

ORO LOMA SANITARY DISTRICT

2600 Grant Avenue
SAN LORENZO, CALIFORNIA 94580

LETTER OF TRANSMITTAL

(415) 276-4700 FAX (415) 276-1528

TO ALAMEDA COUNTY HEALTH SERVICES AGENCY

UNDERGROUND TANK SECTION

DEPARTMENT OF ENVIRONMENTAL HEALTH

80 SWAN WAY, ROOM 200
OAKLAND, CA 94621

Attention: Case Officer

DATE	1-12-94	JOB NO.	45-26402
ATTENTION	Case Officer		
RE:	Diesel Fuel Remediation		

ALCO
HAZMAT
94 JAN 14 AM 11:49

WE ARE SENDING YOU Attached Under separate cover via _____ the following items:

- Shop drawings
- Prints
- Plans
- Samples
- Specifications
- Copy of letter
- Change order
- Report

COPIES	DATE	NO.	DESCRIPTION
1			Report by Lenine Fricke

THESE ARE TRANSMITTED as checked below:

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- As requested
- For review and comment
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- Approved as noted
- Returned for corrections
- _____
- PRINTS RETURNED AFTER LOAN TO US
- Resubmit _____ copies for approval
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REMARKS

Pls. call Mike Cotter at 276-4700 ext 131
if you have any questions concerning this submittal.

COPY TO

File

SIGNED:

Michael P. [Signature]



ALCO
HAZMAT
LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS
94 JAN 14 AM 11:49

December 29, 1993

LF 2793.00-002

Mr. Michael Cortez, Director of Engineering
Oro Loma Sanitary District
2600 Grant Avenue
San Lorenzo, California 94580

Subject: Quarterly Ground-Water Monitoring Results, Oro Loma
Sanitary District Treatment Plant, 2600 Grant Avenue,
San Lorenzo, California

Dear Mike:

This letter transmits the results of quarterly ground-water monitoring for the Oro Loma Sanitary District Treatment Plant in San Lorenzo, California ("the Site") for the period from October 1 through December 31, 1993.

Quarterly ground-water monitoring is conducted at the Site in accordance with recommendations made by Levine•Fricke in our report "Soil and Ground-Water Quality Investigation in the Vicinity of Two Aboveground Diesel Fuel Storage Tanks at the Oro Loma Sanitary District Treatment Plant, 2600 Grant Avenue, San Lorenzo, California," which was submitted to Alameda County Health Care Services on March 23, 1993.

A ground-water sample was collected from monitoring well MW-1 on December 1, 1993 (Figure 1). Before the sample was collected, the depth from the top of the well casing to ground water was measured to the nearest 0.01 foot using an electronic water level recorder; the measured depth to ground water on that date was 2.77 feet.

The well was purged with a centrifugal pump. During well purging, pH, specific conductance, and water temperature were monitored using portable field instruments and recorded on a water-quality sampling form (Attachment 1). The well was purged until three well volumes were removed and/or the parameters stabilized to within 10 percent of the previous measurement. The hose for the centrifugal pump was steam cleaned before use in the well. Purged ground water was pumped into the treatment plant headworks.

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

LEVINE·FRICKE

A primary ground-water sample and a duplicate sample were collected, using a clean Teflon bailer fitted with a new length of rope. For analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX), ground water collected in the bailer was gently poured into precleaned, laboratory-supplied, 40-milliliter glass volatile organic analysis vials and checked for trapped air by inverting and tapping the vial. If an air bubble was observed, the sample was discarded and a new vial was filled with fresh ground water from the well. For analysis of total petroleum hydrocarbons as diesel (TPHd), a 1-liter amber glass bottle was filled with ground water from the bailer.

For quality assurance and quality control purposes, a field-prepared bailer blank and a laboratory-prepared trip blank were submitted to the laboratory with the primary ground-water sample. The samples were stored in an ice-chilled cooler and submitted under chain-of-custody protocol to American Environmental Network of Pleasant Hill, California, a state-certified analytical laboratory.

