform, ug/L	<1	<1	<1	<1
Chloromethane, ug/L	<1	<1	<1	<1
Carbon Disulfide, ug/L	<1	<1	<1	<1
Dibromochloromethane, ug/L	<1	<1	<1	<1
Ethylbenzene, ug/L	<1	<1	<1	<1
Freon 113, ug/L	<1	<1	<1	<1
Methyl ethyl ketone, ug/L	<20	<20	<20	<20
Methylene chloride, ug/L	<5	<5	<5	<5
Styrene, ug/L	<1	2	3	<1
Trichloroethene, ug/L	<1	<1	<1	<1
Trichlorofluoromethane, ug/L	<1	<1	<1	<1
Toluene, ug/L	<1	<1	<1	<1
Tetrachloroethene, ug/L	<1	<1	<1	1
Vinyl acetate, ug/L	<1	<1	<1	<1
Vinyl chloride, ug/L	<1	<1	<1	<1
Total Xylene Isomers, ug/L	<1	<1	<1	<1
cis-1,2-Dichloroethene, ug/L	<1	<1	<1	<1
trans-1,2-Dichloroethene, ug/L	<1	<1	<1	<1
trans-1,3-Dichloropropene, ug/L	<1	<1	<1	<1

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-444-6	LF-B2	18 JUL 90
07-444-7	LF-B2D	18 JUL 90
07-444-8	LF-B3	18 JUL 90
07-444-9	LF-B1	18 JUL 90

PARAMETER	07-444-6	07-444-7	07-444-8	07-444-9
Semi-Quantified Results **				
C8H1802, ug/L	---	---	---	70
Diisopropyl Ether, ug/L	200	200	300	300

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

Hedy J. Ficklin for
Sim D. Lessley, Ph.D., Laboratory Director

1255 Powell Street
Emeryville, CA 94608

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BCA B C Analytical

BATCH QC REPORT: Definitions and Terms

Accuracy	The ability of a procedure to determine the "true" concentration of an analyte
Precision	The reproducibility of a procedure demonstrated by the agreement between analyses performed on either duplicates of the same sample or a pair of duplicate spikes
Batch	A group of samples analyzed sequentially using the same calibration curve, reagents, and instrument
Laboratory Control Standard (LCS)	Laboratory reagent water spiked with known compounds and subjected to the same procedures as the samples. The LCS thus indicates the accuracy of the analytical method and, because it is prepared from a different source than the standard used to calibrate the instrument, it also serves to double-check the calibration
Matrix QC	Quality control tests performed on actual client samples. For most inorganic analyses, the laboratory uses a pair of duplicate samples and a spiked sample. For most organic analyses, the laboratory uses a pair of spiked samples (duplicate spikes)
LC Result	Laboratory result of an LCS analysis
LT Result	Expected result, or true value, of the LCS analysis
R1, R2 Result:	Result of the analysis of replicate aliquots of a sample, with R1 indicating the first analysis of the sample and R2 its corresponding duplicate; used to determine precision
S1, S2 Result	Result of the analysis of replicate spiked aliquots, with S1 indicating one spike of the sample and S2 the second spike; used to determine precision and accuracy
R Bar Result	The average of replicate analysis results
S Bar Result:	The average of spike analysis results
True value	The theoretical, or expected, result of a spike sample analysis
Percent Recovery	The percentage of analyte recovered. For LCS, the percent recovery calculation is: LC ÷ LT x 100 For spike recoveries, the percent recovery calculatiion is: $\frac{(\text{S Bar} - \text{Sample Concentration})}{\text{Spike Amount}} \times 100$
Relative Percent Difference (RPD)	Calculated using one of the following: $\frac{(R1 - R2) \times 100}{(R1 + R2) \div 2}$ $\frac{(S1 - S2) \times 100}{(S1 + S2) \div 2}$
Blank Result	The result of the analysis of a method blank,which is reagent water that is analysed using the same reagents, instruments and procedures as the samples in a batch; used to determine laboratory contamination
Reporting Detection Limit (RDL)	BCA-assigned limit based on—but not the same as—method detection limits (MDLs) determined using EPA guidelines

: ORDER PLACED FOR CLIENT: Levine - Fricke 9007444 :
: BC ANALYTICAL : EMVL LAB : 09:33:54 20 AUG 1990 - P. 1 :

SAMPLES...	SAMPLE DESCRIPTION..	DETERM CODE....	DATE.... ANALYZED	METHOD.....	EQUIP.	BATCH	ID.NO
9007444*1	LF-B4-TB	AS	07.30.90	7060	514-01	208	7701
		BA	07.31.90	6010	515-01	232	7648
		CD	07.31.90	6010	515-01	232	7648
		CU	07.31.90	6010	515-01	232	7648
		PB	07.31.90	6010	515-01	232	7648
		ZN	07.31.90	6010	515-01	232	7648
		DIG,DISS	07.26.90			232	
		DIG,DISS,GFA	07.26.90			208	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.14.90	8270	517-02	149	3002
		VOA.8240.HSL	07.23.90	8240	517-04	255	7038
9007444*2	LF-B4-BB	AS	07.30.90	7060	514-01	208	7701
		BA	07.31.90	6010	515-01	232	7648
		CD	07.31.90	6010	515-01	232	7648
		CU	07.31.90	6010	515-01	232	7648
		PB	07.31.90	6010	515-01	232	7648
		ZN	07.31.90	6010	515-01	232	7648
		DIG,DISS	07.26.90			232	
		DIG,DISS,GFA	07.26.90			208	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.03.90	8270	517-02	140	3002
		VOA.8240.HSL	07.23.90	8240	517-04	255	7038
9007444*3	LF-B4	AS	07.30.90	7060	514-01	208	7701
		BA	07.31.90	6010	515-01	232	7648
		CD	07.31.90	6010	515-01	232	7648
		CU	07.31.90	6010	515-01	232	7648
		PB	07.31.90	6010	515-01	232	7648
		ZN	07.31.90	6010	515-01	232	7648
		DIG,DISS	07.26.90			232	
		DIG,DISS,GFA	07.26.90			208	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.03.90	8270	517-02	140	3002
		VOA.8240.HSL	07.23.90	8240	517-04	255	7038
9007444*4	LF-13	AS	07.30.90	7060	514-01	208	7701
		BA	07.31.90	6010	515-01	232	7648
		CD	07.31.90	6010	515-01	232	7648
		CU	07.31.90	6010	515-01	232	7648
		PB	07.31.90	6010	515-01	232	7648
		ZN	07.31.90	6010	515-01	232	7648
		DIG,DISS	07.26.90			232	
		DIG,DISS,GFA	07.26.90			208	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.03.90	8270	517-02	140	3002
		VOA.8240.HSL	07.23.90	8240	517-04	255	7038

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

SAMPLES...	SAMPLE DESCRIPTION..	DETERM CODE....	DATE.... ANALYZED	METHOD.....	EQUIP.	BATCH	ID.NO
9007444*5	LF-12	AS	07.30.90	7060	514-01	208	7701
		BA	07.31.90	6010	515-01	232	7648
		CD	07.31.90	6010	515-01	232	7648
		CU	07.31.90	6010	515-01	232	7648
		PB	07.31.90	6010	515-01	232	7648
		ZN	07.31.90	6010	515-01	232	7648
		DIG,DISS	07.26.90			232	
		DIG,DISS,GFA	07.26.90			208	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.03.90	8270	517-02	140	3002
		VOA.8240.HSL	07.23.90	8240	517-04	255	7038
9007444*6	LF-B2	AS	07.30.90	7060	514-01	208	7701
		BA	07.31.90	6010	515-01	232	7648
		CD	07.31.90	6010	515-01	232	7648
		CU	07.31.90	6010	515-01	232	7648
		PB	07.31.90	6010	515-01	232	7648
		ZN	07.31.90	6010	515-01	232	7648
		DIG,DISS	07.26.90			232	
		DIG,DISS,GFA	07.26.90			208	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.03.90	8270	517-02	140	3002
		VOA.8240.HSL	07.23.90	8240	517-04	255	7038
9007444*7	LF-B2D	AS	07.30.90	7060	514-01	208	7701
		BA	07.31.90	6010	515-01	232	7648
		CD	07.31.90	6010	515-01	232	7648
		CU	07.31.90	6010	515-01	232	7648
		PB	07.31.90	6010	515-01	232	7648
		ZN	07.31.90	6010	515-01	232	7648
		DIG,DISS	07.26.90			232	
		DIG,DISS,GFA	07.26.90			208	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.03.90	8270	517-02	140	3002
		VOA.8240.HSL	07.23.90	8240	517-04	255	7038
9007444*8	LF-B3	AS	07.30.90	7060	514-01	208	7701
		BA	07.31.90	6010	515-01	232	7648
		CD	07.31.90	6010	515-01	232	7648
		CU	07.31.90	6010	515-01	232	7648
		PB	07.31.90	6010	515-01	232	7648
		ZN	07.31.90	6010	515-01	232	7648
		DIG,DISS	07.26.90			232	
		DIG,DISS,GFA	07.26.90			208	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.03.90	8270	517-02	140	3002
		VOA.8240.HSL	07.23.90	8240	517-04	255	7038

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

SAMPLES...	SAMPLE DESCRIPTION..	DETERM CODE....	DATE.... ANALYZED	METHOD.....	EQUIP.	BATCH	ID.NO
9007444*9	LF-B1	AS	07.30.90	7060	514-01	208	7701
		BA	07.31.90	6010	515-01	232	7648
		CD	07.31.90	6010	515-01	232	7648
		CU	07.31.90	6010	515-01	232	7648
		PB	07.31.90	6010	515-01	232	7648
		ZN	07.31.90	6010	515-01	232	7648
		DIG,DISS	07.26.90			232	
		DIG,DISS,GFA	07.26.90			208	
		FUEL.TOT	07.25.90	8015	516-07	188	7580
		BNA.8270.HSL	08.03.90	8270	517-02	140	3002
		VOA.8240.HSL	07.23.90	8240	517-04	255	7038

