



November 14, 1991

3457,008.04

Alameda County Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Attention: Mr. Scott Seery

Gentlemen:

Enclosed is one (1) copy of our report titled "Phase I Soil and Groundwater Investigation, San Francisco Water Department Sunol Yard, 505 Paloma Way, Sunol, California," dated November 14, 1991.

If you have any questions, please call.

Yours very truly,

HARDING LAWSON ASSOCIATES

A handwritten signature in cursive script, appearing to read 'Mark G. Filippini', written over the typed name.

Mark G. Filippini
Engineering Geologist

MGF/mfb/A12540-CT53

91 NOV 18 11:14 AM

revised 1/22/92
EoS

Harding Lawson Associates

A Report Prepared for

City and County of San Francisco
Public Utilities Commission
San Francisco Water Department
P.O. Box 730
Millbrae, California 94030

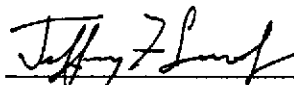
Maintenance Yard

PHASE I SOIL AND GROUNDWATER INVESTIGATION
SAN FRANCISCO WATER DEPARTMENT SUNOL YARD
505 PALOMA WAY
SUNOL, CALIFORNIA

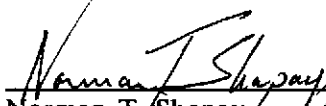
HLA Job No. 3457,008.04

Nov. 14, 1991

by



Jeffrey F. Ludlow
Project Geologist



Norman T. Shopay (MgF)
Associate Hydrogeologist

Harding Lawson Associates
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November 14, 1991

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DISTRIBUTION

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LIST OF ACRONYMS

ACDEH	Alameda County Department of Environmental Health
AEMC	American Environmental Management Corporation
BTEX	Benzene, Toluene, Ethyl Benzene, and Xylenes
HLA	Harding Lawson Associates
OVA	Organic Vapor Analyzer
ppb	parts per billion
ppm	parts per million
RWQCB	Regional Water Quality Control Board
SFDPH	San Francisco Department of Public Health
SFWD	San Francisco Water Department
SWRJ	Stacy and Witbeck and Rogers and Jenner
TPH	Total Petroleum Hydrocarbons
TOOG	Total Oil and Grease
UST	Underground Storage Tank
VOC	Volatile Organic Compound

1.0 INTRODUCTION

Harding Lawson Associates (HLA) has prepared this Phase I Soil and Groundwater Investigation in the area of three former underground storage tanks (USTs) and a former oil spill area at the City and County of San Francisco Water Department (SFWD) Sunol Yard at 505 Paloma Way, Sunol, California. Plates 1 and 2 illustrate the site location and vicinity. The investigation was performed to meet the groundwater monitoring requirements discussed in two letters from the Alameda County Department of Environmental Health (ACDEH).

The ACDEH letters, dated July 9, 1990 and July 13, 1990, were addressed to the City and County of San Francisco Utilities Engineering Bureau and the City and County of San Francisco Department of Public Health (SFDPH), respectively. Copies of these letters are included in Appendix A. In the July 9 letter, the ACDEH requested that a soil and groundwater quality investigation be performed in the area of the three former USTs at the Sunol yard. In the July 13 letter, the ACDEH requested an additional soil and groundwater quality investigation be performed in the former oil spill area at the Sunol yard.

Mr. Larry James of the City and County of San Francisco Public Utilities Commission authorized the investigation on July 30, 1991. Mr. Scott Seery of the ACDEH in his August 16, 1991 letter to the City and County of San Francisco Department of Public Health approved the scope of work discussed below.

2.0 SCOPE OF WORK

The project tasks were performed in accordance with the California Regional Water Quality Control Board (RWQCB) "Staff Recommendations for the Initial Evaluation and Investigation of Underground Tanks" and the Work Plan presented in our November 5, 1990 Preliminary Report for the site and our August 8, 1991 Addendum To The Preliminary Report. The scope of work included the following:

- Drilling and sampling three soil borings and installing, developing, and sampling three groundwater monitoring wells
- Analyzing selected soil and groundwater samples for total petroleum hydrocarbons (TPH) as gasoline, diesel, and motor oil; total oil and grease (TOG); volatile organic compounds (VOCs); and benzene, toluene, ethyl benzene, and xylenes (BTEX).
- Evaluating the results.
- Preparing this report which summarizes the results of the investigation and includes conclusions and recommendations for additional work.

3.0 PREVIOUS INVESTIGATIONS

3.1 Former Underground Storage Tanks

On May 15 and 16, 1990, three USTs used for the maintenance facility vehicles were removed from the Sunol yard by the joint venture of Stacy and Witbeck, and Rogers and Jenner (SWRJ). Details regarding the removal were included in the ACDEH July 9, 1990 letter. According to the SFDPH, the USTs appeared to be in good condition when pulled. One 550-gallon regular gasoline UST, one 1,000-gallon unleaded gasoline UST, and one 550-gallon diesel UST were removed. The age of these USTs are unknown. The excavated soil was stockpiled onsite and then removed. Once the USTs were removed, four soil samples were collected by SWRJ at approximately 2 feet into the native soil beneath the former USTs, approximately 10 feet below grade. The samples were analyzed at Precision Analytical Laboratories, Inc. in Richmond, California for TPH as gasoline and diesel using EPA Method 5030 and DHS Extraction Method; and for BTEX using EPA Method 8020. The analytical results indicate that TPH as gasoline and TPH as diesel were present in one of the samples at 7.6 parts per million (ppm) and 40 ppm, respectively. BTEX were detected in three of the four samples at concentrations up to 1.7 ppm. SWRJ did not excavate the soil containing these TPH and BTEX concentrations. Appendix B presents a tabulated summary of the soil sample analytical results. The laboratory report of this data contains a discrepancy in the identification of sample number two and four, as discussed in the table.

3.2 Former Oil Spill Area

In November 1989, American Environmental Management Corporation (AEMC) supervised excavation of oil-contaminated soil for the City and County of San Francisco Department of Public Health. The excavation occurred approximately 100 feet southwest of the former UST locations at the east end of the repair shop area where

SFWD personnel disposed used motor oil and solvents onto the ground. Approximate 225 square feet of soil was excavated to 5 to 7-1/2 feet below grade.

During excavation, soil samples were collected by the SFDPH at depths where the soil was observed to be the most contaminated. Analysis of these soil samples indicated the presence of TOG at concentrations up to 31,000 ppm using EPA Method 9074, and various VOCs at 0.3 to 3.2 ppm using EPA Method 8240 in the near surface soil. That soil containing high TOG concentrations was excavated. Bottom and sidewall confirmation soil samples were collected by AEMC. Analytical results of these samples indicated that total recoverable hydrocarbons (TRH) using EPA Method 418.1 were present at 290 ppm in the bottom of the excavation approximately 7 feet below grade and at 12,000 ppm at the sidewall of the excavation beneath the concrete foundation slab of the shop at approximately 3 feet below grade. The excavation was then deepened to approximately 7-1/2 feet, where additional confirmation soil samples were collected. The results of these analysis indicate that TOG using Standard Method 503E were present at 120 ppm. The soil samples were analyzed at the AEMC Laboratory in Sacramento, California and by Curtis and Tompkins Analytical Laboratory in Berkeley, California. The excavation was not deepened underneath the concrete foundation of the shed nor was soil excavated that contained 120 ppm of TOG at the excavation bottom. The excavated soil was stockpiled at the Sunol yard and then removed. A tabulated summary of soil sample analytical results from the former oil stain area is included in Appendix B.

4.0 FIELD INVESTIGATION

4.1 Soil Boring and Groundwater Monitoring Well Installation, Development, and Sampling

On August 22 and 23, 1991, HLA drilled soil borings B-1, B-2, and B-3, and completed them as groundwater monitoring wells MW-1, MW-2, and MW-3, respectively. Plate 3 illustrates the soil boring/monitoring well locations. The soil borings were drilled to a depth of approximately 30 feet using a truck-mounted drill rig equipped with 10-inch hollow-stem augers. Soil Boring and Monitoring Well B-1/MW-1 was installed within 10 feet of the former oil spill area. Soil Boring/Monitoring Well B-2/MW-2 was installed within 10 feet of the former UST locations. Soil Boring/Monitoring Well B-3/MW-3 was installed in an assumed downgradient location from the two former source areas.

Soil samples were collected at approximately 5-foot intervals and at any observed change in soil type or petroleum hydrocarbon staining with 3.0-inch outside diameter split-spoon sampler lined with 2.5-inch outside diameter brass tubes. All samples were described using the Unified Soil Classification System presented on Plate 4, observed for petroleum hydrocarbon stains, and analyzed in the field with an organic vapor analyzer (OVA) for the presence of petroleum hydrocarbon vapors. Sample tubes retained for chemical analysis were sealed with aluminum foil, plastic caps, and tape. They were then labeled and placed in an iced cooler for delivery to an analytical laboratory under chain-of-custody procedures.

incorrect (see boring logs)

The monitoring wells were constructed with 4-inch inside diameter Schedule 40 flushed-threaded PVC casing to a total depth of approximately 30 feet. The casing was perforated with 0.02-inch width slots from 15 to 30 feet below grade. The annular space was backfilled with No. 3 grade Lonestar Sand to approximately 13 feet, 1 foot above the top of the screen interval. Bentonite pellets were placed on top of the sand to

approximately 11 feet below grade and hydrated. The wells were completed with a neat cement slurry to grade, secured with a locking cap, and protected with an at-grade water-tight traffic rated box. Monitoring well construction diagrams for MW-1, MW-2, and MW-3 are presented on Plates 5, 6, and 7. The augers and sampling equipment were steam-cleaned or washed with an Alconox solution and rinsed prior to each boring and sampling interval. Soil cuttings and decontamination solution were contained in 55-gallon drums, labeled, and stored onsite.

Monitoring Wells MW-1, MW-2, and MW-3 were developed on August 26, 1991, using a surge block technique and pumped with a 4-inch submersible pump until the water was relatively free of fine sediments. Pumping continued until approximately 10 well volumes of groundwater were removed and temperature, conductivity, and pH parameters of the purged groundwater had stabilized.

Monitoring Wells MW-1, MW-2, and MW-3 were purged and sampled on August 27, 1991. Prior to sampling, the depth to the groundwater table was measured with a chalked steel tape to an accuracy of 0.01 feet. Then approximately three to five well volumes of the groundwater were purged using a bailer while measuring temperature, conductivity, and pH of the purged groundwater. Once these parameters had stabilized, and after at least three equivalent well volumes had been bailed, the groundwater samples were collected using a Teflon bailer with a bottom stop cock apparatus and contained in appropriate laboratory-supplied containers for chemical analysis. The containers were then sealed, labeled, placed in an iced cooler, and delivered to the analytical laboratory under chain-of-custody procedures for chemical analysis.

All groundwater purged during development and sampling was contained in 55-gallon drums, sealed, labeled, and stored onsite. All groundwater purging and

sampling equipment was decontaminated with an Alconox solution and rinsed with deionized water before development and sampling of each monitoring well.

The top of the north edge of the PVC well casing and north edge of the steel traffic box elevations were surveyed to an accuracy of 0.01 feet by California State certified land surveyors on August 30, 1991. The elevations were based on a USGS benchmark datum 143, elevation 242.847 feet. These well elevations were used with the depth to groundwater table measurements to calculate the groundwater table elevations.

4.2 Chemical Analysis Program

The soil and groundwater samples were submitted to Eureka Laboratories in Sacramento, California under chain-of-custody procedures for chemical analysis. ~~Table 1~~ presents the soil and groundwater sample analytical schedule. From Soil Boring ~~B-1~~ one soil sample from each sampling interval was analyzed for TOG using EPA Method 5520 D and F/C and F and for VOCs using EPA Method 8240. From Soil Boring ~~B-2~~ one soil sample from each sampling interval was analyzed for TPH as gasoline and diesel using EPA Method 8015 and for BTEX using EPA Method 8020. ~~A soil sample was not analyzed at sampling intervals where the sampler was plugged with gravel since a sufficient sample could not be collected.~~ In Soil Boring ~~B-3~~ drilled in the suspected downgradient direction, one soil sample was analyzed within the depth of seasonal groundwater table fluctuation for TPH as gasoline, diesel, and motor oil using EPA Method 8015, TOG using EPA Method 5520 D and F/C and F, and for VOCs using EPA Method 8240.

B-1	TOG, VOC (8240)
B-2	TPH-G/D, BTEX
B-3	TPH-G/D, TOG, VOC (8240)

**Table 1. Phase I Soil and Groundwater Sample
Analytical Schedule**

	TPH	TOG	VOC	BTEX
<u>Soil Samples</u>				
B-1 @ 6.0 feet		X	X	
B-1 @ 11.0 feet		X	X	
B-2 @ 6.0 feet	X			X
B-2 @ 11.0 feet	X			X
B-2 @ 16.0 feet	X			X
B-3 @ 20.0 feet	X	X	X	
<u>Groundwater Samples</u>				
91082701 (MW-3)	X	X	X	
91082702 (MW-2)	X			X
91082703 (MW-2) duplicate	X			X
91082704 (MW-1)		X	X	
91082705 (trip blank)	X	X	X	

Notes:

TPH = Total petroleum hydrocarbons as gasoline, diesel, and motor oil by EPA Method 8015

TOG = Total oil and grease by EPA Method 5520 D and F/C and F (413.2 and 418.1)

VOC = Volatile organic compounds by EPA Method 8240

BTEX = Benzene, toluene, ethyl benzene, and xylenes by EPA Method 8020.

The groundwater samples collected from Wells MW-1, MW-2, and MW-3 were analyzed for the same parameters as indicated for the soil samples from Borings B-1,

B-2, and B-3, respectively. Additional water samples analyzed included a blind duplicate groundwater sample collected from Well MW-2 and a trip blank of deionized water. These QA/QC samples were analyzed for TOG using EPA Method 5520 D and F/C and F, VOCs using EPA Method 8240, and TPH as gasoline, diesel, and motor oil using EPA Method 8015.