Modified EPA Method 8015 was used to analyze the primary sample for TPHd, and EPA Method 8020 was used to analyze the primary sample for BTEX. The field bailer blank and trip blank were analyzed using EPA Method 8020.

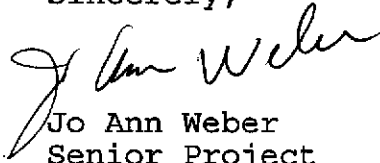
Analysis indicated the presence of 0.3 part per million TPHd in the primary sample and the duplicate sample; no BTEX compounds were detected above laboratory detection limits in the primary sample, duplicate, or blanks. The concentrations detected were slightly lower than those detected during previous sampling events at well MW-1 (see Table 1). A copy of the laboratory data report attached (Attachment 2).

The next quarterly ground-water monitoring event is scheduled for March 1994. Please call Jo Ann Weber or Kenton Gee if you have any questions or comments.

LEVINE·FRICKE

All hydrogeological information, conclusions, and recommendations in this letter report have been prepared under the supervision of and reviewed by a Levine·Fricke California Registered Geologist.

Sincerely,



Jo Ann Weber
Senior Project
Hydrogeologist



Donald T. Bradshaw, R.G.
Senior Associate
Hydrogeologist

Enclosures: Table 1: Historical Ground-Water Quality Results
Figure 1: Location of Monitoring Well
Attachment 1: Water-Quality Sampling Forms
Attachment 2: Laboratory Data Reports

TABLE 1
 HISTORICAL GROUND-WATER QUALITY RESULTS IN
 GROUND-WATER MONITORING WELLS
 ORO LOMA SANITARY DISTRICT, SAN LORENZO, CALIFORNIA
 (concentrations reported in milligrams per liter [mg/l])

Sample Number	Date Sampled	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHd
MW-1	28-Jan-93	<0.0005	<0.0005	<0.0005	<0.0005	0.59
	29-Jul-93	<0.0005	<0.0005	<0.0005	<0.002	0.72
	01-Dec-93	<0.0005	<0.0005	<0.0005	<0.002	0.3
	duplicate	<0.0005	<0.0005	<0.0005	<0.002	0.3
Field Blanks						
MW-1-FB	29-Jul-93	<0.0005	<0.0005	<0.0005	<0.002	NR
MW-1-FB	01-Dec-93	<0.0005	<0.0005	<0.0005	<0.002	NR
Trip Blanks						
Trip Blank	29-Jul-93	<0.0005	<0.0005	<0.0005	<0.002	NR
Trip Blank	19-Nov-93	<0.0005	<0.0005	<0.0005	<0.002	NR

Data entered by MEK/28 Dec 93 Data proofed by MEK 12/29/93 QA/QC by gfw 12/29/93

NOTES:

NR - analyses not requested
 TPHd - total petroleum hydrocarbons as diesel

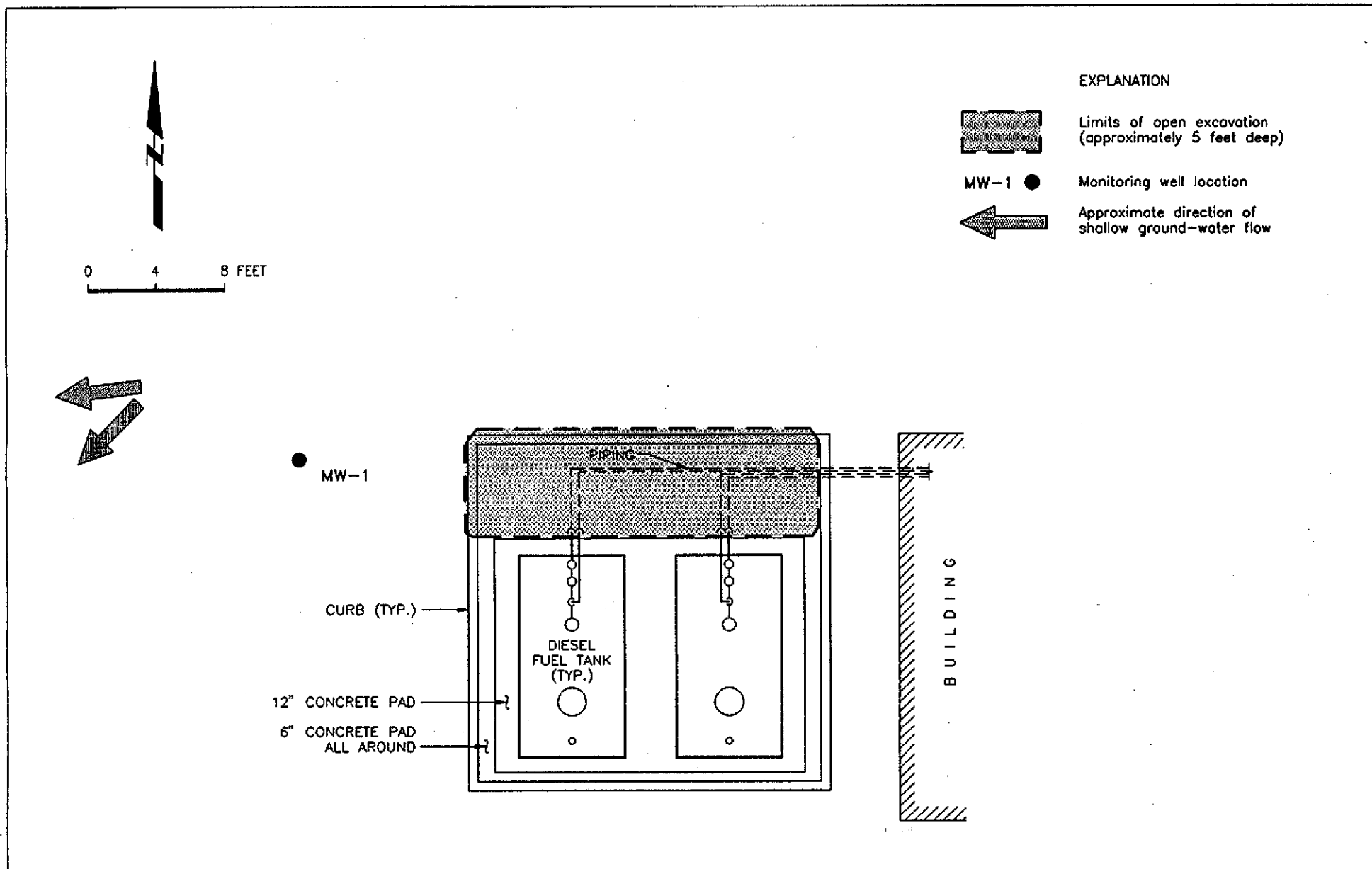


Figure 1 : LOCATION OF MONITORING WELL, ORO LOMA SANITARY DISTRICT

ATTACHMENT 1

WATER-QUALITY SAMPLING FORMS

WATER-QUALITY SAMPLING INFORMATION

Project Name ORO LOMA SANITARY DISTRICT

Project No. 2793.02

Date 12-1-93

Sample No. MW-1-FB; MW-1

Samplers Name JGB

MW-101

Sampling Location SAN LORENZO

Sampling Method CENT. PUMP / DISPO. BAILER

Analyses Requested TPH diesel, EPA 8020/BTEX

Number and Types of Sample Bottles used 4-1L ampers w/HCl;

Method of Shipment COUWER 9 vials w/HCl

```

    3
  14.07
   2.77
  -----
   11.30
    .65
  -----
   5650
  67800
  -----
  7.3450
    
```