***

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9007444

DATE REPORTED : 08/20/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Arsenic	07.30.90	208	0.0003	0.002	mg/L
Arsenic	07.30.90	208	0.0007	0.002	mg/L
Barium	07.31.90	232	0.012	0.05	mg/L
Cadmium	07.31.90	232	0.010	0.05	mg/L
Copper	07.31.90	232	0	0.05	mg/L
Lead	07.31.90	232	0.15	0.2	mg/L
Zinc	07.31.90	232	0.022	0.05	mg/L
TPH - Modified 8015					
Date Analyzed	07.25.90	188	7.25.90	NA	Date
Dilution Factor	07.25.90	188	1	NA	Times
Total Fuel Hydrocarbons	07.25.90	188	2.4	10	mg/L
Fuel Characterization	07.25.90	188	GAS	NA	.
B/N,A Ext.Pri.Poll. (EPA-8270)					
Date Analyzed	08.14.90	149	8.14.90	NA	Date
Date Extracted	08.14.90	149	8.08.90	NA	Date
Dilution Factor	08.14.90	149	1	NA	Times
1,2,4-Trichlorobenzene	08.14.90	149	0	2	ug/L
1,2-Dichlorobenzene	08.14.90	149	0	2	ug/L
1,2-Diphenylhydrazine	08.14.90	149	0	10	ug/L
1,3-Dichlorobenzene	08.14.90	149	0	2	ug/L
1,4-Dichlorobenzene	08.14.90	149	0	2	ug/L
2,4,5-Trichlorophenol	08.14.90	149	0	10	ug/L
2,4,6-Trichlorophenol	08.14.90	149	0	10	ug/L
2,4-Dichlorophenol	08.14.90	149	0	5	ug/L
2,4-Dimethylphenol	08.14.90	149	0	5	ug/L
2,4-Dinitrophenol	08.14.90	149	0	20	ug/L
2,4-Dinitrotoluene	08.14.90	149	0	20	ug/L
2,6-Dinitrotoluene	08.14.90	149	0	5	ug/L
2-Chloronaphthalene	08.14.90	149	0	2	ug/L
2-Chlorophenol	08.14.90	149	0	5	ug/L
2-Methyl-4,6-dinitrophenol	08.14.90	149	0	20	ug/L
2-Methylnaphthalene	08.14.90	149	0	2	ug/L
2-Methylphenol	08.14.90	149	0	5	ug/L
2-Nitroaniline	08.14.90	149	0	20	ug/L
2-Nitrophenol	08.14.90	149	0	5	ug/L
3,3'-Dichlorobenzidine	08.14.90	149	0	20	ug/L
3-Nitroaniline	08.14.90	149	0	20	ug/L
4-Bromophenylphenylether	08.14.90	149	0	5	ug/L
4-Chloro-3-methylphenol	08.14.90	149	0	10	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9007444

DATE REPORTED : 08/20/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
4-Chloroaniline	08.14.90	149	0	10	ug/L
4-Chlorophenylphenylether	08.14.90	149	0	5	ug/L
4-Methylphenol	08.14.90	149	0	10	ug/L
4-Nitroaniline	08.14.90	149	0	20	ug/L
4-Nitrophenol	08.14.90	149	0	50	ug/L
Acenaphthene	08.14.90	149	0	2	ug/L
Acenaphthylene	08.14.90	149	0	2	ug/L
Aniline	08.14.90	149	0	20	ug/L
Anthracene	08.14.90	149	0	2	ug/L
Benzidine	08.14.90	149	0	200	ug/L
Benzo(a)anthracene	08.14.90	149	0	2	ug/L
Benzo(a)pyrene	08.14.90	149	0	2	ug/L
Benzo(b)fluoranthene	08.14.90	149	0	2	ug/L
Benzo(g,h,i)perylene	08.14.90	149	0	2	ug/L
Benzo(k)fluoranthene	08.14.90	149	0	2	ug/L
Benzyl alcohol	08.14.90	149	0	10	ug/L
Benzoic acid	08.14.90	149	0	50	ug/L
Butylbenzylphthalate	08.14.90	149	0	10	ug/L
Chrysene	08.14.90	149	0	2	ug/L
Di-n-octylphthalate	08.14.90	149	0	10	ug/L
Dibenzo(a,h)anthracene	08.14.90	149	0	2	ug/L
Dibenzofuran	08.14.90	149	0	5	ug/L
Dibutylphthalate	08.14.90	149	0	10	ug/L
Diethylphthalate	08.14.90	149	0	10	ug/L
Dimethylphthalate	08.14.90	149	0	10	ug/L
Fluoranthene	08.14.90	149	0	2	ug/L
Fluorene	08.14.90	149	0	2	ug/L
Hexachlorobenzene	08.14.90	149	0	2	ug/L
Hexachlorobutadiene	08.14.90	149	0	5	ug/L
Hexachlorocyclopentadiene	08.14.90	149	0	50	ug/L
Hexachloroethane	08.14.90	149	0	10	ug/L
Indeno(1,2,3-c,d)pyrene	08.14.90	149	0	2	ug/L
Isophorone	08.14.90	149	0	5	ug/L
N-Nitrosodimethylamine	08.14.90	149	0	5	ug/L
N-Nitrosodiphenylamine	08.14.90	149	0	5	ug/L
N-Nitrosodi-n-propylamine	08.14.90	149	0	5	ug/L
Nitrobenzene	08.14.90	149	0	2	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9007444

DATE REPORTED : 08/20/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Naphthalene	08.14.90	149	0	2	ug/L
Phenanthrene	08.14.90	149	0	2	ug/L
Phenol	08.14.90	149	0	10	ug/L
Pentachlorophenol	08.14.90	149	0	20	ug/L
Pyrene	08.14.90	149	0	2	ug/L
Bis(2-chloroethoxy)methane	08.14.90	149	0	5	ug/L
Bis(2-chloroethyl)ether	08.14.90	149	0	2	ug/L
Bis(2-chloroisopropyl)ether	08.14.90	149	0	5	ug/L
Bis(2-ethylhexyl)phthalate	08.14.90	149	11	20	ug/L
2-Fluorobiphenyl Reported	08.14.90	149	17	NA	ug/L
2-Fluorobiphenyl Theoretical	08.14.90	149	50	NA	ug/L
2-Fluorophenol Reported	08.14.90	149	57	NA	ug/L
2-Fluorophenol Theoretical	08.14.90	149	100	NA	ug/L
2,4,6-Tribromophenol Reported	08.14.90	149	58	NA	ug/L
2,4,6-Tribromophenol Theoretical	08.14.90	149	100	NA	ug/L
Nitrobenzene-d5 Reported	08.14.90	149	14	NA	ug/L
Nitrobenzene-d5 Theoretical	08.14.90	149	50	NA	ug/L
Phenol-d5 Reported	08.14.90	149	60	NA	ug/L
Phenol-d5 Theoretical	08.14.90	149	100	NA	ug/L
B/N,A Ext.Pri.Poll. (EPA-8270)					
Date Analyzed	08.15.90	149	8.15.90	NA	Date
Date Extracted	08.15.90	149	8.08.90	NA	Date
Dilution Factor	08.15.90	149	1	NA	Times
1,2,4-Trichlorobenzene	08.15.90	149	0	2	ug/L
1,2-Dichlorobenzene	08.15.90	149	0	2	ug/L
1,2-Diphenylhydrazine	08.15.90	149	0	10	ug/L
1,3-Dichlorobenzene	08.15.90	149	0	2	ug/L
1,4-Dichlorobenzene	08.15.90	149	0	2	ug/L
2,4,6-Trichlorophenol	08.15.90	149	0	10	ug/L
2,4-Dichlorophenol	08.15.90	149	0	5	ug/L
2,4-Dimethylphenol	08.15.90	149	0	5	ug/L
2,4-Dinitrophenol	08.15.90	149	0	20	ug/L
2,4-Dinitrotoluene	08.15.90	149	0	20	ug/L
2,6-Dinitrotoluene	08.15.90	149	0	5	ug/L
2-Chloronaphthalene	08.15.90	149	0	2	ug/L
2-Chlorophenol	08.15.90	149	0	5	ug/L
2-Methyl-4,6-dinitrophenol	08.15.90	149	0	20	ug/L
2-Nitrophenol	08.15.90	149	0	5	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9007444

DATE REPORTED : 08/20/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
3,3'-Dichlorobenzidine	08.15.90	149	0	20	ug/L
4-Bromophenylphenylether	08.15.90	149	0	5	ug/L
4-Chloro-3-methylphenol	08.15.90	149	0	10	ug/L
4-Chlorophenylphenylether	08.15.90	149	0	5	ug/L
4-Nitrophenol	08.15.90	149	0	50	ug/L
Acenaphthene	08.15.90	149	0	2	ug/L
Acenaphthylene	08.15.90	149	0	2	ug/L
Anthracene	08.15.90	149	0	2	ug/L
Benzidine	08.15.90	149	0	200	ug/L
Benzo(a)anthracene	08.15.90	149	0	2	ug/L
Benzo(a)pyrene	08.15.90	149	0	2	ug/L
Benzo(b)fluoranthene	08.15.90	149	0	2	ug/L
Benzo(g,h,i)perylene	08.15.90	149	0	2	ug/L
Benzo(k)fluoranthene	08.15.90	149	0	2	ug/L
Butylbenzylphthalate	08.15.90	149	0	10	ug/L
Chrysene	08.15.90	149	0	2	ug/L
Di-n-octylphthalate	08.15.90	149	0	10	ug/L
Dibenzo(a,h)anthracene	08.15.90	149	0	2	ug/L
Dibutylphthalate	08.15.90	149	1.4	10	ug/L
Diethylphthalate	08.15.90	149	0	10	ug/L
Dimethylphthalate	08.15.90	149	0	10	ug/L
Fluoranthene	08.15.90	149	0	2	ug/L
Fluorene	08.15.90	149	0	2	ug/L
Hexachlorobenzene	08.15.90	149	0	2	ug/L
Hexachlorobutadiene	08.15.90	149	0	5	ug/L
Hexachlorocyclopentadiene	08.15.90	149	0	50	ug/L
Hexachloroethane	08.15.90	149	0	10	ug/L
Indeno(1,2,3-c,d)pyrene	08.15.90	149	0	2	ug/L
Isophorone	08.15.90	149	0	5	ug/L
N-Nitrosodimethylamine	08.15.90	149	0	5	ug/L
N-Nitrosodiphenylamine	08.15.90	149	0	5	ug/L
N-Nitrosodi-n-propylamine	08.15.90	149	0	5	ug/L
Nitrobenzene	08.15.90	149	0	2	ug/L
Naphthalene	08.15.90	149	0	2	ug/L
Phenanthrene	08.15.90	149	0	2	ug/L
Phenol	08.15.90	149	0	10	ug/L
Pentachlorophenol	08.15.90	149	0	20	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9007444