5.0 RESULTS

5.1 Soil and Groundwater Conditions

Soil encountered during drilling generally consisted of dark brown silt to dark brown sand with silt and silty sand to a depth of approximately 10 feet. Below 10 feet, alternating units of sand with fine gravel, clayey sand with gravel, silty sand with gravel, and sand with gravel were encountered to the total depth drilled of 30 feet. Groundwater was encountered during drilling at 20.5 feet to 23 feet below grade. No OVA readings were recorded and hydrocarbon odors and stains were not observed in any of the soil samples, except for the sample collected from Boring B-2 at 20 feet where a very slight hydrocarbon odor was noted. No petroleum hydrocarbon floating product or sheen was observed on the groundwater table prior to sampling. The soil boring logs are presented on Plates 5 through 7.

On August 27, 1991, the groundwater gradient was calculated at 0.19 feet per 100 feet, flowing towards the south-southwest. On September 9, 1991, the groundwater gradient was calculated at 0.293 feet per 100 feet flowing towards the south-southwest. Between these two time periods, the groundwater table elevation increased between 0.05 feet to 0.13 feet. Table 2 presents the groundwater table elevations measured at the site.

**Table 2. Groundwater Table Elevations
Above Mean Sea Level**

Well	PVC Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Table Elevation (feet)
MW-1			
August 27, 1991	238.79	19.92	218.87
October 3, 1991	238.79	19.87	218.92
MW-2			
August 27, 1991	239.32	20.37	218.95
October 3, 1991	239.32	20.22	219.10
MW-3			
August 27, 1991	238.70	19.77	218.93
October 3, 1991	238.70	19.64	219.06

5.2 Chemical Analysis Results

None of the compounds analyzed for in the groundwater samples were detected at or above the laboratory detection limit. Toluene was detected in the soil sample from Boring B-1 at 6.0 feet at 5 parts per billion (ppb), in the sample from Boring B-1 at 11 feet at 7 ppb, in the sample from Boring B-3 at 20 feet at 124 ppb, in the sample from Boring B-2 from 6.0 feet at 17 ppb, in the sample from Boring B-2 at 11 feet at 30 ppb, and in the sample from Boring B-2 at 16 feet at 14 ppb. TPH and motor oil was detected in soil sample from Boring B-3 at 20 feet below grade at 203 parts per million (ppm) and TOG in the same sample at 213 ppm and TRH at 181 ppm in the same sample. Table 3 presents a summary of the soil sample analytical results. A copy of the soil and groundwater sample analytical report is included in Appendix C.

Table 3. Detected Compounds in Soil Samples

	Toluene (ppb)	TPH as Motor Oil EPA 8015 (ppm)	TOG EPA 413.2 (ppm)	TRH EPA 418.1 (ppm)
B-1 @ 6.0 feet	5	NA	ND(4)	ND(4)
B-1 @ 11.0 feet	7	NA	ND(4)	ND(4)
B-2 @ 6.0 feet	17	ND(25)	NA	NA
B-2 @ 11.0 feet	30	ND(25)	NA	NA
B-2 @ 16.0 feet	14	ND(25)	NA	NA
B-3 @ 20.0 feet	124	203	213	181

Notes:

All other compounds analyzed for were not detected.

ppb = parts per billion

ppm = parts per million

TOG = Total oil and grease

TPH = Total petroleum hydrocarbon

TRH = Total recoverable hydrocarbons

ND(4) = Not detected at or above the indicated laboratory detection limit

NA = Not analyzed

Total oil and grease by EPA Method 413.2 and TRH by EPA Method 418.1 are the same methods 5520 C and F/D and F.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this Phase I investigation and previous soil sampling and analysis by others, HLA concludes the following:

- In the areas sampled, groundwater has not been affected by TPH and VOC compounds released from the former USTs and former oil spill.
- Sufficient soil has been excavated from the two former source areas to mitigate degradation of groundwater in those areas, except where soil containing high TOG concentrations remain beneath the foundation of the shop in the former oil spill area.
- Based on the two months of groundwater table elevation measurements, Monitoring Well MW-3 is not in the calculated downgradient location from the two former source areas. However, Well MW-1 is downgradient from the former USTs. Since the groundwater gradient is relatively flat, final assessment of groundwater flow direction, should only be made after one year of quarterly groundwater table measurements are made.
- Concentrations of toluene, TOG, TRH, and TPH as motor oil detected in the soil samples are low enough so that they should not affect groundwater. However, assessment of whether groundwater has been affected should only be made after one year of quarterly groundwater monitoring.

Based on our conclusions, HLA recommends the following:

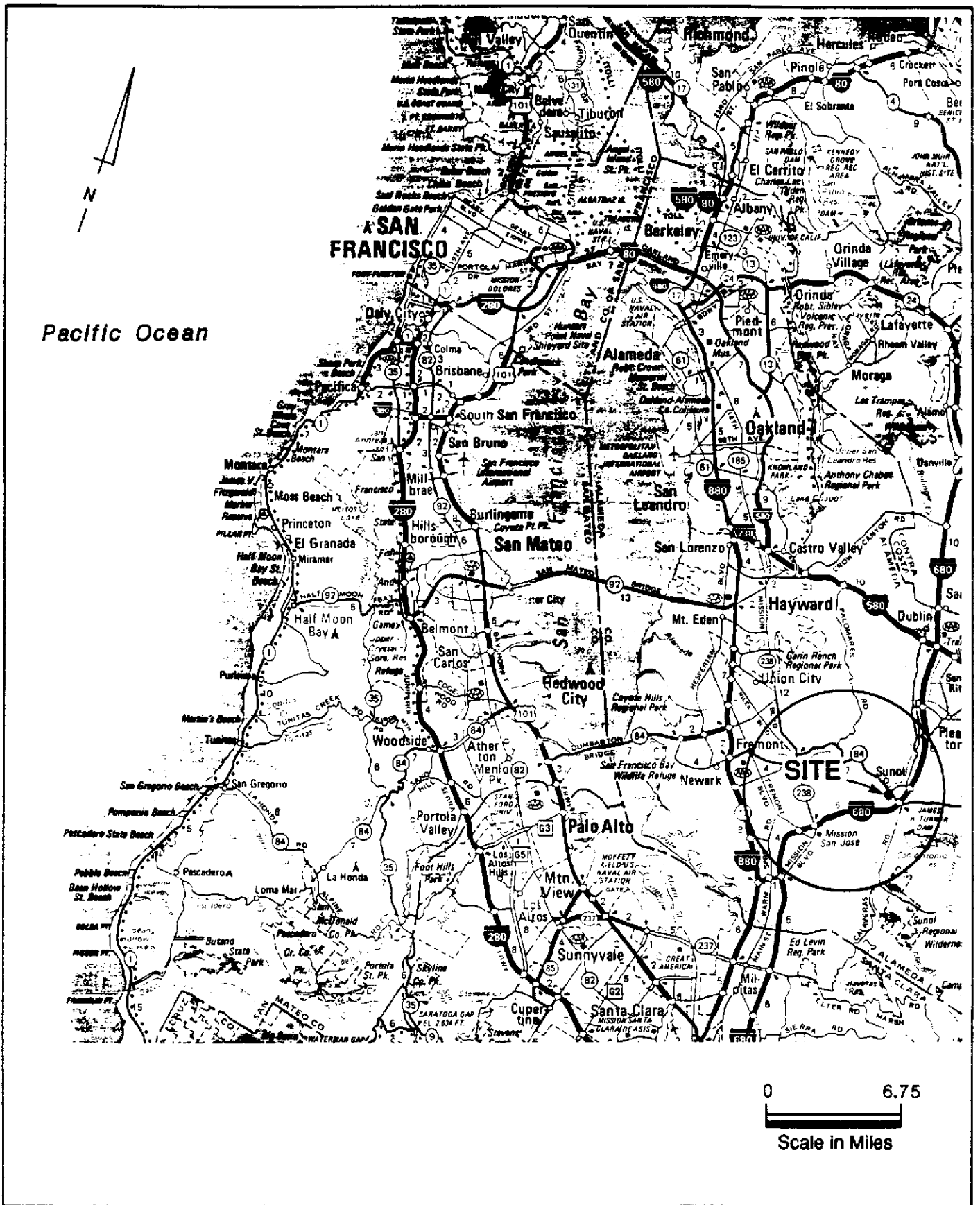
- **Quarterly groundwater monitoring should be performed for three quarters on the existing monitoring wells.** The groundwater sample analytical schedule for each well should be as follows:

MW-1 - For VOCs by EPA Method 8240 and TOG by EPA Method 413.2.

MW-2 - for TPH as gasoline, diesel, and motor oil by EPA Method 8015 and for BTEX using EPA Method 8020.

MW-3 - for TPH as gasoline, diesel, and motor oil by EPA Method 8015, TOG by EPA Method 413.2, and VOCs by EPA Method 8240.

- Soil containing high TOG concentrations beneath the foundation of the shop at the former oil spill area should be excavated after the shed is demolished.