GROUND WATER

SURFACE WATER

Well No. MW-1

Stream Width _____

Well Diameter (in.) 4

Stream Depth _____

Depth to Water, Static (ft) 2.77

Stream Velocity _____

Water in Well Box NO

Rained recently? _____

Well Depth (ft) 14.07

Other _____

Height of Water Column in Well 11.30

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

Water Volume in Well 7.3450 ≈ 8

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

LOCATION MAP

Calibrated pH Kit

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (umhos/cm)	OTHER		REMARKS
1027								START PUMP
1028		8	19.4	6.78	14300			TURBID - stop/dewatered
1040	3.65							START PUMP
1042		16	20.5	7.12	23300			TURBID - stop/dewatered
1054	3.79							START PUMP
1056		24	20.5	7.16	24400			TURBID - stop
1105								MW-1-FB
1110								sampled MW-1
1210								sampled MW-101
1121	3.21							
800								Trip blanks 11/19/93

Suggested Method for Purging Well 15/16 covr; CENT. PUMP

ATTACHMENT 2
LABORATORY DATA REPORTS

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 94523-001

PAGE 1

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

ATTN: KENTON GEE

CLIENT PROJ. ID: 2793.02
C.O.C. SERIAL NO: 12618
PROJ. NAME: ORO LOMA

REPORT DATE: 12/16/93

DATE SAMPLED: 12/01/93

DATE RECEIVED: 12/01/93

AEN JOB NO: 9312016

PROJECT SUMMARY:

On December 1, 1993, this laboratory received four (4) water samples.

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

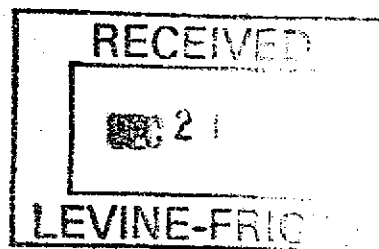
All laboratory quality control parameters were found to be within established limits. Batch QC data is included at the end of this report.

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


Larry Klein
General Manager

Results FAXed 12/10/93

COPY



LEVINE-FRICKE

SAMPLE ID: TRIP BLANK
AEN LAB NO: 9312016-01
AEN WORK ORDER: 9312016
CLIENT PROJ. ID: 2793.02

DATE SAMPLED: 11/19/93
DATE RECEIVED: 12/01/93
REPORT DATE: 12/16/93

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8020 for BTEX	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	12/08/93
Toluene	108-88-3	ND	0.5	ug/L	12/08/93
Ethylbenzene	100-41-4	ND	0.5	ug/L	12/08/93
Xylenes, total	1330-20-7	ND	2	ug/L	12/08/93

ND = Not detected

* = Indicates value above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-1-FB
AEN LAB NO: 9312016-02
AEN WORK ORDER: 9312016
CLIENT PROJ. ID: 2793.02

DATE SAMPLED: 12/01/93
DATE RECEIVED: 12/01/93
REPORT DATE: 12/16/93

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8020 for BTEX	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	12/09/93
Toluene	108-88-3	ND	0.5	ug/L	12/09/93
Ethylbenzene	100-41-4	ND	0.5	ug/L	12/09/93
Xylenes, total	1330-20-7	ND	2	ug/L	12/09/93

ND = Not detected

* = Indicates value above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-1
 AEN LAB NO: 9312016-03
 AEN WORK ORDER: 9312016
 CLIENT PROJ. ID: 2793.02

DATE SAMPLED: 12/01/93
 DATE RECEIVED: 12/01/93
 REPORT DATE: 12/16/93

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8020 for BTEX	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	12/09/93
Toluene	108-88-3	ND	0.5	ug/L	12/09/93
Ethylbenzene	100-41-4	ND	0.5	ug/L	12/09/93
Xylenes, total	1330-20-7	ND	2	ug/L	12/09/93
#Extraction for Diesel/Oil	EPA 3510	-		Extrn Date	12/03/93
TPH as Diesel	GC-FID	0.3 *	0.05	mg/L	12/07/93