DATE REPORTED : 08/20/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Pyrene	08.15.90	149	0	2	ug/L
Bis(2-chloroethoxy)methane	08.15.90	149	0	5	ug/L
Bis(2-chloroethyl)ether	08.15.90	149	0	2	ug/L
Bis(2-chloroisopropyl)ether	08.15.90	149	0	5	ug/L
Bis(2-ethylhexyl)phthalate	08.15.90	149	9.4	20	ug/L
2-Fluorobiphenyl Reported	08.15.90	149	34	NA	ug/L
2-Fluorobiphenyl Theoretical	08.15.90	149	50	NA	ug/L
2-Fluorophenol Reported	08.15.90	149	74	NA	ug/L
2-Fluorophenol Theoretical	08.15.90	149	100	NA	ug/L
2,4,6-Tribromophenol Reported	08.15.90	149	81	NA	ug/L
2,4,6-Tribromophenol Theoretical	08.15.90	149	100	NA	ug/L
Nitrobenzene-d5 Reported	08.15.90	149	30	NA	ug/L
Nitrobenzene-d5 Theoretical	08.15.90	149	50	NA	ug/L
Phenol-d5 Reported	08.15.90	149	80	NA	ug/L
Phenol-d5 Theoretical	08.15.90	149	100	NA	ug/L
Vol.Pri.Poll. (EPA-8240)					
Date Analyzed	07.23.90	255	7.23.90	NA	Date
Date Extracted	07.23.90	255	7.23.90	NA	Date
Dilution Factor	07.23.90	255	1	NA	Times
1,1,1-Trichloroethane	07.23.90	255	0	1	ug/L
1,1,2,2-Tetrachloroethane	07.23.90	255	0	1	ug/L
1,1,2-Trichloroethane	07.23.90	255	0	1	ug/L
1,1-Dichloroethane	07.23.90	255	0	1	ug/L
1,1-Dichloroethene	07.23.90	255	0	1	ug/L
1,2-Dichloroethane	07.23.90	255	0	1	ug/L
1,2-Dichlorobenzene	07.23.90	255	0	1	ug/L
1,2-Dichloropropane	07.23.90	255	0	1	ug/L
1,3-Dichlorobenzene	07.23.90	255	0	1	ug/L
1,3-Dichloropropene	07.23.90	255	0	1	ug/L
1,4-Dichlorobenzene	07.23.90	255	0	1	ug/L
2-Chloroethylvinylether	07.23.90	255	0	1	ug/L
2-Hexanone	07.23.90	255	0	1	ug/L
4-Methyl-2-Pentanone	07.23.90	255	0	1	ug/L
Acetone	07.23.90	255	0	10	ug/L
Acrolein	07.23.90	255	0	10	ug/L
Acrylonitrile	07.23.90	255	0	10	ug/L
Bromodichloromethane	07.23.90	255	0	1	ug/L
Bromomethane	07.23.90	255	0	1	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9007444

DATE REPORTED : 08/20/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Benzene	07.23.90	255	0	1	ug/L
Bromoform	07.23.90	255	0	1	ug/L
Chlorobenzene	07.23.90	255	0	1	ug/L
Carbon Tetrachloride	07.23.90	255	0	1	ug/L
Chloroethane	07.23.90	255	0	1	ug/L
Chloroform	07.23.90	255	0	1	ug/L
Chloromethane	07.23.90	255	0	1	ug/L
Carbon Disulfide	07.23.90	255	0	1	ug/L
Dibromochloromethane	07.23.90	255	0	1	ug/L
Ethylbenzene	07.23.90	255	0	1	ug/L
Freon 113	07.23.90	255	0	1	ug/L
Methyl ethyl ketone	07.23.90	255	0	1	ug/L
Methylene chloride	07.23.90	255	0	20	ug/L
Styrene	07.23.90	255	0	5	ug/L
Trichloroethene	07.23.90	255	0	1	ug/L
Trichlorofluoromethane	07.23.90	255	0	1	ug/L
Toluene	07.23.90	255	0	1	ug/L
Tetrachloroethene	07.23.90	255	0	1	ug/L
Vinyl acetate	07.23.90	255	0	1	ug/L
Vinyl chloride	07.23.90	255	0	1	ug/L
Total Xylene Isomers	07.23.90	255	0	1	ug/L
cis-1,2-Dichloroethene	07.23.90	255	0	1	ug/L
trans-1,2-Dichloroethene	07.23.90	255	0	1	ug/L
trans-1,3 Dichloropropene	07.23.90	255	0	1	ug/L
1,2-Dichloroethane-d4 Reported	07.23.90	255	50	NA	ug/L
1,2-Dichloroethane-d4 Theo.	07.23.90	255	50	NA	ug/L
4-Bromofluorobenzene Reported	07.23.90	255	50	NA	ug/L
4-Bromofluorobenzene Theo.	07.23.90	255	50	NA	ug/L
Toluene-d8 Reported	07.23.90	255	48	NA	ug/L
Toluene-d8 Theo.	07.23.90	255	50	NA	ug/L
B/N,A Ext.Pri.Poll. (EPA-8270)					
Date Analyzed	08.01.90	140	8.01.90	NA	Date
Date Extracted	08.01.90	140	7.25.90	NA	Date
Dilution Factor	08.01.90	140	1	NA	Times
1,2,4-Trichlorobenzene	08.01.90	140	0	2	ug/L
1,2-Dichlorobenzene	08.01.90	140	0	2	ug/L
1,2-Diphenylhydrazine	08.01.90	140	0	10	ug/L
1,3-Dichlorobenzene	08.01.90	140	0	2	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9007444

DATE REPORTED : 08/20/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
1,4-Dichlorobenzene	08.01.90	140	0	2	ug/L
2,4,5-Trichlorophenol	08.01.90	140	0	10	ug/L
2,4,6-Trichlorophenol	08.01.90	140	0	10	ug/L
2,4-Dichlorophenol	08.01.90	140	0	5	ug/L
2,4-Dimethylphenol	08.01.90	140	0	5	ug/L
2,4-Dinitrophenol	08.01.90	140	0	20	ug/L
2,4-Dinitrotoluene	08.01.90	140	0	20	ug/L
2,6-Dinitrotoluene	08.01.90	140	0	5	ug/L
2-Chloronaphthalene	08.01.90	140	0	2	ug/L
2-Chlorophenol	08.01.90	140	0	5	ug/L
2-Methyl-4,6-dinitrophenol	08.01.90	140	0	20	ug/L
2-Methylnaphthalene	08.01.90	140	0	2	ug/L
2-Methylphenol	08.01.90	140	0	5	ug/L
2-Nitroaniline	08.01.90	140	0	20	ug/L
2-Nitrophenol	08.01.90	140	0	5	ug/L
3,3'-Dichlorobenzidine	08.01.90	140	0	20	ug/L
3-Nitroaniline	08.01.90	140	0	20	ug/L
4-Bromophenylphenylether	08.01.90	140	0	5	ug/L
4-Chloro-3-methylphenol	08.01.90	140	0	10	ug/L
4-Chloroaniline	08.01.90	140	0	10	ug/L
4-Chlorophenylphenylether	08.01.90	140	0	5	ug/L
4-Methylphenol	08.01.90	140	0	10	ug/L
4-Nitroaniline	08.01.90	140	0	20	ug/L
4-Nitrophenol	08.01.90	140	0	50	ug/L
Acenaphthene	08.01.90	140	0	2	ug/L
Acenaphthylene	08.01.90	140	0	2	ug/L
Aniline	08.01.90	140	0	20	ug/L
Anthracene	08.01.90	140	0	2	ug/L
Benzidine	08.01.90	140	0	200	ug/L
Benzo(a)anthracene	08.01.90	140	0	2	ug/L
Benzo(a)pyrene	08.01.90	140	0	2	ug/L
Benzo(b)fluoranthene	08.01.90	140	0	2	ug/L
Benzo(g,h,i)perylene	08.01.90	140	0	2	ug/L
Benzo(k)fluoranthene	08.01.90	140	0	2	ug/L
Benzyl alcohol	08.01.90	140	0	10	ug/L
Benzoic acid	08.01.90	140	0	50	ug/L
Butylbenzylphthalate	08.01.90	140	0	10	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9007444