Harding Lawson Associates
 Engineering and
 Environmental Services

Site Location Map
 SFWD 505 Paloma Way
 Sunol, California

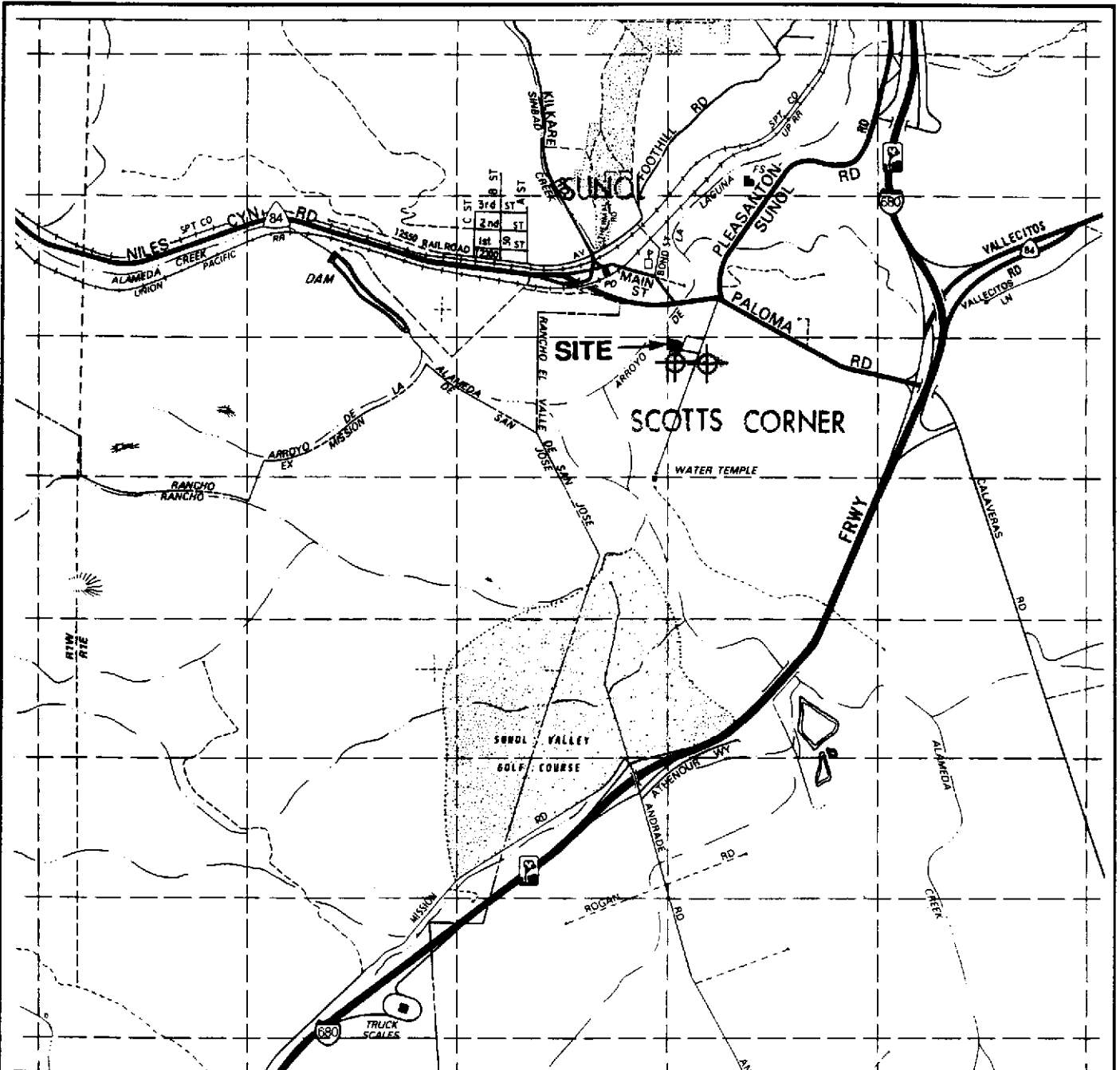
PLATE

1

DRAWN AM JOB NUMBER 3457,008.04

APPROVED *Ug7* DATE 10/90

REVISED DATE



EXPLANATION

 Alameda County Water District Wells

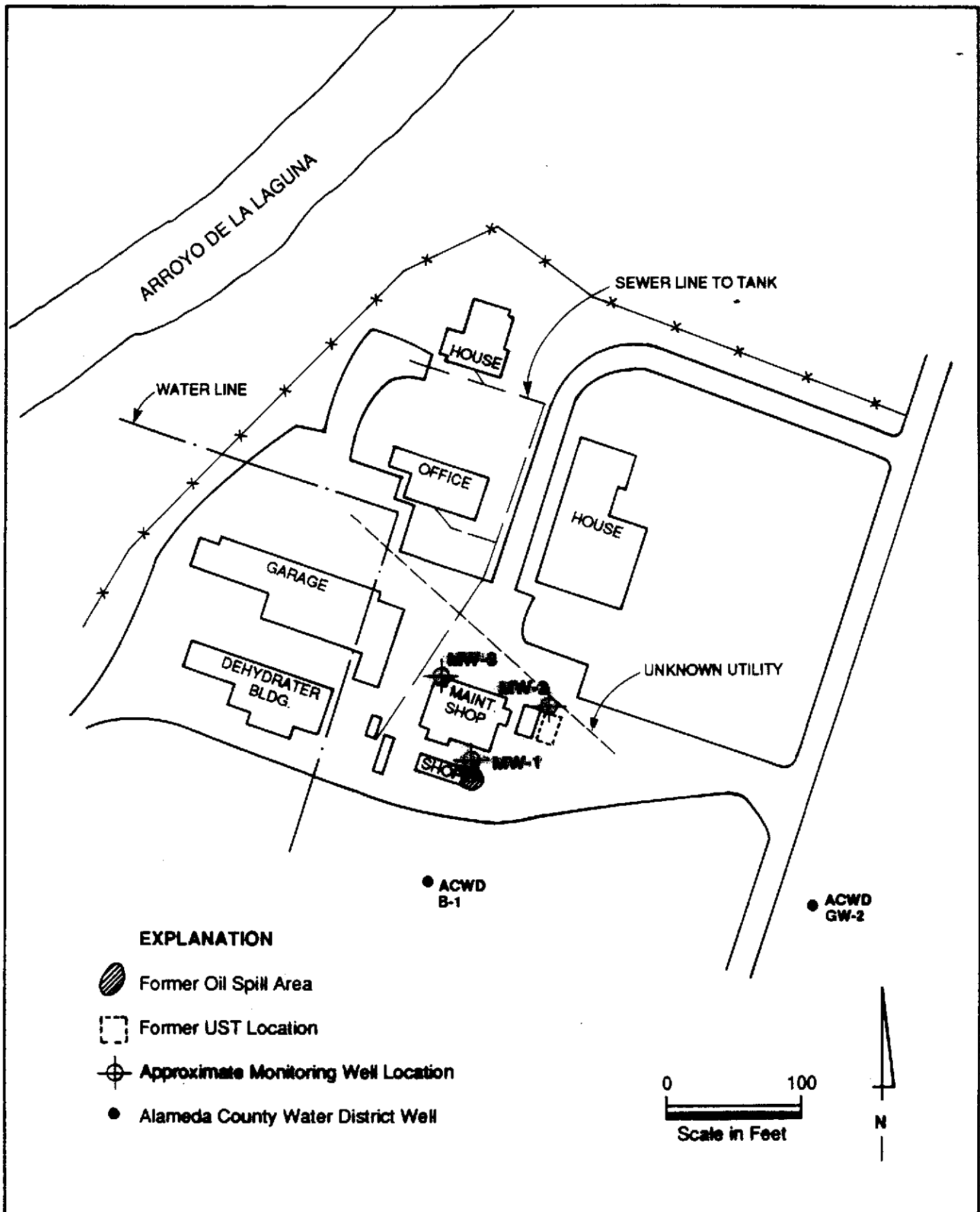


Harding Lawson Associates
Engineering and Environmental Services





Site Vicinity Map
SFWD 505 Paloma Way
Sunol, California

PLATE
2

DRAWN AM	JOB NUMBER 3457,008.04	APPROVED <i>MgF</i>	DATE 10/90	REVISED DATE
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EXPLANATION

-  Former Oil Spill Area
-  Former UST Location
-  Approximate Monitoring Well Location
-  Alameda County Water District Well



Harding Lawson Associates
Engineering and
Environmental Services

Site Plan
SFWD 505 Paloma Way
Sunol, California

PLATE

3

DRAWN
AM

JOB NUMBER
3457,008.04

APPROVED

May F

DATE
10/90

REVISED DATE

UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2487-85

MAJOR DIVISIONS				GROUP NAMES
COARSE-GRAINED SOILS More than 50% retained on the No. 200 sieve	GRAVELS More than 50% of coarse fraction retained on No. 4 sieve	Clean gravels less than 5% fines	GW	WELL-GRADED GRAVEL, WELL-GRADED GRAVEL WITH SAND
			GP	POORLY-GRADED GRAVEL, POORLY-GRADED GRAVEL WITH SAND
		Gravels with more than 12% fines	GM	SILTY GRAVEL, SILTY GRAVEL WITH SAND
			GC	CLAYEY GRAVEL, CLAYEY GRAVEL WITH SAND
	SANDS 50% or more of coarse fraction passes No. 4 sieve	Clean sand less than 5% fines	SW	WELL-GRADED SAND, WELL-GRADED SAND WITH GRAVEL
			SP	POORLY-GRADED SAND, POORLY-GRADED SAND WITH GRAVEL
		Sands with more than 12% fines	SM	SILTY SAND, SILTY SAND WITH GRAVEL
			SC	CLAYEY SAND, CLAYEY SAND WITH GRAVEL
FINE-GRAINED SOILS 50% or more passes the No. 200 sieve	SILTS AND CLAYS Liquid limit less than 50%	ML	SILT, SILT WITH SAND OR GRAVEL, SANDY OR GRAVELLY SILT	
		CL	LEAN CLAY, LEAN CLAY WITH SAND OR GRAVEL, SANDY OR GRAVELLY LEAN CLAY	
		OL	ORGANIC SILT OR CLAY, ORGANIC SILT OR CLAY WITH SAND OR GRAVEL, SANDY OR GRAVELLY ORGANIC SILT OR CLAY	
	SILTS AND CLAYS Liquid limit 50% or more	MH	ELASTIC SILT, ELASTIC SILT WITH SAND OR GRAVEL, SANDY OR GRAVELLY ELASTIC SILT	
		CH	FAT CLAY, FAT CLAY WITH SAND OR GRAVEL, SANDY OR GRAVELLY FAT CLAY	
		OH	ORGANIC SILT OR CLAY, ORGANIC SILT OR CLAY WITH SAND OR GRAVEL, SANDY OR GRAVELLY ORGANIC SILT OR CLAY	
HIGHLY ORGANIC SOILS		Pt	PEAT	

For definition of dual and borderline symbols, see ASTM D2487-85.

KEY TO TEST DATA

Perm	- Permeability			
Consol	- Consolidation			
LL	- Liquid Limit (%)			
PI	- Plasticity Index (%)			
Gs	- Specific Gravity			
MA	- Particle Size Analysis			
	- "Undisturbed" Sample			
	- Bulk or Classification Sample			
	- Lost Sample			
		Shear Strength (psf)	Confining Pressure	
		TxUU	3200 (2600)	- Unconsolidated-Undrained Triaxial Shear (field moisture or saturated)
		(FM) or (S)		
		TxCU	3200 (2600)	- Consolidated-Undrained Triaxial Shear (with or without pore pressure measurement)
		(P)		
		TxCD	3200 (2600)	- Consolidated Drained Triaxial Shear
		SSCU	3200 (2600)	- Simple Shear Consolidated Undrained (with or without pore pressure measurement)
		(P)		
		SSCD	3200 (2600)	- Simple Shear Consolidated Drained
		DSCD	2700 (2000)	- Consolidated Drained Direct Shear
		UC	470	- Unconfined Compression
		LVS	700	- Laboratory Vane Shear
		TV	800	- Torvane Shear
		PP	400	- Pocket Penetrometer (actual reading divided by 2)



Harding Lawson Associates
Engineering and Environmental Services

Soil Classification Chart and Key to Test Data
SFWD 505 Paloma Way
Sunol, California

PLATE

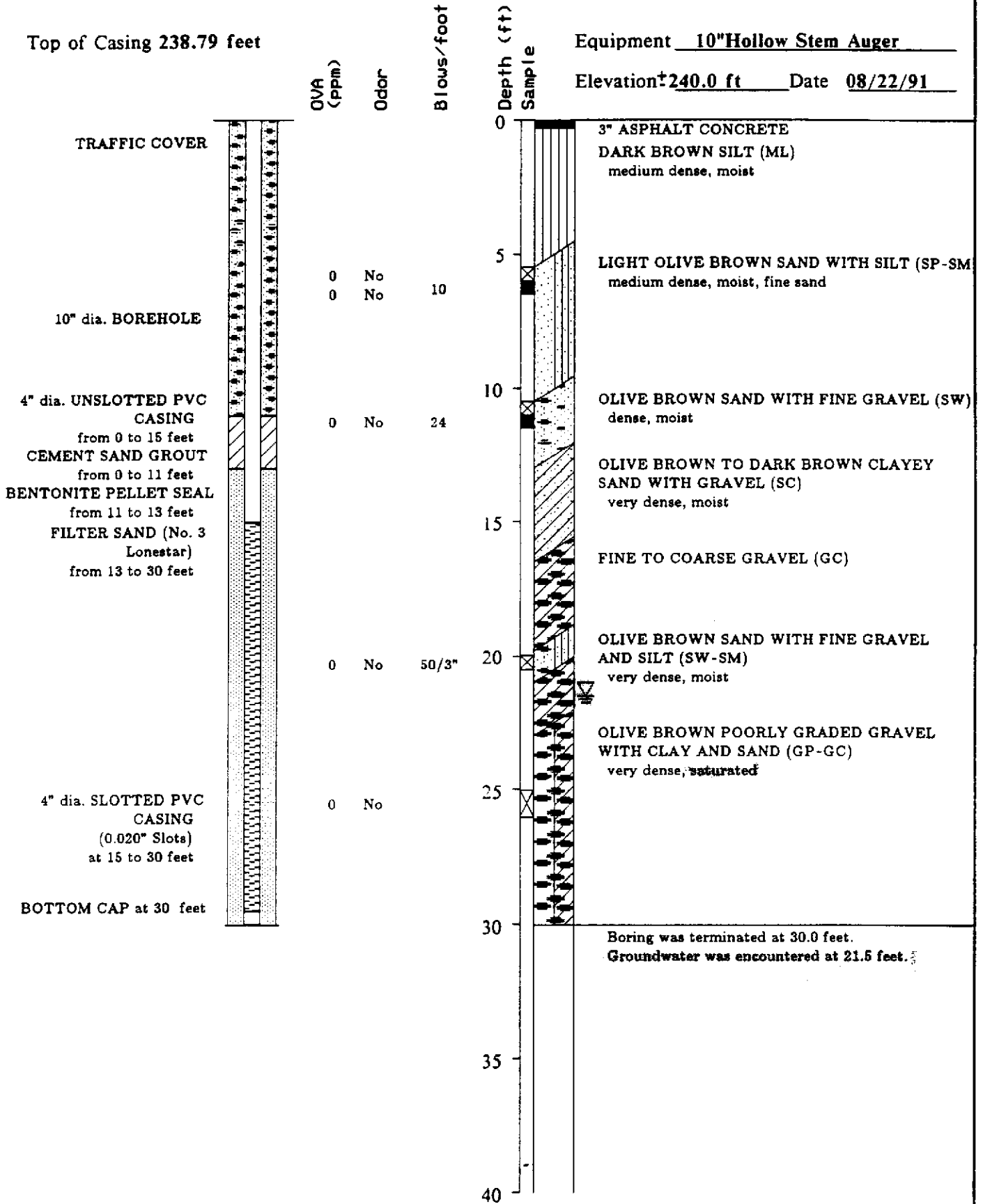
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DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
AM	3457,008.04	<i>MgT</i>	10/91	

Top of Casing 238.79 feet

Equipment 10" Hollow Stem Auger

Elevation ±240.0 ft Date 08/22/91



Harding Lawson Associates
Engineering and
Environmental Services

Log of Boring B-1/MW-1
SFWD 505 Paloma Way
Sunol, California

(Sheet 1 of 1)

PLATE

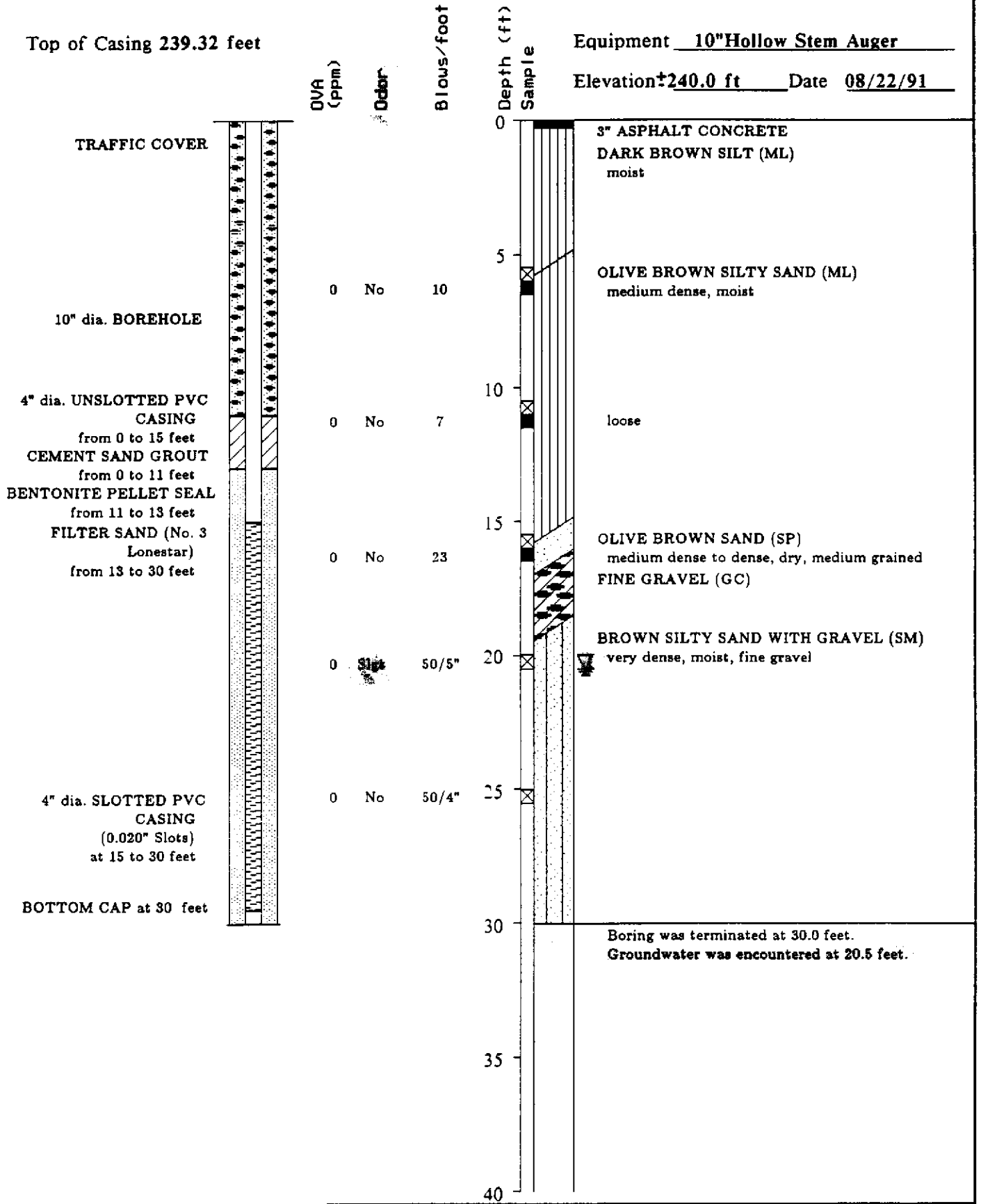
5

DRAWN	JOB NUMBER	APPROVED	FILE	DATE	REVISED DATE
238.79	3457,008.04	<i>[Signature]</i>	12211G19		

Top of Casing 239.32 feet

Equipment 10" Hollow Stem Auger

Elevation +240.0 ft Date 08/22/91



Harding Lawson Associates
Engineering and
Environmental Services

Log of Boring B-2/MW-2
SFWD 505 Paloma Way
Sunol, California

(Sheet 1 of 1)