ND = Not detected

* = Indicates value above reporting limit

LEVINE-FRICKE

SAMPLE ID: MW-101
 AEN LAB NO: 9312016-04
 AEN WORK ORDER: 9312016
 CLIENT PROJ. ID: 2793.02

DATE SAMPLED: 12/01/93
 DATE RECEIVED: 12/01/93
 REPORT DATE: 12/16/93

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8020 for BTEX	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	12/09/93
Toluene	108-88-3	ND	0.5	ug/L	12/09/93
Ethylbenzene	100-41-4	ND	0.5	ug/L	12/09/93
Xylenes, total	1330-20-7	ND	2	ug/L	12/09/93
#Extraction for Diesel/Oil	EPA 3510	-		Extrn Date	12/03/93
TPH as Diesel	GC-FID	0.3 *	0.05	mg/L	12/07/93

ND = Not detected

* = Indicates value above reporting limit

QUALITY CONTROL DATA

DATE EXTRACTED: 12/03/93
 DATE ANALYZED: 12/07/93
 CLIENT PROJ. ID: 2793.02

AEN JOB NO: 9312016
 SAMPLE SPIKED: D.I. WATER
 INSTRUMENT: C

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

ANALYTE	Spike Conc. (mg/L)	Average Percent Recovery	RPD
Diesel	2.02	94	2

CURRENT QC LIMITS (Revised 10/18/93)

<u>Analyte</u>	<u>Percent Recovery</u>	<u>RPD</u>
Diesel	(55-119)	8

RPD = Relative Percent Difference

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

QUALITY CONTROL DATA

CLIENT PROJ. ID: 2793.02

AEN JOB NO: 9312016

INSTRUMENT: F

SURROGATE STANDARD RECOVERY SUMMARY
METHOD: EPA 8020, 5030 GCFID
(WATER MATRIX)

Date Analyzed	SAMPLE IDENTIFICATION		SURROGATE RECOVERY (PERCENT)
	Client Id.	Lab Id.	Fluorobenzene
12/08/93	TRIP BLANK	01	91
12/09/93	MW-1-FB	02	91
12/09/93	MW-1	03	91
12/09/93	MW-101	04	92

CURRENT QC LIMITS

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

QUALITY CONTROL DATA

DATE ANALYZED: 12/08/93
 SAMPLE SPIKED: 9312003-03
 CLIENT PROJ. ID: 2793.02

AEN JOB NO: 9312016
 INSTRUMENT: F

MATRIX SPIKE RECOVERY SUMMARY
 METHOD: EPA 8020, 5030 GC/FID
 (WATER MATRIX)

ANALYTE	Spike Conc. (ug/L)	Average Percent Recovery	RPD
Benzene	9.1	105	7
Toluene	33.3	100	1
Hydrocarbons as Gasoline	500	90	7

CURRENT QC LIMITS (Revised 05/14/92)

Analyte	Percent Recovery	RPD
Benzene	(81-115)	10
Toluene	(85-112)	9
Gasoline	(52-119)	12

RPD = Relative Percent Difference

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

*** END OF REPORT ***

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

9312016

Project No.: 2793.02 Field Logbook No.: _____ Date: 12-1-93 Serial No.: _____

Project Name: ORO LOMA Project Location: SAN LORENZO No: 12618

Sampler (Signature): [Signature] ANALYSES
SAMPLERS: JGB

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	ANALYSES				HOLD	RUSH	REMARKS
						EPA 601	EPA 624	6000/BTEX	TPH/OLYL			
Tripblanks	11/19	800	DIAB	2	H ₂ O			X				
MW-1-FB	12/1	1105	02A-C	3	↓			↓				NORMAL TAT
MW-1		1110	03A-E	5	↓			↓	X			Results to KENTON GEE
MW-101		1210	04A-E	↓	↓			↓	↓			

RELINQUISHED BY: (Signature) <u>[Signature]</u>	DATE <u>12/1/93</u>	TIME <u>245</u>	RECEIVED BY: (Signature) <u>[Signature]</u>	DATE <u>12/1/93</u>	TIME <u>1245</u>
RELINQUISHED BY: (Signature) <u>[Signature]</u>	DATE <u>12/1/93</u>	TIME <u>1515</u>	RECEIVED BY: (Signature) <u>[Signature]</u>	DATE <u>12-1-93</u>	TIME <u>1515</u>
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, California 94608
(510) 652-4500

Analytical Laboratory:
AEN