DATE REPORTED : 08/20/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Chrysene	08.01.90	140	0	2	ug/L
Di-n-octylphthalate	08.01.90	140	0	10	ug/L
Dibenzo(a,h)anthracene	08.01.90	140	0	2	ug/L
Dibenzofuran	08.01.90	140	0	5	ug/L
Dibutylphthalate	08.01.90	140	0	10	ug/L
Diethylphthalate	08.01.90	140	0	10	ug/L
Dimethylphthalate	08.01.90	140	0	10	ug/L
Fluoranthene	08.01.90	140	0	2	ug/L
Fluorene	08.01.90	140	0	2	ug/L
Hexachlorobenzene	08.01.90	140	0	2	ug/L
Hexachlorobutadiene	08.01.90	140	0	5	ug/L
Hexachlorocyclopentadiene	08.01.90	140	0	50	ug/L
Hexachloroethane	08.01.90	140	0	10	ug/L
Indeno(1,2,3-c,d)pyrene	08.01.90	140	0	2	ug/L
Isophorone	08.01.90	140	0	5	ug/L
N-Nitrosodimethylamine	08.01.90	140	0	5	ug/L
N-Nitrosodiphenylamine	08.01.90	140	0	5	ug/L
N-Nitrosodi-n-propylamine	08.01.90	140	0	5	ug/L
Nitrobenzene	08.01.90	140	0	2	ug/L
Naphthalene	08.01.90	140	0	2	ug/L
Phenanthrene	08.01.90	140	0	2	ug/L
Phenol	08.01.90	140	0	10	ug/L
Pentachlorophenol	08.01.90	140	0	20	ug/L
Pyrene	08.01.90	140	0	2	ug/L
Bis(2-chloroethoxy)methane	08.01.90	140	0	5	ug/L
Bis(2-chloroethyl)ether	08.01.90	140	0	2	ug/L
Bis(2-chloroisopropyl)ether	08.01.90	140	0	5	ug/L
Bis(2-ethylhexyl)phthalate	08.01.90	140	1.9	20	ug/L
2-Fluorobiphenyl Reported	08.01.90	140	21	NA	ug/L
2-Fluorobiphenyl Theoretical	08.01.90	140	50	NA	ug/L
2-Fluorophenol Reported	08.01.90	140	66	NA	ug/L
2-Fluorophenol Theoretical	08.01.90	140	100	NA	ug/L
2,4,6-Tribromophenol Reported	08.01.90	140	54	NA	ug/L
2,4,6-Tribromophenol Theoretical	08.01.90	140	100	NA	ug/L
Nitrobenzene-d5 Reported	08.01.90	140	20	NA	ug/L
Nitrobenzene-d5 Theoretical	08.01.90	140	50	NA	ug/L
Phenol-d5 Reported	08.01.90	140	30	NA	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9007444

DATE REPORTED : 08/20/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Phenol-d5 Theoretical	08.01.90	140	100	NA	ug/L
Terphenyl-d14 Reported	08.01.90	140	38	NA	ug/L
Terphenyl-d14 Theoretical	08.01.90	140	50	NA	ug/L

CHAIN OF CUSTODY / ANALYSES REQUEST FORM 9007444

Project No.: 1563.06	Field Logbook No.:	Date: 7.18.90	Serial No.: № 7681
Project Name: Sherwin Williams	Project Location: Emeryville CA		
Sampler (Signature): [signature]			Samplers: Ron G + John DR

ANALYSES

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	~~EPA 601~~	~~EPA 624~~	8015	8240	8270	Metals	~~HOLD~~ 8015 ~~REG~~ RUSH	REMARKS
LF-B4 TB	7.18.90	1100	~~9~~	7				2	2	2	1	2	-8015 Preserved w/ HCL
LF-B4-BB	7.18.90	1110	~~7~~	7				2	2	2	1	2	-Metals include: As, Ba,
LF-B4	7.18	1130	~~5~~	7				2	2	2	1	2	Cd, Cu, Pb, Zn - NOT
LF-13	7.18	1225	~~9~~	7				2	2	2	1	2	~~Not~~ Preserved or Filter
LF-12	7.18	1300	~~8~~	7				2	2	2	1	2	Metals to be Lab filtered
LF-B2	7.18	1405	2	7				2	2	2	1	2	~~Hold all 8015 Samples~~
LF-B2-D	7.18	1405	3	7				2	2	2	1	2	REG
LF-B3	7.18	1500	4	7				2	2	2	1	2	Ignore Hold Request - JDR
LF-B1	7.18	1600	1	7				2	2	2	1	2	

Please Note: These samples were collected in the order of increasing concentrations of arsenic per previous results. Please analyze in this same order. J. DeReamer

RELINQUISHED BY: (Signature) [signature]	DATE 7.18.90	TIME 1630	RECEIVED BY: (Signature) [signature]	DATE 7-18-90	TIME 4:33
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

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

Analytical Laboratory: BC

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink) FORM NO. 86/COC/ARF

Analytical Report

LOG NO: E90-07-485

Received: 19 JUL 90
Reported: 08 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: Mr. John DeReamer

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-485-1	LF-11-TB	19 JUL 90
07-485-2	LF-11-BB	19 JUL 90
07-485-3	LF-11	19 JUL 90
07-485-4	LF-7	19 JUL 90
07-485-5	LF-8	19 JUL 90

PARAMETER	07-485-1	07-485-2	07-485-3	07-485-4	07-485-5
Arsenic, mg/L	<0.002	<0.002	0.007	<0.002	0.004
Barium, mg/L	<0.05	<0.05	0.12	0.06	0.12
Cadmium, mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Lead, mg/L	0.2	<0.2	<0.2	<0.2	<0.2
Zinc, mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Filter & Digest, Date	07.26.90	07.26.90	07.26.90	07.26.90	07.26.90
Filter & GFA Digest, Date	07.26.90	07.26.90	07.26.90	07.26.90	07.26.90
TPH - Modified 8015					
Date Analyzed	07.26.90	07.26.90	07.26.90	07.26.90	07.26.90
Dilution Factor, Times	1	1	1	1	1
Total Fuel Hydrocarbons, mg/L	<1	<1	<1	<1	<1
Other TPH - Modified 8015	---	---	---	---	---

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

Analytical Report

LOG NO: E90-07-485

Received: 19 JUL 90
Reported: 08 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: Mr. John DeReamer

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-485-1	LF-11-TB	19 JUL 90
07-485-2	LF-11-BB	19 JUL 90
07-485-3	LF-11	19 JUL 90
07-485-4	LF-7	19 JUL 90
07-485-5	LF-8	19 JUL 90

PARAMETER	07-485-1	07-485-2	07-485-3	07-485-4	07-485-5
Vol.Pri.Poll. (EPA-8240)					
Date Analyzed	07.24.90	07.24.90	07.30.90	07.30.90	07.24.90
Date Extracted	07.24.90	07.24.90	07.30.90	07.30.90	07.24.90
Dilution Factor, Times	1	1	1	1	1
1,1,1-Trichloroethane, ug/L	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane, ug/L	<1	<1	<1	<1	<1
1,1,2-Trichloroethane, ug/L	<1	<1	<1	<1	<1
1,1-Dichloroethane, ug/L	<1	<1	<1	<1	<1
1,1-Dichloroethene, ug/L	<1	<1	<1	<1	<1
1,2-Dichloroethane, ug/L	<1	<1	<1	<1	<1
1,2-Dichlorobenzene, ug/L	<1	<1	<1	<1	<1
1,2-Dichloropropane, ug/L	<1	<1	<1	<1	<1
1,3-Dichlorobenzene, ug/L	<1	<1	<1	<1	<1
1,3-Dichloropropene, ug/L	<1	<1	<1	<1	<1
1,4-Dichlorobenzene, ug/L	<1	<1	<1	<1	<1
2-Chloroethylvinylether, ug/L	<1	<1	<1	<1	<1
2-Hexanone, ug/L	<1	<1	<1	<1	<1
4-Methyl-2-Pentanone, ug/L	<1	<1	<1	<1	<1
Acetone, ug/L	<10	<10	15	<10	<10
Acrolein, ug/L	<10	<10	<10	<10	<10
Acrylonitrile, ug/L	<10	<10	<10	<10	<10
Bromodichloromethane, ug/L	<1	<1	<1	<1	<1
Bromomethane, ug/L	<1	<1	<1	<1	<1

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

Analytical Report

LOG NO: E90-07-485

Received: 19 JUL 90
Reported: 08 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: Mr. John DeReamer

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-485-1	LF-11-TB	19 JUL 90
07-485-2	LF-11-BB	19 JUL 90
07-485-3	LF-11	19 JUL 90
07-485-4	LF-7	19 JUL 90
07-485-5	LF-8	19 JUL 90

PARAMETER	07-485-1	07-485-2	07-485-3	07-485-4	07-485-5
Benzene, ug/L	<1	<1	<1	<1	<1
Bromoform, ug/L	<1	<1	<1	<1	<1
Chlorobenzene, ug/L	<1	<1	<1	1	<1
Carbon Tetrachloride, ug/L	<1	<1	<1	<1	<1
Chloroethane, ug/L	<1	<1	<1	<1	<1
Chloroform, ug/L	<1	<1	<1	<1	<1
Chloromethane, ug/L	<1	<1	<1	<1	<1
Carbon Disulfide, ug/L	<1	<1	<1	<1	<1
Dibromochloromethane, ug/L	<1	<1	<1	<1	<1
Ethylbenzene, ug/L	<1	<1	<1	7	<1
Freon 113, ug/L	<1	<1	<1	<1	<1
Methyl ethyl ketone, ug/L	<20	<20	<20	<20	<20
Methylene chloride, ug/L	<5	<5	<5	<5	<5
Styrene, ug/L	<1	<1	<1	<1	<1
Trichloroethene, ug/L	<1	<1	<1	<1	<1
Trichlorofluoromethane, ug/L	<1	<1	<1	<1	<1
Toluene, ug/L	<1	<1	<1	<1	<1
Tetrachloroethene, ug/L	<1	<1	<1	<1	<1
Vinyl acetate, ug/L	<1	<1	<1	<1	<1
Vinyl chloride, ug/L	<1	<1	<1	<1	<1
Total Xylene Isomers, ug/L	<1	<1	<1	44	2
cis-1,2-Dichloroethene, ug/L	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene, ug/L	<1	<1	<1	<1	<1

Analytical Report

LOG NO: E90-07-485

Received: 19 JUL 90
Reported: 08 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: Mr. John DeReamer

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-485-1	LF-11-TB	19 JUL 90
07-485-2	LF-11-BB	19 JUL 90
07-485-3	LF-11	19 JUL 90
07-485-4	LF-7	19 JUL 90
07-485-5	LF-8	19 JUL 90

PARAMETER	07-485-1	07-485-2	07-485-3	07-485-4	07-485-5
trans-1,3-Dichloropropene, ug/L	<1	<1	<1	<1	<1
Semi-Quantified Results **					
C7H14O(Ketone), ug/L	---	---	20	---	---
C9-C13 Hydrocarbon Matrix, ug/L	---	---	---	70	---
C9H18O(Aldehyde), ug/L	---	---	6	---	---
Diisopropyl Ether, ug/L	---	---	---	---	7