PLATE

6

DRAWN
239.32

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3457.008.04

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FILE
12211G19

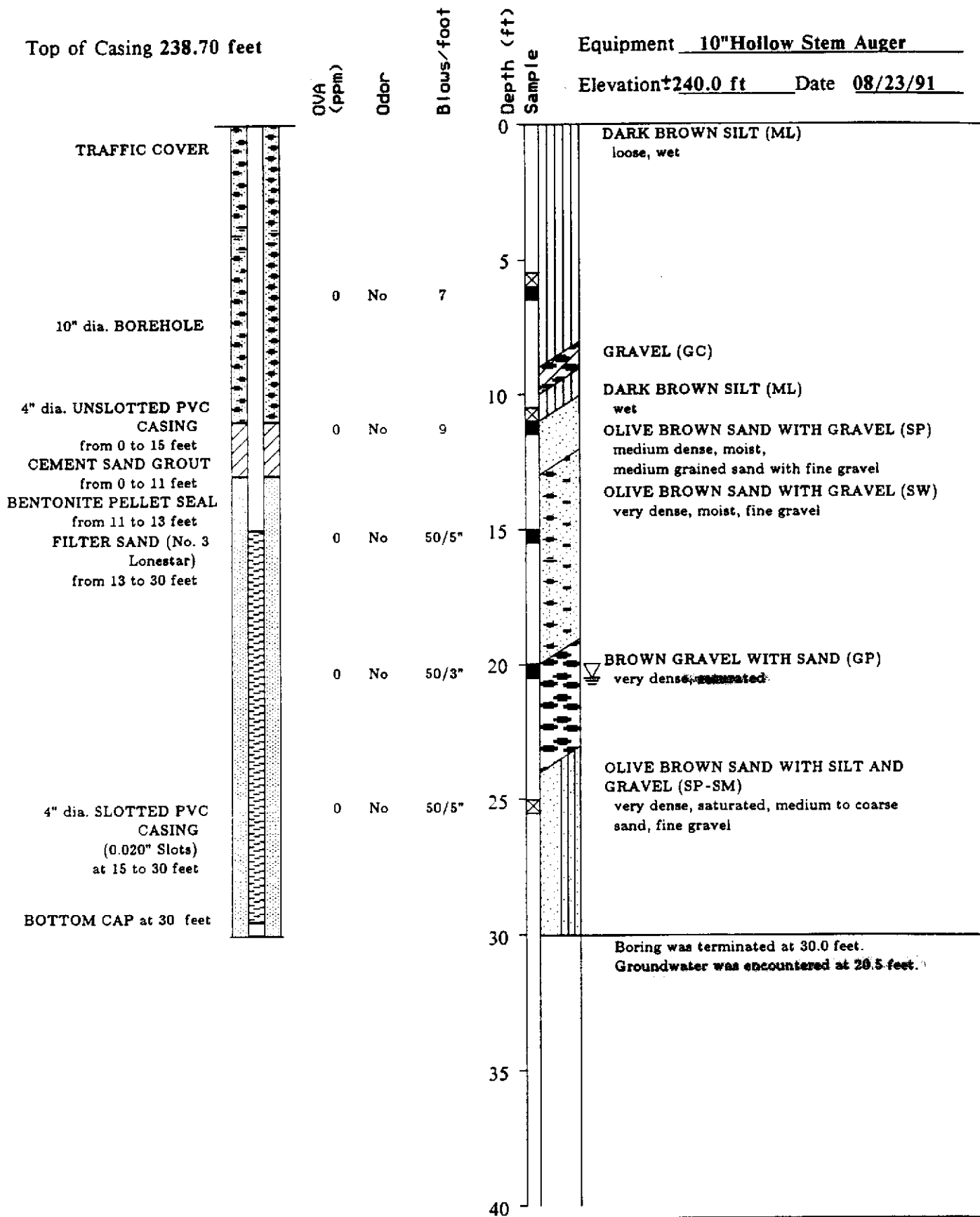
DATE

REVISED DATE

Top of Casing 238.70 feet

Equipment 10" Hollow Stem Auger

Elevation ±240.0 ft Date 08/23/91



Harding Lawson Associates
Engineering and
Environmental Services

Log of Boring B-3/MW-3
SFWD 505 Paloma Way
Sunol, California

(Sheet 1 of 1)

PLATE

7

DRAWN
238.70

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APPROVED

[Signature]

FILE
12211G19

DATE

REVISED DATE

Appendix A

**ALAMEDA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH
CORRESPONDENCE**

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

Certified Mailer # P 062 127 859

July 9, 1990

Mr. Suresh Patel
City and County of San Francisco
Utilities Engineering Bureau
1155 Market Street, 5th Floor
San Francisco, CA 94103

RE: UNDERGROUND STORAGE TANK CLOSURE REPORT; SFWD SUNOL YARD
HEADQUARTERS, 505 PALOMA WAY, SUNOL: REQUEST FOR PRELIMINARY
SITE ASSESSMENT (PSA) PROPOSAL

Dear Mr. Patel:

Our office has completed review of the underground storage tank (UST) closure report submitted by Stacey & Witbeck - Rogers / Genner a JV. This report documents the removal May 15 and 16, 1990 of three (3) USTs, and provides the results of analyses performed upon soil samples collected May 16, 1990.

The results of the laboratory analyses indicate that motor fuel constituents were present in the sample collected below the 550 gallon diesel tank (Sample WD 2022-1), including 40 ppm total petroleum hydrocarbons as diesel (TPH-D), 7.6 ppm TPH as gasoline (TPH-G), as well as concentrations of benzene, toluene, ethylbenzene, and xylene isomers (BTEX) well above their respective detection limits. Samples collected from below the 550 and 1000 gallon gasoline tanks also showed minor concentrations of certain of the volatile BTEX compounds.

This facility is located at the head of Niles Canyon along a portion of the Alameda Creek watershed. The site is within one of three subbasins of the Sunol Valley Ground Water Basin, the Sunol subbasin. The Quaternary alluvium which underlies this site consists primarily of highly permeable, unconsolidated beds of sand, gravel and boulders with discontinuous layers of clay, typical of streambed deposits. According to the State of California Department of Water Resources Bulletin No. 118-2, June 1974, these deposits have a permeability of up to 10 ft/day (75 gal/day).

Significant recharge of ground water in the Sunol subbasin is through infiltration and percolation of precipitation, stream flow along Alameda Creek, and water applied for irrigation and other uses on the Quaternary alluvium of the valley. The largest extractions of ground water in the Sunol subbasin have occurred at the Sunol filter galleries located at depths of about 15 feet. Other significant discharge is by effluent flow into Alameda Creek. Infiltration and percolation of this effluent flow helps to recharge the ground water reservoirs underlying the Niles Cone at its apex in the vicinity of the Niles district of Fremont.

Mr. Suresh Patel
RE: 505 Paloma Way, Sunol
July 9, 1990
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As a result of this site's sensitive location and the potential impact a release of hazardous materials could have upon domestic drinking water supplies, you are requested to perform additional investigative work to ensure that the integrity of these water supplies has not been compromised. This preliminary site assessment (PSA) will help to define the vertical and lateral impact upon ground water and soils resulting from any releases from the tanks prior to their removal. The information gathered by this investigation will be used to determine an appropriate course of action to remediate the site, if necessary. The PSA must be conducted in accordance with the RWQCB Staff Recommendations for the Initial Evaluation and Investigation of Underground Tanks. The major elements of such an investigation are summarized in the attached Appendix A.

In order to proceed with a site investigation, you should obtain professional services of a reputable environmental/geotechnical firm. Your responsibility is to have the consultant submit for review a proposal outlining planned activities pertinent to meeting the criteria broadly outlined in this letter and the attached Appendix A.

This Department will oversee the site assessment for the referenced facility. This oversight will include our review and comment on work proposals and technical guidance on appropriate investigative approaches. The issuance of well drilling permits, however, will be through the Alameda County Flood Control and Water Conservation District, Zone 7. The RWQCB may choose to take over as lead agency if it is determined following the completion of the initial assessment that there has been a substantial impact upon ground water.

This PSA proposal is due within 30 days of the date of this letter, or by August 9, 1990. Once this proposal has been reviewed and approved, work should commence no later than September 9, 1990. Accompanying this proposal must be a check payable to Alameda County totalling \$744 to offset expenses incurred by this Department in oversight of this project.

A report must be submitted within 30 days after the completion of this phase of work at the site. Subsequent reports must be submitted quarterly until this site qualifies for final RWQCB "sign off". Such quarterly reports are due the first day of the second month of each subsequent quarter (i.e., November 1, February 1, May 1, and August 1). These reports should describe the status of the remediation/investigation and must include, among others, the following elements:

Mr. Suresh Patel
RE: 505 Paloma Way, Sunol
July 9, 1990
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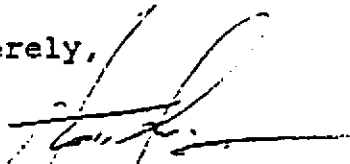
- 0 Details and results of all work performed during the designated period of time: records of field observations and data, boring and well construction logs, water level data, chain-of-custody forms, laboratory results for all samples collected and analyzed, tabulations of free product thicknesses and dissolved fractions, etc.
- 0 Status of ground water contamination characterization
- 0 Interpretation of results: water level contour maps showing gradients, free and dissolved product plume definition maps for each target component, geologic cross sections, etc.
- 0 Recommendations or plans for additional investigative work or remediation

All reports and proposals must be submitted under seal of a California-Registered Geologist, -Certified Engineering Geologist, or -Registered Civil Engineer. Please include a statement of qualifications for each lead professional involved with this project.

Please be advised that this is a formal request for technical reports pursuant to California Water Code Section 13267 (b). Failure to respond or a late response could result in the referral of this case to the RWQCB for enforcement, possibly subjecting the responsible party to civil penalties to a maximum of \$1,000 per day. Any extensions of the stated deadlines, or modifications of the required tasks, must be confirmed in writing by either this agency or the RWQCB.

Should you have any questions about the content of this letter, please call me at 415/271-4320.

Sincerely,



Scott O. Seery
Hazardous Materials Specialist

cc: Rafat A. Shahid, Assistant Agency Director, Alameda County
Department of Environmental Health
Edgar Howell, Chief, Hazardous Materials Division
Gil Jensen, Alameda County District Attorney's Office
Lester Feldman, RWQCB
Steve Luquire, RWQCB
Howard Hatayama, DHS

Mr. Suresh Patel
RE: 505 Paloma Way, Sunol
July 9, 1990
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cc: (con.'t)

Jill Duerig, ACWD
David Wells, San Francisco Health Department

Precision Analytical Laboratory, Inc.

4136 LAKESIDE DRIVE, RICHMOND, CA 94806

PHONE (415) 222-3002

FAX (415) 222-1231

CERTIFICATE OF ANALYSIS

STATE LICENSE NO. 211

Received: 05/17/90
Reported: 05/31/90
Job No. #: 71564

Attn: Larry Genner
San Francisco Water Department
505 Paloma Way
Sunol, CA. 94586

Matrix: Soil

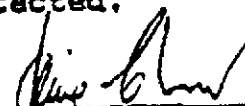
Aromatic Organic Compound Analysis
EPA Method 8020
mg/kg

Lab ID	Client ID	Benzene	MDL	Toluene	MDL
71564-1	WD 2022 - 1	0.70	0.015	1.7	0.015
71564-4	WD 2022 - 4	0.018	0.015	0.12	0.015
71564-3	WD 2022 - 3	ND<0.015	0.015	0.06	0.015
71564-4	WD 2022 - 4	0.07	0.015	0.21	0.015

Lab ID	Client ID	Ethyl- benzene	MDL	Xylene	MDL
71564-1	WD 2022 - 1	0.12	0.015	0.80	0.045
71564-4	WD 2022 - 4	ND<0.015	0.015	0.14	0.045
71564-3	WD 2022 - 3	ND<0.015	0.015	0.048	0.045
71564-4	WD 2022 - 4	ND<0.015	0.015	0.13	0.045

QA/QC: Spike Recovery for Benzene: 100%
Spike Recovery for Toluene: 99%
Spike Recovery for O-Xylene: 100%

MDL: Method detection limit: Compound below this level would not be detected.