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

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BCA B C Analytical

Analytical Report

LOG NO: E90-07-485

Received: 19 JUL 90
Reported: 08 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: Mr. John DeReamer

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-485-6	LF-9	19 JUL 90
07-485-7	LF-10	19 JUL 90
07-485-8	LF-10D	19 JUL 90

PARAMETER	07-485-6	07-485-7	07-485-8
Arsenic, mg/L	0.008	0.012	0.008
Barium, mg/L	0.11	0.11	0.14
Cadmium, mg/L	<0.05	<0.05	<0.05
Copper, mg/L	<0.05	<0.05	<0.05
Lead, mg/L	<0.2	0.2	0.3
Zinc, mg/L	<0.05	<0.05	0.07
Filter & Digest, Date	07.26.90	07.26.90	07.26.90
Filter & GFA Digest, Date	07.26.90	07.26.90	07.26.90
TPH - Modified 8015			
Date Analyzed	07.26.90	07.26.90	07.26.90
Dilution Factor, Times	1	1	1
Total Fuel Hydrocarbons, mg/L	<1	<1	<1
Other TPH - Modified 8015	---	---	---

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Analytical Report

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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-485-6	LF-9	19 JUL 90
07-485-7	LF-10	19 JUL 90
07-485-8	LF-10D	19 JUL 90

PARAMETER	07-485-6	07-485-7	07-485-8
B/N,A Ext.Pri.Poll. (EPA-8270)			
Date Analyzed	08.02.90	---	08.02.90
Date Extracted	07.23.90	---	07.23.90
Dilution Factor, Times	1	---	1
1,2,4-Trichlorobenzene, ug/L	<2	---	<2
1,2-Dichlorobenzene, ug/L	<2	---	<2
1,2-Diphenylhydrazine, ug/L	<10	---	<10
1,3-Dichlorobenzene, ug/L	<2	---	<2
1,4-Dichlorobenzene, ug/L	<2	---	<2
2,4,5-Trichlorophenol, ug/L	<10	---	<10
2,4,6-Trichlorophenol, ug/L	<10	---	<10
2,4-Dichlorophenol, ug/L	<5	---	<5
2,4-Dimethylphenol, ug/L	<5	---	<5
2,4-Dinitrophenol, ug/L	<20	---	<20
2,4-Dinitrotoluene, ug/L	<20	---	<20
2,6-Dinitrotoluene, ug/L	<5	---	<5
2-Chloronaphthalene, ug/L	<2	---	<2
2-Chlorophenol, ug/L	<5	---	<5
2-Methyl-4,6-dinitrophenol, ug/L	<20	---	<20
2-Methylnaphthalene, ug/L	<2	---	<2
2-Methylphenol, ug/L	<5	---	<5
2-Nitroaniline, ug/L	<20	---	<20
2-Nitrophenol, ug/L	<5	---	<5
3,3'-Dichlorobenzidine, ug/L	<20	---	<20
3-Nitroaniline, ug/L	<20	---	<20

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Analytical Report

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Reported: 08 AUG 90

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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-485-6	LF-9	19 JUL 90
07-485-7	LF-10	19 JUL 90
07-485-8	LF-10D	19 JUL 90

PARAMETER	07-485-6	07-485-7	07-485-8
4-Bromophenylphenylether, ug/L	<5	---	<5
4-Chloro-3-methylphenol, ug/L	<10	---	<10
4-Chloroaniline, ug/L	<10	---	<10
4-Chlorophenylphenylether, ug/L	<5	---	<5
4-Methylphenol, ug/L	<10	---	<10
4-Nitroaniline, ug/L	<20	---	<20
4-Nitrophenol, ug/L	<50	---	<50
Acenaphthene, ug/L	<2	---	<2
Acenaphthylene, ug/L	<2	---	<2
Aniline, ug/L	<20	---	<20
Anthracene, ug/L	<2	---	<2
Benzidine, ug/L	<200	---	<200
Benzo(a)anthracene, ug/L	<2	---	<2
Benzo(a)pyrene, ug/L	<2	---	<2
Benzo(b)fluoranthene, ug/L	<2	---	<2
Benzo(g,h,i)perylene, ug/L	<2	---	<2
Benzo(k)fluoranthene, ug/L	<2	---	<2
Benzyl alcohol, ug/L	<10	---	<10
Benzoic acid, ug/L	<50	---	<50
Butylbenzylphthalate, ug/L	<10	---	<10
Chrysene, ug/L	<2	---	<2
Di-n-octylphthalate, ug/L	<10	---	<10
Dibenzo(a,h)anthracene, ug/L	<2	---	<2
Dibenzofuran, ug/L	<5	---	<5
Dibutylphthalate, ug/L	<10	---	<10

Analytical Report

LOG NO: E90-07-485

Received: 19 JUL 90
Reported: 08 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-485-6	LF-9	19 JUL 90
07-485-7	LF-10	19 JUL 90
07-485-8	LF-10D	19 JUL 90

PARAMETER	07-485-6	07-485-7	07-485-8
Diethylphthalate, ug/L	<10	---	<10
Dimethylphthalate, ug/L	<10	---	<10
Fluoranthene, ug/L	<2	---	<2
Fluorene, ug/L	<2	---	<2
Hexachlorobenzene, ug/L	<2	---	<2
Hexachlorobutadiene, ug/L	<5	---	<5
Hexachlorocyclopentadiene, ug/L	<50	---	<50
Hexachloroethane, ug/L	<10	---	<10
Indeno(1,2,3-c,d)pyrene, ug/L	<2	---	<2
Isophorone, ug/L	<5	---	<5
N-Nitrosodimethylamine, ug/L	<5	---	<5
N-Nitrosodiphenylamine, ug/L	<5	---	<5
N-Nitrosodi-n-propylamine, ug/L	<5	---	<5
Nitrobenzene, ug/L	<2	---	<2
Naphthalene, ug/L	<2	---	<2
Phenanthrene, ug/L	<2	---	<2
Phenol, ug/L	<10	---	<10
Pentachlorophenol, ug/L	<20	---	<20
Pyrene, ug/L	<2	---	<2
Bis(2-chloroethoxy)methane, ug/L	<5	---	<5
Bis(2-chloroethyl)ether, ug/L	<2	---	<2
Bis(2-chloroisopropyl)ether, ug/L	<5	---	<5
Bis(2-ethylhexyl)phthalate, ug/L	<2	---	<2

Semi-Quantified Results **

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Analytical Report

LOG NO: E90-07-485

Received: 19 JUL 90
Reported: 08 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
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CC: Mr. John DeReamer

Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-485-6	LF-9	19 JUL 90
07-485-7	LF-10	19 JUL 90
07-485-8	LF-10D	19 JUL 90

PARAMETER	07-485-6	07-485-7	07-485-8
C3 Benzene, ug/L	10	---	---
C4 Benzene, ug/L	6	---	---
C8-C35 Hydrocarbon Matrix, ug/L	4000	---	---
Molecular Sulfur, ug/L	5	---	---

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

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BCA B C Analytical

Analytical Report

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Emeryville, California 94608
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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-485-6	LF-9	19 JUL 90
07-485-7	LF-10	19 JUL 90
07-485-8	LF-10D	19 JUL 90

PARAMETER	07-485-6	07-485-7	07-485-8
Vol.Pri.Poll. (EPA-8240)			
Date Analyzed	07.30.90	07.30.90	07.30.90
Date Extracted	07.30.90	07.30.90	07.30.90
Dilution Factor, Times	1	1	1
1,1,1-Trichloroethane, ug/L	<1	<1	<1
1,1,2,2-Tetrachloroethane, ug/L	<1	<1	<1
1,1,2-Trichloroethane, ug/L	<1	<1	<1
1,1-Dichloroethane, ug/L	<1	<1	<1
1,1-Dichloroethene, ug/L	<1	<1	<1
1,2-Dichloroethane, ug/L	<1	<1	<1
1,2-Dichlorobenzene, ug/L	<1	<1	<1
1,2-Dichloropropane, ug/L	<1	<1	<1
1,3-Dichlorobenzene, ug/L	<1	<1	<1
1,3-Dichloropropene, ug/L	<1	<1	<1
1,4-Dichlorobenzene, ug/L	<1	<1	<1
2-Chloroethylvinylether, ug/L	<1	<1	<1
2-Hexanone, ug/L	<1	<1	<1
4-Methyl-2-Pentanone, ug/L	<10	<10	<10
Acetone, ug/L	<10	<10	<10
Acrolein, ug/L	<10	<10	<10
Acrylonitrile, ug/L	<1	<1	<1
Bromodichloromethane, ug/L	<1	<1	<1
Bromomethane, ug/L	<1	<1	<1
Benzene, ug/L	<1	<1	<1
Bromoform, ug/L			

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Analytical Report

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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-485-6	LF-9	19 JUL 90
07-485-7	LF-10	19 JUL 90
07-485-8	LF-10D	19 JUL 90

PARAMETER	07-485-6	07-485-7	07-485-8
Chlorobenzene, ug/L	4	<1	<1
Carbon Tetrachloride, ug/L	<1	<1	<1
Chloroethane, ug/L	<1	<1	<1
Chloroform, ug/L	<1	<1	<1
Chloromethane, ug/L	<1	<1	<1
Carbon Disulfide, ug/L	<1	<1	<1
Dibromochloromethane, ug/L	<1	<1	<1
Ethylbenzene, ug/L	11	<1	<1
Freon 113, ug/L	<1	<1	<1
Methyl ethyl ketone, ug/L	<20	<20	<20
Methylene chloride, ug/L	<5	<5	<5
Styrene, ug/L	<1	<1	<1
Trichloroethene, ug/L	<1	<1	<1
Trichlorofluoromethane, ug/L	<1	<1	<1
Toluene, ug/L	<1	<1	<1
Tetrachloroethene, ug/L	<1	<1	<1
Vinyl acetate, ug/L	<1	<1	<1
Vinyl chloride, ug/L	<1	<1	<1
Total Xylene Isomers, ug/L	2	<1	<1
cis-1,2-Dichloroethene, ug/L	<1	<1	<1
trans-1,2-Dichloroethene, ug/L	<1	<1	<1
trans-1,3-Dichloropropene, ug/L	<1	<1	<1
Semi-Quantified Results **			
C9-C13 Hydrocarbon Matrix, ug/L	200	100	200