Jaime Chow
Laboratory Director

JC/vc

Precision Analytical Laboratory, Inc.

4136 LAKESIDE DRIVE, RICHMOND, CA 94806

PHONE (415) 227-3007

FAX (415) 222-1751

CERTIFICATE OF ANALYSIS

STATE LICENSE NO. 211

Received: 05/17/90
Reported: 05/31/90
Job No. #: 71564

Attn: Larry Genner
L. F. Genner Construction, Inc.
1306 Bridgeway Blvd.
Sausalito, CA. 94965


Matrix: Soil

Total Petroleum Hydrocarbon Analysis
DHS Extraction Method (LUFT)
mg/kg

Lab ID	Client ID	Diesel	MDL	Gasoline
71564-1	WD 2022 - 1	40	10	N/A

QA/QC: Spike Recovery for Diesel: 106%

MDL: Method detection limit: Compound below this level would not be detected.



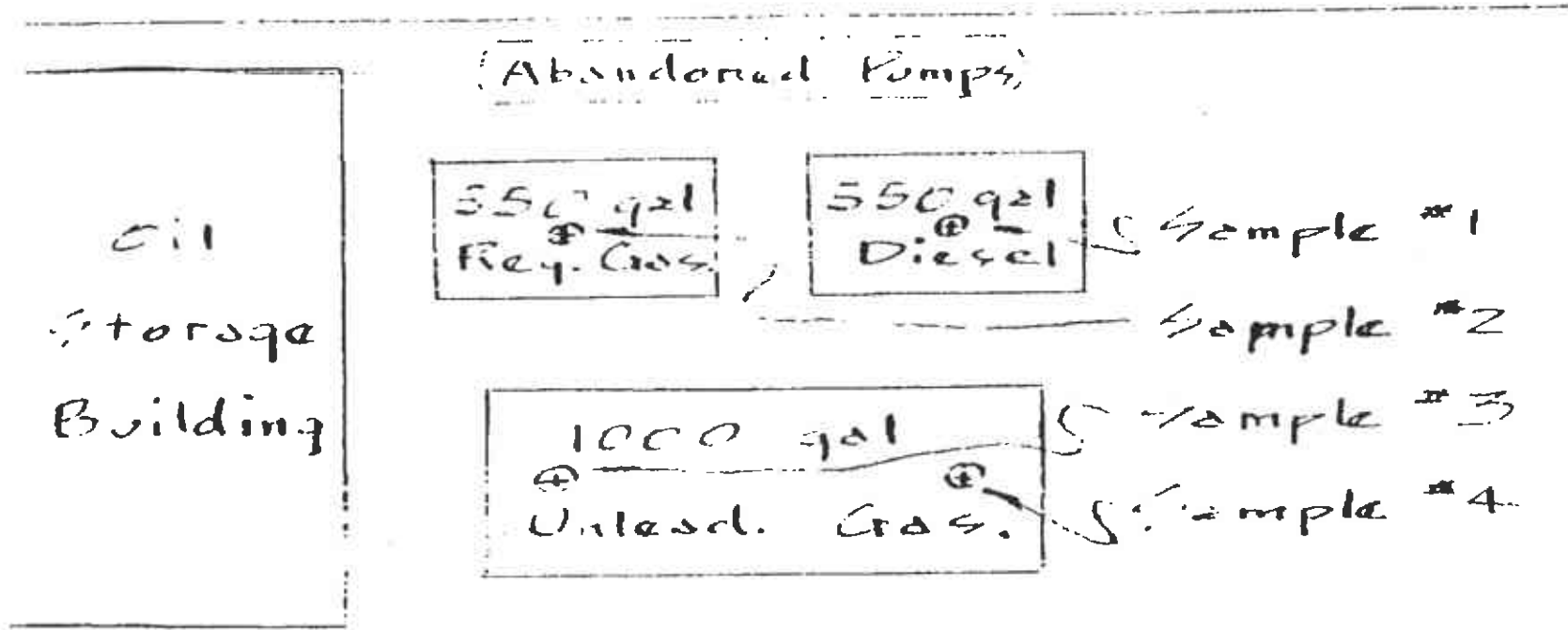
Jaime Chow
Laboratory Director

JC/vc

OUTSTANDING QUALITY AND SERVICE
CALIFORNIA STATE CERTIFIED LABORATORY

For existing with 2.5 ft. x 10.0 ft. tank
to 4.0 ft. x 10.0 ft. tank

Roadway to Office



Sampling done by L. Greiner
on May 16, 1990 in the afternoon

Contractor:
Steve Witbeck
Roger Greiner

San Francisco Water Dept
Corporation Yard
105 Talome Way
San Francisco, CA

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



Certified Mailer # P 062 127 866

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
50 Swan Way, Rm. 200
Oakland, CA 94621
(415)

July 13, 1990

Mr. David Wells
City and County of San Francisco
Department of Public Health
Toxics and Safety Services
101 Grove Street
San Francisco, CA 94102

RE: SOIL CONTAMINATION CLEAN-UP PROJECT; SFWD SUNOL YARD
HEADQUARTERS, 505 PALOMA WAY, SUNOL, ALAMEDA COUNTY

Dear Mr. Wells:

This letter confirms our telephone conversation July 11 and this Department's review of the January 4, 1990 American Environmental Management Corporation (AEMC) report, submitted under San Francisco Department of Public Health (SPDPH) cover dated March 28, 1990. The referenced AEMC report documents work performed by AEMC and SPDPH personnel November 15 and 30, 1990 during the investigation of soil contamination in proximity to a storage shed at the referenced site. Soil in this area exhibited some evidence of contamination with volatile organic compounds and metals during a preliminary investigation conducted during September 1989, documented in a SPDPH letter report dated November 9, 1989.

Among the contaminants identified in the sample collected during the September 1989 field activities, as documented in the November 9 report, several chlorinated and nonchlorinated compounds were present, as follows:

<u>COMPOUND</u>	<u>CONCENTRATION</u>
1,1-dichloroethane	400 ppb
1,1,1-trichloroethane	570
tetrachloroethylene	2,300
benzene	37
toluene	690
ethyl benzene	320
total xylenes	3,200
4-methyl-2-pentanone	690

Mr. Dave Wells
RE: SFWD, 505 Paloma Way, Sunol
July 13, 1990
Page 2 of 4

Lead was also present in this sample at a concentration of 200 ppm, more than 10 times the STLC value for this compound. According to the referenced November 9 report, the sampling depth was approximately 12 to 18 inches below grade.

Initial samples collected during the November 15 field activities identified the presence of total oil and grease (TOG) as high as 31,000 ppm in a sample identified as Sunol No. 1, collected from the sidewall of the excavation just under the foundation of the storage shed. A sample collected several feet laterally beneath this foundation (Sunol No. 3), representative of that soil still undisturbed and left in place below the shed, showed TOG concentrations of 12,000 ppm.

Final samples collected at the bottom of the excavation identify the presence of TOG as high as 150 ppm (Sunol No. 8) and total recoverable hydrocarbons (TRH), 290 ppm (Sunol No. 4). The final depth of the excavation is approximately 7 1/2 feet below grade at the south end, sloping to a shallower depth towards the north. The SFDPH cover to the January 4 AEMC report indicates that the soil becomes very sandy. The AEMC report identifies this soil as a very fine to fine grained silty sand (SW-ML). The excavation has since been backfilled and capped with asphalt.

As you are likely aware, this site is located at the head of Niles Canyon within a portion of the Sunol ground water subbasin, near the confluence of Arroyo de la Laguna and Alameda Creek. This alluvial basin is an area where the percolation and infiltration of irrigation water, precipitation, and stream flow provides significant recharge to the ground water aquifer. Water destined for domestic use is extracted at the Sunol filter gallery within a quarter mile of the site. Effluent flow into Alameda Creek helps to recharge ground water reservoirs underlying the Niles Cone at its apex in the vicinity of the Niles district of Fremont.

In light of this site's sensitive location and the potential impact upon drinking water resources a release of hazardous materials could produce, the presence of TOG, TRH, metals, and volatile compounds, particularly the chlorinated species, provides an element of concern regarding the future integrity of the resources which underlie this site. Therefore, you are requested to perform additional tasks to ensure that the integrity of these water resources has not been impacted by the historical releases identified by the aforementioned reports, and to remediate the soils impacted by waste oil and other contaminants.

Mr. Dave Wells
RE: SFWD, 505 Paloma Way, Sunol
July 13, 1990
Page 3 of 4

Your attention is directed to the July 9, 1990 correspondence from this Department which was addressed to Mr. Suresh Patel of the San Francisco Utilities and Engineering Bureau (SFUEB), and copied to you. The noted letter directs the SFUEB to conduct a ground water investigation following the closure of three underground storage tanks (UST) at this site during May of this year.

This preliminary site assessment (PSA) entails, among others, the installation of a suitable number of monitoring wells. Generally three (3) wells are initially installed. Water level measurements are surveyed in each well and, through the solution of a three-point problem to define the plane assumed to constitute the surface of the water table, the ground water gradient and flow direction are determined.

An additional well must be installed in the confirmed down gradient position from the contaminated area in proximity to the storage shed. The exact location of this well must be based upon the results of the ground water gradient determination associated with the UST investigation. This well should be within 10 feet of the contaminated area once this contaminated area's full extent is known.

The full extent of the contamination, both laterally and vertically, will not be known until such time as the soil investigation continues in the area beneath the storage shed where sample Sunol No. 3 identified the presence of TOG at concentrations of 12,000 ppm. Therefore, you must pursue the soil investigation to the fullest extent possible. Contaminated soils must be excavated from the site and either treated on-site or disposed of at a facility licensed to accept wastes of this type. This activity will likely involve the demolition of the storage shed. We understand that the shed is already slated for demolition in the near future; however, the date for this demolition will need to be moved up to meet the requirements of this Department.

Please submit for review a proposal which outlines your planned activities pertinent to meeting the requirements outlined this letter. However, the installation and monitoring of the ground water well may be best left to those California-certified professionals engaged in the ground water investigation associated with the former UST subsite. Hence, this (well installation) aspect should be incorporated as an element of the proposal addressing the UST investigation. The SFUEB is being notified of this fact by way of copy of this letter.

Mr. Dave Wells
RE: SFWD, 505 Paloma Way, Sunol
July 13, 1990
Page 4 of 4

This Department will oversee all work at this site. This oversight will include the review and comment on work proposals and technical guidance during the investigation and remediation. Your proposal must be submitted within 30 days of the date of this letter, or by September 13, 1990. Accompanying this proposal must be a check payable to Alameda County totalling \$500 to offset expenses incurred by this Department during oversight of this project.

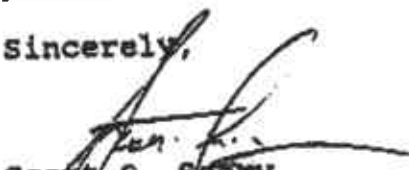
A report must be submitted within 30 days of the soil excavation/remediation phase of this project. This report must document all work performed at the site, plans for the treatment or disposal of the affected soils, the results of laboratory analyses, and recommendations for future work, among other elements.

Any work requiring professional geologic or hydrologic interpretations or recommendations must be submitted under seal of a California-certified engineering geologist, -registered geologist or civil engineer. A statement of qualifications must be included with your report for each lead professional.

This project will require that you coordinate your scope of work and schedule of site activities with those individuals and city departments engaged in the UST investigation. Our contact for the UST investigation is Mr. Suresh Patel of the SFPEUB.

Should you have any questions regarding the content of this letter, please contact me at 415/271-4320.

Sincerely,


Scott O. Seery
Hazardous Materials Specialist

cc: Rafat A. Shahid, Assistant Agency Director, Environmental Health
Department
Edgar Howell, Chief, Hazardous Materials Division
Gil Jensen, Alameda County District Attorney's Office
Lester Feldman, RWQCB
Steve Luquire, RWQCB
Howard Hatayama, DHS
Jill Duerig, ACWD
Suresh Patel, SFEUB
Bob Vasconcellos, SFWD

Appendix B

**SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
BY OTHERS AT THE FORMER
UNDERGROUND STORAGE TANK AND OIL SPILL AREAS**

Table 1

Summary Stacy & Witback and Rogers & Genner May 1990

Soil Sample Analytical Results

Former UST Location

Sample #	TPH-G	TPH-D	Benzene	Toluene	Ethyl Benzene	Xylene
WD 2022-1	7.6	40	0.70	1.7	0.12	0.80
WD 2022-2	<0.50	NA	0.018*	0.12*	<0.015*	0.14*
WD 2022-3	<0.50	NA	<0.015	0.06	<0.015	0.048
WD 2022-4	<0.50	NA	0.07	0.21	<0.015	0.13

Notes:

Concentrations are in milligrams per kilograms

NA= Not Analyzed

TPH-G= Total petroleum hydrocarbons as gasoline

TPH-D= total petroleum hydrocarbons as diesel

<0.50= Not detected at or above the indicated laboratory detection limit

*=Laboratory report indicates that sample ID is WD 2022-4

HLA interprets it to be WD 2022-2

Table 2

Summary American Environmental Management Corp. September 1989

Soil Sample Analytical Results

Former Oil Stain Area

Sample #	Sunol 1	Sunol 2	Sunol 3	Sunol 4	Sunol 5	Sunol 6	Sunol 7	Sunol 8	Sunol 9
Depth (feet)	2.0	2.0	3.0	7.0	6.0	6.0	5.0	7.0	7.5
TOG	31,000	<100	12,000	NA	NA	NA	<100	150	120
TRH	NA	NA	NA	290	<10	<10	NA	NA	NA
TPH	NA	NA	NA	NA	NA	NA	NA	<10	NA
1,1-Dichloroethane	400	NA	NA	<200	NA	NA	<200	NA	NA
1,1,1-Trichloroethane	740	NA	NA	<200	NA	NA	<200	NA	NA
Tetrachloroethane	3200	NA	NA	<200	NA	NA	<200	NA	NA
Toluene	910	NA	NA	<200	NA	NA	<200	NA	NA
Ethyl Benzene	320	NA	NA	<200	NA	NA	<200	NA	NA
Xylenes	2300	NA	NA	<400	NA	NA	<400	NA	NA
Cadmium	<1.0	NA	NA	<1.0	<1.0	NA	<1.0	NA	NA
Chromium	73	NA	NA	79	81	NA	86	NA	NA
Lead	42	NA	NA	11	14	NA	18	NA	NA
Zinc	72	NA	NA	45	41	NA	45	NA	NA

Notes:

TOG, TRH, TPH, and metal concentrations are in milligrams per kilograms; all others are in micrograms per kilograms

NA= Not Analyzed

<100= Compound not detected at or above the indicated laboratory detection limit

TOG= Total oil and grease

TRH= Total recoverable hydrocarbons

TPH= Total petroleum hydrocarbons

Depths are approximate

Appendix C

HLA'S SOIL AND GROUNDWATER SAMPLE ANALYTICAL REPORT



EUREKA LABORATORIES, INC.