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BCA B C Analytical

Analytical Report

LOG NO: E90-07-485

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Mr. Glenn Leong
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Project: 1563.06

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-485-6	LF-9	19 JUL 90
07-485-7	LF-10	19 JUL 90
07-485-8	LF-10D	19 JUL 90

PARAMETER	07-485-6	07-485-7	07-485-8

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

Hedy J. Ficklin for
Sim D. Lessley, Ph.D., Laboratory Director

1255 Powell Street
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BCA B C Analytical

JHDR

Analytical Report

LOG NO: E90-08-171

Received: 08 AUG 90
Reported: 24 AUG 90

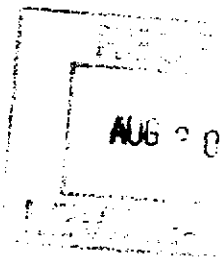
Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: Mr. John DeReamer

Project: 1563.03

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
08-171-1	Trip Blank	08 AUG 90

PARAMETER	08-171-1
B/N,A Ext.Pri.Poll. (EPA-8270)	
Date Analyzed	08.21.90
Date Extracted	08.13.90
Dilution Factor, Times	1
1,2,4-Trichlorobenzene, ug/L	<2
1,2-Dichlorobenzene, ug/L	<2
1,2-Diphenylhydrazine, ug/L	<10
1,3-Dichlorobenzene, ug/L	<2
1,4-Dichlorobenzene, ug/L	<2
2,4,6-Trichlorophenol, ug/L	<10
2,4-Dichlorophenol, ug/L	<5
2,4-Dimethylphenol, ug/L	<5
2,4-Dinitrophenol, ug/L	<20
2,4-Dinitrotoluene, ug/L	<5
2,6-Dinitrotoluene, ug/L	<5
2-Chloronaphthalene, ug/L	<2
2-Chlorophenol, ug/L	<5
2-Methyl-4,6-dinitrophenol, ug/L	<20
2-Nitrophenol, ug/L	<5
3,3'-Dichlorobenzidine, ug/L	<20
4-Bromophenylphenylether, ug/L	<5
4-Chloro-3-methylphenol, ug/L	<10
4-Chlorophenylphenylether, ug/L	<5
4-Nitrophenol, ug/L	<50
Acenaphthene, ug/L	<2
Acenaphthylene, ug/L	<2
Anthracene, ug/L	<2



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BCA B C Analytical

Analytical Report

LOG NO: E90-08-171

Received: 08 AUG 90
Reported: 24 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: Mr. John DeReamer

Project: 1563.03

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
08-171-1	Trip Blank	08 AUG 90

PARAMETER	08-171-1
Benzidine, ug/L	<200
Benzo(a)anthracene, ug/L	<2
Benzo(a)pyrene, ug/L	<2
Benzo(b)fluoranthene, ug/L	<2
Benzo(g,h,i)perylene, ug/L	<2
Benzo(k)fluoranthene, ug/L	<2
Butylbenzylphthalate, ug/L	<10
Chrysene, ug/L	<2
Di-n-octylphthalate, ug/L	<10
Dibenzo(a,h)anthracene, ug/L	<2
Dibutylphthalate, ug/L	<10
Diethylphthalate, ug/L	<10
Dimethylphthalate, ug/L	<10
Fluoranthene, ug/L	<2
Fluorene, ug/L	<2
Hexachlorobenzene, ug/L	<2
Hexachlorobutadiene, ug/L	<5
Hexachlorocyclopentadiene, ug/L	<50
Hexachloroethane, ug/L	<10
Indeno(1,2,3-c,d)pyrene, ug/L	<2
Isophorone, ug/L	<5
N-Nitrosodimethylamine, ug/L	<5
N-Nitrosodiphenylamine, ug/L	<5
N-Nitrosodi-n-propylamine, ug/L	<5
Nitrobenzene, ug/L	<2
Naphthalene, ug/L	<2
Phenanthrene, ug/L	<2

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BCA B C Analytical

Analytical Report

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Project: 1563.03

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
08-171-1	Trip Blank	08 AUG 90

PARAMETER	08-171-1
Phenol, ug/L	<10
Pentachlorophenol, ug/L	<20
Pyrene, ug/L	<2
Bis(2-chloroethoxy)methane, ug/L	<5
Bis(2-chloroethyl)ether, ug/L	<2
Bis(2-chloroisopropyl)ether, ug/L	<5
Bis(2-ethylhexyl)phthalate, ug/L	<20
Other B/N,A Ext.Pri.Poll. (EPA-8270)	---

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Analytical Report

LOG NO: E90-08-171

Received: 08 AUG 90
Reported: 24 AUG 90

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CC: Mr. John DeReamer

Project: 1563.03

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED
08-171-2	LF-7 Bailer Blank	08 AUG 90

PARAMETER	08-171-2
B/N,A Ext.Pri.Poll. (EPA-8270)	
Date Analyzed	08.21.90
Date Extracted	08.13.90
Dilution Factor, Times	1
1,2,4-Trichlorobenzene, ug/L	<2
1,2-Dichlorobenzene, ug/L	<2
1,2-Diphenylhydrazine, ug/L	<10
1,3-Dichlorobenzene, ug/L	<2
1,4-Dichlorobenzene, ug/L	<2
2,4,6-Trichlorophenol, ug/L	<10
2,4-Dichlorophenol, ug/L	<5
2,4-Dimethylphenol, ug/L	<5
2,4-Dinitrophenol, ug/L	<20
2,4-Dinitrotoluene, ug/L	<5
2,6-Dinitrotoluene, ug/L	<5
2-Chloronaphthalene, ug/L	<2
2-Chlorophenol, ug/L	<5
2-Methyl-4,6-dinitrophenol, ug/L	<20
2-Nitrophenol, ug/L	<5
3,3'-Dichlorobenzidine, ug/L	<20
4-Bromophenylphenylether, ug/L	<5
4-Chloro-3-methylphenol, ug/L	<10
4-Chlorophenylphenylether, ug/L	<5
4-Nitrophenol, ug/L	<50
Acenaphthene, ug/L	<2
Acenaphthylene, ug/L	<2
Anthracene, ug/L	<2

Analytical Report

LOG NO: E90-08-171

Received: 08 AUG 90
Reported: 24 AUG 90

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1900 Powell Street 12th Floor
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Project: 1563.03

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED
08-171-2	LF-7 Bailer Blank	08 AUG 90

PARAMETER	08-171-2
Benzidine, ug/L	<200
Benzo(a)anthracene, ug/L	<2
Benzo(a)pyrene, ug/L	<2
Benzo(b)fluoranthene, ug/L	<2
Benzo(g,h,i)perylene, ug/L	<2
Benzo(k)fluoranthene, ug/L	<2
Butylbenzylphthalate, ug/L	<10
Chrysene, ug/L	<2
Di-n-octylphthalate, ug/L	<10
Dibenzo(a,h)anthracene, ug/L	<2
Dibutylphthalate, ug/L	<10
Diethylphthalate, ug/L	<10
Dimethylphthalate, ug/L	<10
Fluoranthene, ug/L	<2
Fluorene, ug/L	<2
Hexachlorobenzene, ug/L	<2
Hexachlorobutadiene, ug/L	<5
Hexachlorocyclopentadiene, ug/L	<50
Hexachloroethane, ug/L	<10
Indeno(1,2,3-c,d)pyrene, ug/L	<2
Isophorone, ug/L	<5
N-Nitrosodimethylamine, ug/L	<5
N-Nitrosodiphenylamine, ug/L	<5
N-Nitrosodi-n-propylamine, ug/L	<5
Nitrobenzene, ug/L	<2
Naphthalene, ug/L	<2
Phenanthrene, ug/L	<2

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Analytical Report

LOG NO: E90-08-171

Received: 08 AUG 90
Reported: 24 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: Mr. John DeReamer

Project: 1563.03

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED
08-171-2	LF-7 Bailer Blank	08 AUG 90

PARAMETER	08-171-2
Phenol, ug/L	<10
Pentachlorophenol, ug/L	<20
Pyrene, ug/L	<2
Bis(2-chloroethoxy)methane, ug/L	<5
Bis(2-chloroethyl)ether, ug/L	<2
Bis(2-chloroisopropyl)ether, ug/L	<5
Bis(2-ethylhexyl)phthalate, ug/L	<20
Other B/N,A Ext.Pri.Poll. (EPA-8270)	---
Semi-Quantified Results **	
C6H8O(Aldehyde), ug/L	30

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

Analytical Report

LOG NO: E90-08-171

Received: 08 AUG 90
Reported: 24 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: Mr. John DeReamer

Project: 1563.03

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
08-171-3	LF-7	08 AUG 90
08-171-4	LF-8	08 AUG 90
08-171-5	LF-11	08 AUG 90

PARAMETER	08-171-3	08-171-4	08-171-5
B/N,A Ext.Pri.Poll. (EPA-8270)			
Date Analyzed	08.21.90	08.21.90	08.21.90
Date Extracted	08.13.90	08.13.90	08.13.90
Dilution Factor, Times	1	1	1
1,2,4-Trichlorobenzene, ug/L	<2	<2	<2
1,2-Dichlorobenzene, ug/L	<2	<2	<2
1,2-Diphenylhydrazine, ug/L	<10	<10	<10
1,3-Dichlorobenzene, ug/L	<2	<2	<2
1,4-Dichlorobenzene, ug/L	<2	<2	<2
2,4,6-Trichlorophenol, ug/L	<10	<10	<10
2,4-Dichlorophenol, ug/L	<5	<5	<5
2,4-Dimethylphenol, ug/L	<5	<5	<5
2,4-Dinitrophenol, ug/L	<20	<20	<20
2,4-Dinitrotoluene, ug/L	<20	<20	<20
2,6-Dinitrotoluene, ug/L	<5	<5	<5
2-Chloronaphthalene, ug/L	<2	<2	<2
2-Chlorophenol, ug/L	<5	<5	<5
2-Methyl-4,6-dinitrophenol, ug/L	<20	<20	<20
2-Nitrophenol, ug/L	<2	<2	<2
3,3'-Dichlorobenzidine, ug/L	<20	<20	<20
4-Bromophenylphenylether, ug/L	<5	<5	<5
4-Chloro-3-methylphenol, ug/L	<10	<10	<10
4-Chlorophenylphenylether, ug/L	<5	<5	<5
4-Nitrophenol, ug/L	<50	<50	<50
Acenaphthene, ug/L	<2	<2	<2

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

Analytical Report

LOG NO: E90-08-171

Received: 08 AUG 90
Reported: 24 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: Mr. John DeReamer

Project: 1563.03

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
08-171-3	LF-7	08 AUG 90
08-171-4	LF-8	08 AUG 90
08-171-5	LF-11	08 AUG 90

PARAMETER	08-171-3	08-171-4	08-171-5
Acenaphthylene, ug/L	<2	<2	<2
Anthracene, ug/L	<2	<2	<2
Benzidine, ug/L	<200	<200	<200
Benzo(a)anthracene, ug/L	<2	<2	<2
Benzo(a)pyrene, ug/L	<2	<2	<2
Benzo(b)fluoranthene, ug/L	<2	<2	<2
Benzo(g,h,i)perylene, ug/L	<2	<2	<2
Benzo(k)fluoranthene, ug/L	<2	<2	<2
Butylbenzylphthalate, ug/L	<10	<10	<10
Chrysene, ug/L	<2	<2	<2
Di-n-octylphthalate, ug/L	<10	<10	<10
Dibenzo(a,h)anthracene, ug/L	<2	<2	<2
Dibutylphthalate, ug/L	<10	<10	<10
Diethylphthalate, ug/L	<10	<10	<10
Dimethylphthalate, ug/L	<10	<10	<10
Fluoranthene, ug/L	<2	<2	<2
Fluorene, ug/L	<2	<2	<2
Hexachlorobenzene, ug/L	<2	<2	<2
Hexachlorobutadiene, ug/L	<5	<5	<5
Hexachlorocyclopentadiene, ug/L	<50	<50	<50
Hexachloroethane, ug/L	<10	<10	<10
Indeno(1,2,3-c,d)pyrene, ug/L	<2	<2	<2
Isophorone, ug/L	<5	<5	<5
N-Nitrosodimethylamine, ug/L	<5	<5	<5
N-Nitrosodiphenylamine, ug/L	<5	<5	<5

Analytical Report

LOG NO: E90-08-171

Received: 08 AUG 90
Reported: 24 AUG 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: Mr. John DeReamer

Project: 1563.03

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
08-171-3	LF-7	08 AUG 90
08-171-4	LF-8	08 AUG 90
08-171-5	LF-11	08 AUG 90

PARAMETER	08-171-3	08-171-4	08-171-5
N-Nitrosodi-n-propylamine, ug/L	<5	<5	<5
Nitrobenzene, ug/L	<2	<2	<2
Naphthalene, ug/L	<2	<2	<2
Phenanthrene, ug/L	<2	<2	<2
Phenol, ug/L	<10	<10	<10
Pentachlorophenol, ug/L	<20	<20	<20
Pyrene, ug/L	<2	<2	<2
Bis(2-chloroethoxy)methane, ug/L	<5	<5	<5
Bis(2-chloroethyl)ether, ug/L	<2	<2	<2
Bis(2-chloroisopropyl)ether, ug/L	<5	<5	<5
Bis(2-ethylhexyl)phthalate, ug/L	<20	<20	<20
Other B/N,A Ext.Pri.Poll. (EPA-8270)	---	---	---
Semi-Quantified Results **			
C11H1402 Acid, ug/L	---	---	20
C12H18O, ug/L	10	---	---
C12H18 Hydrocarbon, ug/L	20	---	---
C3 Benzene, ug/L	---	---	10
C6H12 Hydrocarbon, ug/L	---	---	100
C6H12O2, ug/L	---	20	800
C6H8O(Aldehyde), ug/L	---	20	---
C7H14O2, ug/L	50	10	30
C8H14O2, ug/L	---	---	20

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

Hedy J. Fricklin for
Sim D. Lessley, Ph.D., Laboratory Director

1255 Powell Street
Emeryville, CA 94608
415/428-2300
Fax: 415/547-3643

BCA B C Analytical

BATCH QC REPORT: Definitions and Terms

Accuracy	The ability of a procedure to determine the "true" concentration of an analyte
Precision	The reproducibility of a procedure demonstrated by the agreement between analyses performed on either duplicates of the same sample or a pair of duplicate spikes
Batch	A group of samples analyzed sequentially using the same calibration curve, reagents, and instrument
Laboratory Control Standard (LCS)	Laboratory reagent water spiked with known compounds and subjected to the same procedures as the samples. The LCS thus indicates the accuracy of the analytical method and, because it is prepared from a different source than the standard used to calibrate the instrument, it also serves to double-check the calibration
Matrix QC	Quality control tests performed on actual client samples. For most inorganic analyses, the laboratory uses a pair of duplicate samples and a spiked sample. For most organic analyses, the laboratory uses a pair of spiked samples (duplicate spikes)
LC Result	Laboratory result of an LCS analysis
LT Result	Expected result, or true value, of the LCS analysis
R1, R2 Result:	Result of the analysis of replicate aliquots of a sample, with R1 indicating the first analysis of the sample and R2 its corresponding duplicate; used to determine precision
S1, S2 Result	Result of the analysis of replicate spiked aliquots, with S1 indicating one spike of the sample and S2 the second spike; used to determine precision and accuracy
R Bar Result	The average of replicate analysis results
S Bar Result:	The average of spike analysis results
True value	The theoretical, or expected, result of a spike sample analysis
Percent Recovery	The percentage of analyte recovered. For LCS, the percent recovery calculation is: $LC \div LT \times 100$ For spike recoveries, the percent recovery calculatiion is: $\frac{(\text{S Bar} - \text{Sample Concentration})}{\text{Spike Amount}} \times 100$
Relative Percent Difference (RPD)	Calculated using one of the following: $\frac{(R1 - R2) \times 100}{(R1 + R2) \div 2}$ $\frac{(S1 - S2) \times 100}{(S1 + S2) \div 2}$
Blank Result	The result of the analysis of a method blank,which is reagent water that is analysed using the same reagents, instruments and procedures as the samples in a batch; used to determine laboratory contamination
Reporting Detection Limit (RDL)	BCA-assigned limit based on—but not the same as—method detection limits (MDLs) determined using EPA guidelines

: ORDER PLACED FOR CLIENT: Levine - Fricke 9008171 :
: BC ANALYTICAL : EMVL LAB : 10:39:52 27 AUG 1990 - P. 1 :

SAMPLES...	SAMPLE DESCRIPTION..	DETERM CODE....	DATE.... ANALYZED	METHOD.....	EQUIP.	BATCH	ID.NO
9008171*1	Trip Blank	BNA.8270	08.21.90	8270	517-02	153	3002
9008171*2	LF-7 Bailer Blank	BNA.8270	08.21.90	8270	517-02	153	3002
9008171*3	LF-7	BNA.8270	08.21.90	8270	517-02	153	3002
9008171*4	LF-8	BNA.8270	08.21.90	8270	517-02	153	3002
9008171*5	LF-11	BNA.8270	08.21.90	8270	517-02	153	3002

***

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9008171

DATE REPORTED : 08/27/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
B/N,A Ext.Pri.Poll. (EPA-8270)					
Date Analyzed	08.21.90	153	8.21.90	NA	Date
Date Extracted	08.21.90	153	8.13.90	NA	Date
Dilution Factor	08.21.90	153	1	NA	Times
1,2,4-Trichlorobenzene	08.21.90	153	0	2	ug/L
1,2-Dichlorobenzene	08.21.90	153	0	2	ug/L
1,2-Diphenylhydrazine	08.21.90	153	0	10	ug/L
1,3-Dichlorobenzene	08.21.90	153	0	2	ug/L
1,4-Dichlorobenzene	08.21.90	153	0	2	ug/L
2,4,5-Trichlorophenol	08.21.90	153	0	10	ug/L
2,4,6-Trichlorophenol	08.21.90	153	0	10	ug/L
2,4-Dichlorophenol	08.21.90	153	0	5	ug/L
2,4-Dimethylphenol	08.21.90	153	0	5	ug/L
2,4-Dinitrophenol	08.21.90	153	0	20	ug/L
2,4-Dinitrotoluene	08.21.90	153	0	20	ug/L
2,6-Dinitrotoluene	08.21.90	153	0	5	ug/L
2-Chloronaphthalene	08.21.90	153	0	2	ug/L
2-Chlorophenol	08.21.90	153	0	5	ug/L
2-Methyl-4,6-dinitrophenol	08.21.90	153	0	20	ug/L
2-Methylnaphthalene	08.21.90	153	0	2	ug/L
2-Methylphenol	08.21.90	153	0	5	ug/L
2-Nitroaniline	08.21.90	153	0	20	ug/L
2-Nitrophenol	08.21.90	153	0	5	ug/L
3,3'-Dichlorobenzidine	08.21.90	153	0	20	ug/L
3-Nitroaniline	08.21.90	153	0	20	ug/L
4-Bromophenylphenylether	08.21.90	153	0	5	ug/L
4-Chloro-3-methylphenol	08.21.90	153	0	10	ug/L
4-Chloroaniline	08.21.90	153	0	10	ug/L
4-Chlorophenylphenylether	08.21.90	153	0	5	ug/L
4-Methylphenol	08.21.90	153	0	10	ug/L
4-Nitroaniline	08.21.90	153	0	20	ug/L
4-Nitrophenol	08.21.90	153	0	50	ug/L
Acenaphthene	08.21.90	153	0	2	ug/L
Acenaphthylene	08.21.90	153	0	2	ug/L
Aniline	08.21.90	153	0	20	ug/L
Anthracene	08.21.90	153	0	2	ug/L
Benzidine	08.21.90	153	0	200	ug/L
Benzo(a)anthracene	08.21.90	153	0	2	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9008171