Corporate Office:
6790 FLORIN PERKINS ROAD
SACRAMENTO, CA 95828
TEL: (916) 381-7953
FAX: (916) 381-4013

Branch Office:
17403 N.E. 28th STREET
REDMOND, WA 90852
TEL: (206) 885-0284
FAX: (206) 885-0284

Air Pollution
Chemical Analysis
Research & Testing
Environmental Studies
Robotics
Toxicology

September 9, 1991

Mr. Jeff Ludlow
HARDING LAWSON ASSOCIATES
303 2nd Street, Suite 630N
San Francisco, CA 94107

Reference: Job #: 3457,008.04
ELI No: 91-08-182
Location: 505 Paloma Way

Dear Mr. Ludlow:

Eureka Laboratories, Inc. is pleased to submit a laboratory report for the subject task. This report presents analytical results for six (6) soil samples for the following analyses:

<u>ANALYSIS</u>	<u>METHOD</u>	<u>SAMPLE ID.</u>
Total Petroleum Hydrocarbons	EPA 8015 (Modified)	B2/MW2-6.0', B2/MW2-11.0', B2/MW2-16.0', B3/MW3-20.0'
Volatile Compound	EPA 8240	B1/MW1-6.0', B1/MW1-11.0', B3/MW3-20.0'
Purgeable Aromatics	EPA 8020	B2/MW2-6.0', B2/MW2-11.0', B2/MW2-16.0'
Oil and Grease	EPA 413.2	B1/MW1-6.0', B1/MW1-11.0', B3/MW3-20.0'
Total Recoverable Hydrocarbons	EPA 418.1	B1/MW1-6.0', B1/MW1-11.0', B3/MW3-20.0'

Sincerely,
EUREKA LABORATORIES, INC.

By: Shao-Pin Yo
Shao-Pin Yo, Ph.D.
Laboratory Director

SPY/pvc

Attachment

copy

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION:
ELI SAMPLE ID: 9108182-03A
FILE ID: NA
SAMPLE ID: B2/MW2-6.0

DATE SAMPLED: 08/22/91
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/28/91
INSTRUMENT ID: SVG1
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 40g
DILUTION FACTOR: 1.00

PETROLEUM HYDROCARBONS	CONCENTRATION ppm (mg/Kg)	DETECTION LIMIT ppm (mg/Kg)
Gasoline Range	<5	5
Diesel Range	<10	10
Motor Oil Range	<25	25
Total Petroleum Hydrocarbons		
CARBON NO. RANGE		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	
PEAK CARBON NO.		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	

Mark Shih, Ph.D.

08/30/91

Chemist

Date

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION:
ELI SAMPLE ID: 9108182-04A
FILE ID: NA
SAMPLE ID: B2/MW2-11.0

DATE SAMPLED: 08/22/91
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/28/91
INSTRUMENT ID: SVG1
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 40g
DILUTION FACTOR: 1.00

PETROLEUM HYDROCARBONS	CONCENTRATION ppm (mg/Kg)	DETECTION LIMIT ppm (mg/Kg)
Gasoline Range	<5	5
Diesel Range	<10	10
Motor Oil Range	<25	25
Total Petroleum Hydrocarbons		
CARBON NO. RANGE		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	
PEAK CARBON NO.		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	

Mark Shih, Ph.D.

Chemist

08/30/91

Date

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION:
ELI SAMPLE ID: 9108182-05A
FILE ID: NA
SAMPLE ID: B2/MW2-16.0

DATE SAMPLED: 08/22/91
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/28/91
INSTRUMENT ID: SVG1
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 40g
DILUTION FACTOR: 1.00

PETROLEUM HYDROCARBONS	CONCENTRATION ppm (mg/Kg)	DETECTION LIMIT ppm (mg/Kg)
Gasoline Range	<5	5
Diesel Range	<10	10
Motor Oil Range	<25	25
Total Petroleum Hydrocarbons		
CARBON NO. RANGE		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	
PEAK CARBON NO.		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	

Mark Shih, Ph.D.

Chemist

08/30/91

Date

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION:
ELI SAMPLE ID: 9108182-06A
FILE ID: NA
SAMPLE ID: B3/MW3-20.0

DATE SAMPLED: 08/23/91
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/28/91
INSTRUMENT ID: SVG1
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 40g
DILUTION FACTOR: 1.00

PETROLEUM HYDROCARBONS	CONCENTRATION ppm (mg/Kg)	DETECTION LIMIT ppm (mg/Kg)
Gasoline Range	<5	5
Diesel Range	<10	10
Motor Oil Range	203	25
Total Petroleum Hydrocarbons	203	
CARBON NO. RANGE		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	C18-C30	
PEAK CARBON NO.		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	C24	

Mark Shih, Ph.D.

Chemist

08/30/91

Date

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108182-07A
FILE ID: NA
SAMPLE ID: METHOD BLANK

DATE SAMPLED: NA
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/28/91
INSTRUMENT ID: SVG1
MATRIX: NA
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: NA
DILUTION FACTOR: 1.00

PETROLEUM HYDROCARBONS	CONCENTRATION ppm (mg/Kg)	DETECTION LIMIT ppm (mg/Kg)
Gasoline Range	<5	5
Diesel Range	<10	10
Motor Oil Range	<25	25
Total Petroleum Hydrocarbons		
CARBON NO. RANGE		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	
PEAK CARBON NO.		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	

Mark Shih, Ph.D.

Chemist

08/30/91

Date

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108182-09A
FILE ID: NA
SAMPLE ID: SPIKE RECOVERY

DATE SAMPLED: NA
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/28/91
INSTRUMENT ID: SVG1
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 40g

PETROLEUM HYDROCARBONS

CONCENTRATION
%

Gasoline Range	NA
Diesel Range	78%
Motor Oil Range	NA
Total Petroleum Hydrocarbons	

CARBON NO. RANGE

Gasoline Range	-
Diesel Range	-
Motor Oil Range	-

PEAK CARBON NO.

Gasoline Range	-
Diesel Range	-
Motor Oil Range	-

This set of matrix spike is from another sample of the same matrix & of the same analytical batch.

Mark Shih, Ph.D.

Chemist

08/30/91

Date

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108182-10A
FILE ID: NA
SAMPLE ID: SPIKE RECOVERY DUPLICATE

DATE SAMPLED: NA
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/28/91
INSTRUMENT ID: SVG1
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 40g

PETROLEUM HYDROCARBONS

CONCENTRATION

%

Gasoline Range	NA
Diesel Range	98%
Motor Oil Range	NA
Total Petroleum Hydrocarbons	

CARBON NO. RANGE

Gasoline Range	-
Diesel Range	-
Motor Oil Range	-

PEAK CARBON NO.

Gasoline Range	-
Diesel Range	-
Motor Oil Range	-

This set of matrix spike is from another sample of the same matrix & of the same analytical batch.

Mark Shih, Ph.D.

Chemist

08/30/91

Date

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION:
ELI SAMPLE ID: 9108182-01A
FILE ID: GE952
SAMPLE ID: B1/MW1-6.0

DATE SAMPLED: 08/22/91
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/27/91
INSTRUMENT ID: voa2
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5G
DILUTION FACTOR: 1.00

CAS#	COMPOUND	CONCENTRATION ppb (ug/Kg)	DETECTION LIMIT ppb (ug/Kg)
74-87-3	Chloromethane	<10	10
74-83-9	Bromomethane	<10	10
75-01-4	Vinyl chloride	<10	10
75-00-3	Chloroethane	<10	10
75-09-2	Methylene chloride	<10	10
75-69-4	Trichlorofluoromethane	<5	5
75-35-4	1,1-Dichloroethene	<5	5
75-34-3	1,1-Dichloroethane	<5	5
156-60-5	trans-1,2-Dichloroethene	<5	5
67-66-3	Chloroform	<5	5
107-06-2	1,2-Dichloroethane	<5	5
71-55-6	1,1,1,-Trichloroethane	<5	5
56-23-5	Carbon tetrachloride	<5	5
75-27-4	Bromodichloromethane	<5	5
78-87-5	1,2-Dichloropropane	<5	5
10061-02-6	trans-1,3-Dichloropropene	<5	5
79-01-6	Trichloroethene	<5	5
71-43-2	Benzene	<5	5
124-48-1	Dibromochloromethane	<10	10
79-00-5	1,1,2-Trichloroethane	<5	5
10061-01-5	Cis-1,3-Dichloropropene	<5	5
110-75-8	2-Chloroethyl vinyl ether	<10	10
75-25-2	Bromoform	<5	5
79-34-5	1,1,2,2,-Tetrachloroethane	<5	5
127-18-4	Tetrachloroethene	<5	5
108-88-3	Toluene	5	5
108-90-7	Chorobenzene	<5	5
100-41-4	Ethylbenzene	<5	5
	Total Xylenes	<5	5
75-15-0	Carbon Disulfide	<5	5

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

Order No.: 91-08-182

SAMPLE ID: B1/MW1-6.0

CLIENT: HARDING LAWSON ASSOCIATES

67-64-1	Acetone	<10	10
78-93-3	2-Butanone	<5	5
56-23-5	Vinyl Acetate	<5	5
591-78-6	2-Hexanone	<5	5
108-10-1	4-Methyl-2-pentanone	<5	5
100-42-5	Styrene	<5	5
	Total Dichlorobenzene	<5	5

Chung P. Li, Ph.D.

08/29/91

Chemist

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION:
ELI SAMPLE ID: 9108182-02A
FILE ID: GE953
SAMPLE ID: B1/MW1-11.0

DATE SAMPLED: 08/22/91
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/27/91
INSTRUMENT ID: voa2
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5G
DILUTION FACTOR: 1.00

CAS#	COMPOUND	CONCENTRATION ppb (ug/Kg)	DETECTION LIMIT ppb (ug/Kg)
74-87-3	Chloromethane	<10	10
74-83-9	Bromomethane	<10	10
75-01-4	Vinyl chloride	<10	10
75-00-3	Chloroethane	<10	10
75-09-2	Methylene chloride	<10	10
75-69-4	Trichlorofluoromethane	<5	5
75-35-4	1,1-Dichloroethene	<5	5
75-34-3	1,1-Dichloroethane	<5	5
156-60-5	trans-1,2-Dichloroethene	<5	5
67-66-3	Chloroform	<5	5
107-06-2	1,2-Dichloroethane	<5	5
71-55-6	1,1,1,-Trichloroethane	<5	5
56-23-5	Carbon tetrachloride	<5	5
75-27-4	Bromodichloromethane	<5	5
78-87-5	1,2-Dichloropropane	<5	5
10061-02-6	trans-1,3-Dichloropropene	<5	5
79-01-6	Trichloroethene	<5	5
71-43-2	Benzene	<5	5
124-48-1	Dibromochloromethane	<10	10
79-00-5	1,1,2-Trichloroethane	<5	5
10061-01-5	Cis-1,3-Dichloropropene	<5	5
110-75-8	2-Chloroethyl vinyl ether	<10	10
75-25-2	Bromoform	<5	5
79-34-5	1,1,2,2,-Tetrachloroethane	<5	5
127-18-4	Tetrachloroethene	<5	5
108-88-3	Toluene	7	5
108-90-7	Chorobenzene	<5	5
100-41-4	Ethylbenzene	<5	5
	Total Xylenes	<5	5
75-15-0	Carbon Disulfide	<5	5

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

Order No.: 91-08-182

SAMPLE ID: B1/MW1-11.0

CLIENT: HARDING LAWSON ASSOCIATES

67-64-1	Acetone	<10	10
78-93-3	2-Butanone	<5	5
56-23-5	Vinyl Acetate	<5	5
591-78-6	2-Hexanone	<5	5
108-10-1	4-Methyl-2-pentanone	<5	5
100-42-5	Styrene	<5	5
	Total Dichlorobenzene	<5	5

Chung P. Li, Ph.D.

08/29/91

Chemist

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

EUREKA LABORATORIES, INC.
 6790 Florin Perkins Road
 Sacramento, CA 95828
 (916)381-7953

Order No.: 91-08-182
 Hazardous Waste Testing
 Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
 CONTRACT #: NA
 PROJECT: 505 PALOMA WAY
 TASK #: NA
 P.O.#: NA
 SAMPLE LOCATION:
 ELI SAMPLE ID: 9108182-06A
 FILE ID: GE954
 SAMPLE ID: B3/MW3-20.0

DATE SAMPLED: 08/23/91
 DATE RECEIVED: 08/23/91
 DATE EXTRACTED: 08/27/91
 DATE ANALYZED: 08/27/91
 INSTRUMENT ID: voa2
 MATRIX: SOIL
 % MOISTURE: NA
 REPORT WT: WET
 SAMPLE VOL./WT.: 5G
 DILUTION FACTOR: 1.00

CAS#	COMPOUND	CONCENTRATION ppb (ug/Kg)	DETECTION LIMIT ppb (ug/Kg)
74-87-3	Chloromethane	<10	10
74-83-9	Bromomethane	<10	10
75-01-4	Vinyl chloride	<10	10
75-00-3	Chloroethane	<10	10
75-09-2	Methylene chloride	<10	10
75-69-4	Trichlorofluoromethane	<5	5
75-35-4	1,1-Dichloroethene	<5	5
75-34-3	1,1-Dichloroethane	<5	5
156-60-5	trans-1,2-Dichloroethene	<5	5
67-66-3	Chloroform	<5	5
107-06-2	1,2-Dichloroethane	<5	5
71-55-6	1,1,1,-Trichloroethane	<5	5
56-23-5	Carbon tetrachloride	<5	5
75-27-4	Bromodichloromethane	<5	5
78-87-5	1,2-Dichloropropane	<5	5
10061-02-6	trans-1,3-Dichloropropene	<5	5
79-01-6	Trichloroethene	<5	5
71-43-2	Benzene	<5	5
124-48-1	Dibromochloromethane	<10	10
79-00-5	1,1,2-Trichloroethane	<5	5
10061-01-5	Cis-1,3-Dichloropropene	<5	5
110-75-8	2-Chloroethyl vinyl ether	<10	10
75-25-2	Bromoform	<5	5
79-34-5	1,1,2,2,-Tetrachloroethane	<5	5
127-18-4	Tetrachloroethene	<5	5
108-88-3	Toluene	124	5
108-90-7	Chorobenzene	<5	5
100-41-4	Ethylbenzene	<5	5
	Total Xylenes	<5	5
75-15-0	Carbon Disulfide	<5	5

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

Order No.: 91-08-182

SAMPLE ID: B3/MW3-20.0

CLIENT: HARDING LAWSON ASSOCIATES

67-64-1	Acetone	<10	10
78-93-3	2-Butanone	<5	5
56-23-5	Vinyl Acetate	<5	5
591-78-6	2-Hexanone	<5	5
108-10-1	4-Methyl-2-pentanone	<5	5
100-42-5	Styrene	<5	5
	Total Dichlorobenzene	<5	5

Chung P. Li, Ph.D.

08/29/91

Chemist

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108182-07A
FILE ID: GE951
SAMPLE ID: METHOD BLANK

DATE SAMPLED: NA
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/27/91
INSTRUMENT ID: voa2
MATRIX: NA
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5G
DILUTION FACTOR: 1.00

CAS#	COMPOUND	CONCENTRATION ppb (ug/Kg)	DETECTION LIMIT ppb (ug/Kg)
74-87-3	Chloromethane	<10	10
74-83-9	Bromomethane	<10	10
75-01-4	Vinyl chloride	<10	10
75-00-3	Chloroethane	<10	10
75-09-2	Methylene chloride	<10	10
75-69-4	Trichlorofluoromethane	<5	5
75-35-4	1,1-Dichloroethene	<5	5
75-34-3	1,1-Dichloroethane	<5	5
156-60-5	trans-1,2-Dichloroethene	<5	5
67-66-3	Chloroform	<5	5
107-06-2	1,2-Dichloroethane	<5	5
71-55-6	1,1,1,-Trichloroethane	<5	5
56-23-5	Carbon tetrachloride	<5	5
75-27-4	Bromodichloromethane	<5	5
78-87-5	1,2-Dichloropropane	<5	5
10061-02-6	trans-1,3-Dichloropropene	<5	5
79-01-6	Trichloroethene	<5	5
71-43-2	Benzene	<5	5
124-48-1	Dibromochloromethane	<10	10
79-00-5	1,1,2-Trichloroethane	<5	5
10061-01-5	Cis-1,3-Dichloropropene	<5	5
110-75-8	2-Chloroethyl vinyl ether	<10	10
75-25-2	Bromoform	<5	5
79-34-5	1,1,2,2,-Tetrachloroethane	<5	5
127-18-4	Tetrachloroethene	<5	5
108-88-3	Toluene	<5	5
108-90-7	Chorobenzene	<5	5
100-41-4	Ethylbenzene	<5	5
	Total Xylenes	<5	5
75-15-0	Carbon Disulfide	<5	5

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

Order No.: 91-08-182

SAMPLE ID: METHOD BLANK

CLIENT: HARDING LAWSON ASSOCIATES

67-64-1	Acetone	<10	10
78-93-3	2-Butanone	<5	5
56-23-5	Vinyl Acetate	<5	5
591-78-6	2-Hexanone	<5	5
108-10-1	4-Methyl-2-pentanone	<5	5
100-42-5	Styrene	<5	5
	Total Dichlorobenzene	<5	5

Chung P. Li, Ph.D.

08/29/91

Chemist

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108182-09A
FILE ID: GE955
SAMPLE ID: MATRIX SPIKE RECOVERY
B1/MW1-11.0

DATE SAMPLED: NA
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/27/91
INSTRUMENT ID: voa2
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5G

CAS#	COMPOUND	CONCENTRATION %
74-87-3	Chloromethane	NA
74-83-9	Bromomethane	NA
75-01-4	Vinyl chloride	NA
75-00-3	Chloroethane	NA
75-09-2	Methylene chloride	NA
75-69-4	Trichlorofluoromethane	NA
75-35-4	1,1-Dichloroethene	99%
75-34-3	1,1-Dichloroethane	NA
156-60-5	trans-1,2-Dichloroethene	NA
67-66-3	Chloroform	NA
107-06-2	1,2-Dichloroethane	NA
71-55-6	1,1,1,-Trichloroethane	NA
56-23-5	Carbon tetrachloride	NA
75-27-4	Bromodichloromethane	NA
78-87-5	1,2-Dichloropropane	NA
10061-02-6	trans-1,3-Dichloropropene	NA
79-01-6	Trichloroethene	106%
71-43-2	Benzene	92%
124-48-1	Dibromochloromethane	NA
79-00-5	1,1,2-Trichloroethane	NA
10061-01-5	Cis-1,3-Dichloropropene	NA
110-75-8	2-Chloroethyl vinyl ether	NA
75-25-2	Bromoform	NA
79-34-5	1,1,2,2,-Tetrachloroethane	NA
127-18-4	Tetrachloroethene	NA
108-88-3	Toluene	108%
108-90-7	Chorobenzene	108%
100-41-4	Ethylbenzene	NA
	Total Xylenes	NA
75-15-0	Carbon Disulfide	NA

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

Order No.: 91-08-182

SAMPLE ID: MATRIX SPIKE RECOVERY

CLIENT: HARDING LAWSON ASSOCIATES

B1/MW1-11.0

67-64-1	Acetone	NA
78-93-3	2-Butanone	NA
56-23-5	Vinyl Acetate	NA
591-78-6	2-Hexanone	NA
108-10-1	4-Methyl-2-pentanone	NA
100-42-5	Styrene	NA
	Total Dichlorobenzene	NA

Chung P. Li, Ph.D.

08/29/91

Chemist

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108182-10A
FILE ID: GE956
SAMPLE ID: MATRIX SPIKE RECOVERY DUP
B1/MW1-11.0

DATE SAMPLED: NA
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/27/91
INSTRUMENT ID: voa2
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5G

CAS#	COMPOUND	CONCENTRATION %
74-87-3	Chloromethane	NA
74-83-9	Bromomethane	NA
75-01-4	Vinyl chloride	NA
75-00-3	Chloroethane	NA
75-09-2	Methylene chloride	NA
75-69-4	Trichlorofluoromethane	NA
75-35-4	1,1-Dichloroethene	80%
75-34-3	1,1-Dichloroethane	NA
156-60-5	trans-1,2-Dichloroethene	NA
67-66-3	Chloroform	NA
107-06-2	1,2-Dichloroethane	NA
71-55-6	1,1,1,-Trichloroethane	NA
56-23-5	Carbon tetrachloride	NA
75-27-4	Bromodichloromethane	NA
78-87-5	1,2-Dichloropropane	NA
10061-02-6	trans-1,3-Dichloropropene	NA
79-01-6	Trichloroethene	97%
71-43-2	Benzene	91%
124-48-1	Dibromochloromethane	NA
79-00-5	1,1,2-Trichloroethane	NA
10061-01-5	Cis-1,3-Dichloropropene	NA
110-75-8	2-Chloroethyl vinyl ether	NA
75-25-2	Bromoform	NA
79-34-5	1,1,2,2,-Tetrachloroethane	NA
127-18-4	Tetrachloroethene	NA
108-88-3	Toluene	100%
108-90-7	Chorobenzene	105%
100-41-4	Ethylbenzene	NA
	Total Xylenes	NA
75-15-0	Carbon Disulfide	NA

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

Order No.: 91-08-182 SAMPLE ID: MATRIX SPIKE RECOVERY DUP
CLIENT: HARDING LAWSON ASSOCIATES B1/MW1-11.0

67-64-1	Acetone	NA
78-93-3	2-Butanone	NA
56-23-5	Vinyl Acetate	NA
591-78-6	2-Hexanone	NA
108-10-1	4-Methyl-2-pentanone	NA
100-42-5	Styrene	NA
	Total Dichlorobenzene	NA

Chung P. Li, Ph.D.

08/29/91

Chemist

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108182-11A
FILE ID: GE938
SAMPLE ID: REAGENT SPIKE RECOVERY

DATE SAMPLED: NA
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/27/91
INSTRUMENT ID: voa2
MATRIX: NA
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5G

CAS#	COMPOUND	CONCENTRATION %
74-87-3	Chloromethane	NA
74-83-9	Bromomethane	NA
75-01-4	Vinyl chloride	NA
75-00-3	Chloroethane	NA
75-09-2	Methylene chloride	NA
75-69-4	Trichlorofluoromethane	NA
75-35-4	1,1-Dichloroethene	108%
75-34-3	1,1-Dichloroethane	NA
156-60-5	trans-1,2-Dichloroethene	NA
67-66-3	Chloroform	NA
107-06-2	1,2-Dichloroethane	NA
71-55-6	1,1,1,-Trichloroethane	NA
56-23-5	Carbon tetrachloride	NA
75-27-4	Bromodichloromethane	NA
78-87-5	1,2-Dichloropropane	NA
10061-02-6	trans-1,3-Dichloropropene	NA
79-01-6	Trichloroethene	111%
71-43-2	Benzene	99%
124-48-1	Dibromochloromethane	NA
79-00-5	1,1,2-Trichloroethane	NA
10061-01-5	Cis-1,3-Dichloropropene	NA
110-75-8	2-Chloroethyl vinyl ether	NA
75-25-2	Bromoform	NA
79-34-5	1,1,2,2,-Tetrachloroethane	NA
127-18-4	Tetrachloroethene	NA
108-88-3	Toluene	111%
108-90-7	Chorobenzene	112%
100-41-4	Ethylbenzene	NA
	Total Xylenes	NA
75-15-0	Carbon Disulfide	NA

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

Order No.: 91-08-182

SAMPLE ID: REAGENT SPIKE RECOVERY

CLIENT: HARDING LAWSON ASSOCIATES

67-64-1	Acetone	NA
78-93-3	2-Butanone	NA
56-23-5	Vinyl Acetate	NA
591-78-6	2-Hexanone	NA
108-10-1	4-Methyl-2-pentanone	NA
100-42-5	Styrene	NA
	Total Dichlorobenzene	NA

Chung P. Li, Ph.D.

08/29/91

Chemist

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT

NA=NOT AVAILABLE

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-182
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: 505 PALOMA WAY
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108182-12A
FILE ID: GE939
SAMPLE ID: REAGENT SPIKE RECOVERY DUP

DATE SAMPLED: NA
DATE RECEIVED: 08/23/91
DATE EXTRACTED: 08/27/91
DATE ANALYZED: 08/27/91
INSTRUMENT ID: voa2
MATRIX: NA
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5G

CAS#	COMPOUND	CONCENTRATION %
74-87-3	Chloromethane	NA
74-83-9	Bromomethane	NA
75-01-4	Vinyl chloride	NA
75-00-3	Chloroethane	NA
75-09-2	Methylene chloride	NA
75-69-4	Trichlorofluoromethane	NA
75-35-4	1,1-Dichloroethene	101%
75-34-3	1,1-Dichloroethane	NA
156-60-5	trans-1,2-Dichloroethene	NA
67-66-3	Chloroform	NA
107-06-2	1,2-Dichloroethane	NA
71-55-6	1,1,1,-Trichloroethane	NA
56-23-5	Carbon tetrachloride	NA
75-27-4	Bromodichloromethane	NA
78-87-5	1,2-Dichloropropane	NA
10061-02-6	trans-1,3-Dichloropropene	NA
79-01-6	Trichloroethene	102%
71-43-2	Benzene	93%
124-48-1	Dibromochloromethane	NA
79-00-5	1,1,2-Trichloroethane	NA
10061-01-5	Cis-1,3-Dichloropropene	NA
110-75-8	2-Chloroethyl vinyl ether	NA
75-25-2	Bromoform	NA
79-34-5	1,1,2,2,-Tetrachloroethane	NA
127-18-4	Tetrachloroethene	NA
108-88-3	Toluene	95%
108-90-7	Chorobenzene	102%
100-41-4	Ethylbenzene	NA
	Total Xylenes	NA
75-15-0	Carbon Disulfide	NA

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 8240

Order No.: 91-08-182

SAMPLE ID: REAGENT SPIKE RECOVERY DUP

CLIENT: HARDING LAWSON ASSOCIATES

67-64-1	Acetone	NA
78-93-3	2-Butanone	NA
56-23-5	Vinyl Acetate	NA
591-78-6	2-Hexanone	NA
108-10-1	4-Methyl-2-pentanone	NA
100-42-5	Styrene	NA
	Total Dichlorobenzene	NA

Chung P. Li, Ph.D.