DATE REPORTED : 08/27/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Benzo(a)pyrene	08.21.90	153	0	2	ug/L
Benzo(b)fluoranthene	08.21.90	153	0	2	ug/L
Benzo(g,h,i)perylene	08.21.90	153	0	2	ug/L
Benzo(k)fluoranthene	08.21.90	153	0	2	ug/L
Benzyl alcohol	08.21.90	153	0	10	ug/L
Benzoic acid	08.21.90	153	0	50	ug/L
Butylbenzylphthalate	08.21.90	153	0	10	ug/L
Chrysene	08.21.90	153	0	2	ug/L
Di-n-octylphthalate	08.21.90	153	0	10	ug/L
Dibenzo(a,h)anthracene	08.21.90	153	0	2	ug/L
Dibenzofuran	08.21.90	153	0	5	ug/L
Dibutylphthalate	08.21.90	153	0	10	ug/L
Diethylphthalate	08.21.90	153	0	10	ug/L
Dimethylphthalate	08.21.90	153	0	10	ug/L
Fluoranthene	08.21.90	153	0	2	ug/L
Fluorene	08.21.90	153	0	2	ug/L
Hexachlorobenzene	08.21.90	153	0	2	ug/L
Hexachlorobutadiene	08.21.90	153	0	5	ug/L
Hexachlorocyclopentadiene	08.21.90	153	0	50	ug/L
Hexachloroethane	08.21.90	153	0	10	ug/L
Indeno(1,2,3-c,d)pyrene	08.21.90	153	0	2	ug/L
Isophorone	08.21.90	153	0	5	ug/L
N-Nitrosodimethylamine	08.21.90	153	0	5	ug/L
N-Nitrosodiphenylamine	08.21.90	153	0	5	ug/L
N-Nitrosodi-n-propylamine	08.21.90	153	0	5	ug/L
Nitrobenzene	08.21.90	153	0	2	ug/L
Naphthalene	08.21.90	153	0	2	ug/L
Phenanthrene	08.21.90	153	0	2	ug/L
Phenol	08.21.90	153	0	10	ug/L
Pentachlorophenol	08.21.90	153	0	20	ug/L
Pyrene	08.21.90	153	0	2	ug/L
Bis(2-chloroethoxy)methane	08.21.90	153	0	5	ug/L
Bis(2-chloroethyl)ether	08.21.90	153	0	2	ug/L
Bis(2-chloroisopropyl)ether	08.21.90	153	0	5	ug/L
Bis(2-ethylhexyl)phthalate	08.21.90	153	1.7	20	ug/L
2-Fluorobiphenyl Reported	08.21.90	153	30	NA	ug/L
2-Fluorobiphenyl Theoretical	08.21.90	153	50	NA	ug/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9008171

DATE REPORTED : 08/27/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
2-Fluorophenol Reported	08.21.90	153	74	NA	ug/L
2-Fluorophenol Theoretical	08.21.90	153	100	NA	ug/L
2,4,6-Tribromophenol Reported	08.21.90	153	57	NA	ug/L
2,4,6-Tribromophenol Theoretical	08.21.90	153	100	NA	ug/L
Nitrobenzene-d5 Reported	08.21.90	153	30	NA	ug/L
Nitrobenzene-d5 Theoretical	08.21.90	153	50	NA	ug/L
Phenol-d5 Reported	08.21.90	153	74	NA	ug/L
Phenol-d5 Theoretical	08.21.90	153	100	NA	ug/L

CHAIN OF CUSTODY RECORD

BCA Log Number 9008171

Client name: Levine & Fricke	Project or PO#: 1563.03
Address:	Phone #: 652-4500
City, State, Zip:	Report attention: John DeRemer

Lab sample number	Date sampled	Time sampled	Type* See key below	Sampled by / Sample description	Number of containers	8270 HSL	Hazardous sample / Special handling required	Remarks
1	8/8/90		AQ	TRIP BLANK	1			
-3			GW	LF-7	4			
-2				LF-7 BAILER BLANK	1			
4				LF-8	2			
5				LF-11	2			

	Signature	Print Name	Company	Date	Time
Relinquished by		Scott Piston	BCA	8/8/90	11:42
Received by		D Lowe	BCA	8/9/90	11:42
Relinquished by					
Received by					
Relinquished by					
Received by Laboratory					

BC ANALYTICAL

1255 Powell Street, Emeryville, CA 94608 (415) 428-2300
801 Western Avenue, Glendale, CA 91201 (818) 247-5737
1200 Pacifico Avenue, Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

Disposal arrangements: _____

*KEY: AQ—Aqueous NA—Nonaqueous SL—Sludge GW—Groundwater SO—Soil OT—Other PE—Petroleum

LOG NO: E90-10-034

Received: 02 OCT 90
Reported: 05 OCT 90

Mr. Glenn Leong
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1563.06

PARTIAL
REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
10-034-1	LF-14TB	02 OCT 90
10-034-2	LF-14	02 OCT 90

PARAMETER		10-034-1	10-034-2
Arsenic	MG/L	<0.002	0.077
Filter & GFA Digest		10/3/90	10/3/90

Sim D. Lessley, Ph.D., Laboratory Director

APPENDIX D

QA/QC EVALUATION OF WATER-QUALITY RESULTS

QA/QC EVALUATION OF WATER-QUALITY RESULTS

Water-quality analyses were performed by BC Analytical of Emeryville, California, using EPA Method 8240 (volatile organic compounds), EPA Method 8270 (semi-volatile organics), EPA Methods 200/7000 (inorganics), and modified EPA Method 8015 (total petroleum hydrocarbons). Field duplicates were collected and analyzed for wells LF-B2 and LF-10. Field blanks were prepared by pouring nitrogen-purged deionized water into sampling bailers prior to sampling of wells LF-B4, LF-11, and LF-7. Six trip blanks were prepared and sent to the field in the containers used for sample shipment. The trip blanks were submitted to the laboratory for analysis.

Data precision of analytical results for duplicate samples is assessed by the relative percent difference (RPD) parameter, which is defined as the absolute value of the difference between two values divided by their arithmetic mean. Results close to the analytical detection limit are generally subject to variability, and as such, the RPD may not be an appropriate parameter to evaluate in those cases. RPD values for analyses of duplicate samples indicate generally good data precision for samples collected in the July/August/September sampling round (Table D-1) with all of the calculated RPD values less than 50 percent, with most being below 40 percent. Surrogate spike recoveries were found to be generally good with recoveries within BC Analytical's QC limits.

Of the blanks evaluated (field, trip, and laboratory method), the blanks associated with BC Analytical Batch #9007506 were found to contain arsenic in the method blank (0.0005 ppm) and a trip blank (0.002 ppm) and 1,3-dichlorobenzene (0.0042 ppm). Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses, Environmental Protection Agency, 1988, indicate that results less than five times any blank concentration that is not a common laboratory contaminant should be considered not detected and the quantitation limit adjusted to the blank concentration. The only sample that the blank contamination affects is the trip blank itself. The trip blank arsenic result should be considered not detected. All other arsenic and 1,3-dichlorobenzene results were either not detected or well above the five times level criteria.

A trip blank associated with BC Analytical Batch #9007485 was found to contain lead (0.2 ppm). Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses, Environmental Protection Agency, 1988, indicate that results less than five times any blank concentration that is not a common

laboratory contaminant should be considered not detected and the quantitation limit adjusted to the blank concentration. Samples collected from LF-9 and LF-10 (including a field split duplicate) were found to contain lead at 0.2 ppm, 0.2 ppm, and 0.3 ppm respectively. These samples should be considered not detected, less than 0.2 ppm (see Table 10).

TABLE D-1
QUALITY CONTROL DATA FOR CHEMICAL ANALYSES:
DATA PRECISION AS RELATIVE PERCENT DIFFERENCE (RPD) OF DUPLICATE SAMPLE ANALYSES
AND COMPOUNDS DETECTED IN FIELD BLANKS
(All concentrations expressed in parts per million (ppm))

Well No.	Date	Lab	Lab I.D. No.	Acetone	MEK	Toluene	Total Xylenes	1,2-DCA	Ethyl-benzene	Bis (2-ethylhexyl) phthalate	Phenol	Barium	Arsenic	Zinc	Lead
-B2	18-Jul-90	B & C	E90-07-444-6	ND	ND	ND	ND	0.007	ND	ND	0.14	0.14	0.005	ND	ND
	18-Jul-90	B & C	E90-07-444-7	ND	ND	ND	ND	0.007	ND	ND	0.088	0.15	0.004	ND	ND
	RPD(%)			NA	NA	NA	NA	0.0	NA	NA	45.6	6.9	22.2	NA	NA
-10	19-Jul-90	B & C	E90-07-485-7	ND	ND	ND	ND	ND	ND	NA	NA	0.11	0.012	ND(0.05)	ND
	19-Jul-90	B & C	E90-07-485-8	ND	ND	ND	ND	ND	ND	NA	NA	0.14	0.008	0.07	ND
	RPD(%)			NA	NA	NA	NA	NA	NA	NA	NA	24.0	40.0	33.3	NA
ELD BLANKS															
-B4	18-Jul-90	B & C	E90-07-444-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
-11	19-Jul-90	B & C	E90-07-485-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
-7	08-Aug-90	B & C	E90-08-171-2	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA
IP BLANKS															
-B4	18-Jul-90	B & C	E90-07-444-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
-11	19-Jul-90	B & C	E90-07-485-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2
-5B	20-Jul-90	B & C	E90-07-506-1	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.002	ND	ND
-14TB	02-Oct-90	B & C	E90-10-034-1	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
ip Blank	04-Sep-90	B & C	E90-09-014-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ip Blank	08-Aug-90	B & C	E90-08-171-1	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA

planation of Symbols and Abbreviations Used in Table D-1

NA = Not Analyzed
ND = Not Detected
ND(0.001) = Not Detected, with a detection limit of 0.001 ppm
RPD = Relative Percent Difference, defined as the difference between two values divided by their arithmetic mean

Analytical Laboratories: B & C = Brown and Caldwell Laboratories, Emeryville, California