08/29/91

Chemist

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANIC ANALYSIS REPORT
PURGEABLE AROMATICS, EPA METHOD 8020

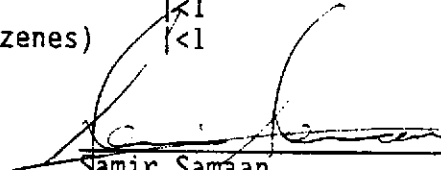
EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-08-182
Hazardous Waste Testing
Certification: E765

CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 3457,008.04
LOCATION: 505 PALOMA WAY
ELI SAMPLE ID: 9108182-07A
SAMPLE ID: METHOD BLANK

DATE SAMPLED: NA
DATE RECEIVED: 08/23/1991
DATE EXTRACTED: 08/27/1991
DATE ANALYZED: 08/27/1991
INSTRUMENT ID: VG-2
MATRIX: NA
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: NA
DILUTION FACTOR: 1

COMP. NO.	COMPOUND	CONC. ug/Kg (ppb)	DETECTION LIMIT ug/Kg (ppb)
V1	Benzene	<1	1
V2	Chlorobenzene	<1	1
V3	1,2-Dichlorobenzene	<1	1
V4	1,3-Dichlorobenzene	<1	1
V5	1,4-Dichlorobenzene	<1	1
V6	Ethyl benzene	<1	1
V7	Toluene	<1	1
V8	Xylenes (Dimethyl benzenes)	<1	1


Samir Samaan
Chemist

September 9, 1991
Date

ORGANIC ANALYSIS REPORT
PURGEABLE AROMATICS, EPA METHOD 8020

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

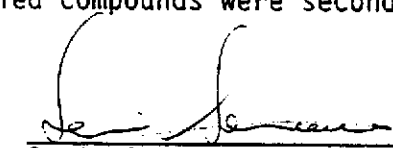
Order No: 91-08-182
Hazardous Waste Testing
Certification: E765

CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 3457,008.04
LOCATION: 505 PALOMA WAY
ELI SAMPLE ID: 9108182-03A
SAMPLE ID: B2/MW2-6.0'

DATE SAMPLED: 08/22/1991
DATE RECEIVED: 08/23/1991
DATE EXTRACTED: 08/27/1991
DATE ANALYZED: 08/27/1991
INSTRUMENT ID: VG-2
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 20g
DILUTION FACTOR: 1

COMP. NO.	COMPOUND	CONC. ug/Kg (ppb)	DETECTION LIMIT ug/Kg (ppb)
V1	Benzene	<1	1
V2	Chlorobenzene	<1	1
V3	1,2-Dichlorobenzene	<1	1
V4	1,3-Dichlorobenzene	<1	1
V5	1,4-Dichlorobenzene	<1	1
V6	Ethyl benzene	<1	1
V7	Toluene	17	1
V8	Xylenes (Dimethyl benzenes)	<1	1

Note: All positively identified compounds were second column or second detector confirmed.


Samir Samaan
Chemist

September 9, 1991
Date

ORGANIC ANALYSIS REPORT
PURGEABLE AROMATICS, EPA METHOD 8020

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953


Order No: 91-08-182
Hazardous Waste Testing
Certification: E765

CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 3457,008.04
LOCATION: 505 PALOMA WAY
ELI SAMPLE ID: 9108182-04A
SAMPLE ID: B2/MW2-11.0'

DATE SAMPLED: 08/22/1991
DATE RECEIVED: 08/23/1991
DATE EXTRACTED: 08/27/1991
DATE ANALYZED: 08/27/1991
INSTRUMENT ID: VG-2
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 20g
DILUTION FACTOR: 1

COMP. NO.	COMPOUND	CONC. ug/Kg (ppb)	DETECTION LIMIT ug/Kg (ppb)
V1	Benzene	<1	1
V2	Chlorobenzene	<1	1
V3	1,2-Dichlorobenzene	<1	1
V4	1,3-Dichlorobenzene	<1	1
V5	1,4-Dichlorobenzene	<1	1
V6	Ethyl benzene	<1	1
V7	Toluene	30	1
V8	Xylenes (Dimethyl benzenes)	<1	1

Note: All positively identified compounds were second column or second detector confirmed.


Samir Samaan
Chemist

September 9, 1991
Date

ORGANIC ANALYSIS REPORT
PURGEABLE AROMATICS, EPA METHOD 8020

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953


Order No: 91-08-182
Hazardous Waste Testing
Certification: E765

CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 3457,008.04
LOCATION: 505 PALOMA WAY
ELI SAMPLE ID: 9108182-05A
SAMPLE ID: B2/MW2-16.0'

DATE SAMPLED: 08/22/1991
DATE RECEIVED: 08/23/1991
DATE EXTRACTED: 08/27/1991
DATE ANALYZED: 08/27/1991
INSTRUMENT ID: VG-2
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 20g
DILUTION FACTOR: 1

COMP. NO.	COMPOUND	CONC. ug/Kg (ppb)	DETECTION LIMIT ug/Kg (ppb)
V1	Benzene	<1	1
V2	Chlorobenzene	<1	1
V3	1,2-Dichlorobenzene	<1	1
V4	1,3-Dichlorobenzene	<1	1
V5	1,4-Dichlorobenzene	<1	1
V6	Ethyl benzene	<1	1
V7	Toluene	14	1
V8	Xylenes (Dimethyl benzenes)	<1	1

Note: All positively identified compounds were second column or second detector confirmed.


September 9, 1991
Date
Samir Samaan
Chemist

ORGANIC ANALYSIS REPORT
PURGEABLE AROMATICS, EPA METHOD 8020

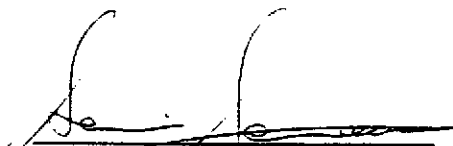
EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-08-182
Hazardous Waste Testing
Certification: E765

CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 3457,008.04
LOCATION: 505 PALOMA WAY
ELI SAMPLE ID: 9108182-09A
SAMPLE ID: B2/MW2-6.0 MATRIX SPIKE
RECOVERY

DATE SAMPLED: NA
DATE RECEIVED: 08/23/1991
DATE EXTRACTED: 08/27/1991
DATE ANALYZED: 08/27/1991
INSTRUMENT ID: VG-2
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 20g
DILUTION FACTOR: 1

<u>COMP.</u> <u>NO.</u>	<u>COMPOUND</u>	<u>SPIKE RECOVERY</u>
V1	Benzene	123%
V2	Chlorobenzene	116%
V3	1,2-Dichlorobenzene	108%
V4	1,3-Dichlorobenzene	-
V5	1,4-Dichlorobenzene	111%
V6	Ethyl benzene	113%
V7	Toluene	-
V8	Xylenes (Dimethyl benzenes)	107%


Samir Samraan
Chemist

September 9, 1991
Date

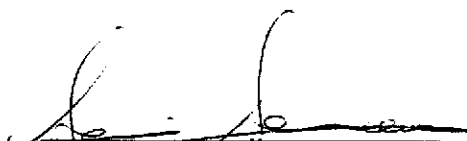
ORGANIC ANALYSIS REPORT
PURGEABLE AROMATICS, EPA METHOD 8020

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-08-182
Hazardous Waste Testing
Certification: E765

CLIENT: HARDING LAWSON ASSOCIATES	DATE SAMPLED: NA
JOB #: 3457,008.04	DATE RECEIVED: 08/23/1991
LOCATION: 505 PALOMA WAY	DATE EXTRACTED: 08/27/1991
ELI SAMPLE ID: 9108182-10A	DATE ANALYZED: 08/27/1991
SAMPLE ID: B2/MW2-6.0 MATRIX SPIKE	INSTRUMENT ID: VG-2
RECOVERY DUPLICATE	MATRIX: SOIL
	% MOISTURE: NA
	REPORT WT: WET
	SAMPLE VOL./WT.: 20g
	DILUTION FACTOR: 1

<u>COMP.</u> <u>NO.</u>	<u>COMPOUND</u>	<u>SPIKE RECOVERY</u>
V1	Benzene	130%
V2	Chlorobenzene	122%
V3	1,2-Dichlorobenzene	112%
V4	1,3-Dichlorobenzene	-
V5	1,4-Dichlorobenzene	123%
V6	Ethyl benzene	118%
V7	Toluene	-
V8	Xylenes (Dimethyl benzenes)	114%


Samir Samaan
Chemist

September 9, 1991
Date

OIL AND GREASE
413.2

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-08-182
Hazardous Waste Testing
Certification: E765

CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 3457,008.04
LOCATION: 505 PALOMA WAY

DATE SAMPLED: SEE BELOW
DATE RECEIVED: 08/23/1991
DATE EXTRACTED: 08/27/1991
DATE ANALYZED: 08/30/1991
INSTRUMENT ID: FTIR1
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 25g
DILUTION FACTOR: 1.0

<u>ELI SAMPLE ID.</u>	<u>CLIENT ID.</u> <u>(DATE SAMPLED)</u>	<u>CONCENTRATION</u> <u>[mg/Kg(ppm)]</u>
9108182-01A	B1/MW1-6.0' (8/22/91)	<4
9108182-02A	B1/MW1-11.0' (8/22/91)	<4
9108182-06A	B3/MW3-20.0' (8/23/91)	213
9108182-07A	METHOD BLANK	<4
9108182-09A	B1/MW1-6.0' MATRIX SPIKE RECOVERY - 80%	
9108182-10A	B1/MW1-6.0' MATRIX SPIKE RECOVERY DUP. - 90%	
9108182-11A	REAGENT SPIKE RECOVERY - 98%	
9108182-12A	REAGENT SPIKE RECOVERY DUP. - 105%	

Shaw-P-40
Mitra Rafiei September 9, 1991
Chemist Date

TOTAL RECOVERABLE HYDROCARBONS
EPA 418.1

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-08-182
Hazardous Waste Testing
Certification: E765

CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 3457,008.04
LOCATION: 505 PALOMA WAY

DATE SAMPLED: SEE BELOW
DATE RECEIVED: 08/23/1991
DATE EXTRACTED: 08/27/1991
DATE ANALYZED: 08/30/1991
INSTRUMENT ID: FTIR1
MATRIX: SOIL
% MOISTURE: NA
REPORT WT: WET
SAMPLE VOL./WT.: 25g
DILUTION FACTOR: 1.0

<u>ELI SAMPLE ID.</u>	<u>CLIENT ID.</u> <u>(DATE SAMPLED)</u>	<u>CONCENTRATION</u> <u>[mg/Kg (ppm)]</u>
9108182-01A	B1/MW1-6.0' (8/22/91)	<4
9108182-02A	B1/MW1-11.0' (8/22/91)	<4
9108182-06A	B3/MW3-20.0' (8/23/91)	181
9108182-07A	METHOD BLANK	<4
9108182-09A	B1/MW1-6.0' MATRIX SPIKE RECOVERY - 81%	
9108182-10A	B1/MW1-6.0' MATRIX SPIKE RECOVERY DUP. - 88%	
9108182-11A	REAGENT SPIKE RECOVERY - 95%	
9108182-12A	REAGENT SPIKE RECOVERY DUP. - 102%	

Shao-Ping Yu
Mitra Rafiei September 9, 1991
Chemist Date



Harding Lawson Associates
Marathon Plaza
303 Second Street, Suite 830 North
San Francisco, CA 94107
(415) 543-8422 • (415) 777-9706 Telecopy

41-08-182 H-34
CHAIN OF CUSTODY FORM

concord courier 69386
Lab: Eureka Analytical Laboratories

Samplers: Ron Reinold

Job Number: 3457, 008.04

Name/Location: 505 Paloma Way

Project Manager: Jeff Ludlow

Recorder: Ron Reinold
(Signature Required)

SOURCE CODE	MATRIX				#CONTAINER & PRESERV.				SAMPLE NUMBER OR LAB NUMBER			DATE				
	Water	Sediment	Soil	Oil	Unpres.	H ₂ SO ₄	HNO ₃	PC	F	Yr	Wk	Seq	Yr	Mo	Dy	Time
			X					X		B1/MW1	-	60	91	08	22	1055
			X					X		B1/MW1	-	110	91	08	22	1115
		X						X		B2/MW2	-	60	91	08	22	1510
		X						X		B2/MW2	-	110	91	08	22	1525
		X						X		B2/MW2	-	160	91	08	22	1535
		X						X		B3/MW3	-	60	91	08	23	0945
		X						X		B3/MW3	-	150	91	08	23	1000
		X						X		B3/MW3	-	150	91	08	23	1010
		X						X		B3/MW3	-	200	91	08	23	1020

STATION DESCRIPTION/ NOTES
1A
2A
3A
4A
5A
Do Not Test these 3 samples unless notified first
6A

ANALYSIS REQUESTED						
EPA 601/8010						
EPA 602/8020 BTEX						
EPA 624/8240 VOC			X			
EPA 625/8270 ICP METALS			X			
EPA 8015M/TPH <small>Cass & Diesel</small>			X			
Total Oil and Grease EPA 5520 O&G/C&F			X			

LAB NUMBER			DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
Yr	Wk	Seq				

CHAIN OF CUSTODY RECORD			
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME	
<i>Ron Reinold</i>	<i>Uma Cicero (Courier)</i>	8/23/3:00	
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME	
	<i>John Graham</i>	8/23/5:00pm	
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME	
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME	
DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
METHOD OF SHIPMENT			



EUREKA LABORATORIES, INC.

Corporate Office:
6790 FLORIN PERKINS ROAD
SACRAMENTO, CA 95828
TEL: (916) 381-7953
FAX: (916) 381-4013

Branch Office:
17403 N.E. 28th STREET
REDMOND, WA 98052
TEL: (206) 885-0284
FAX: (206) 885-0284

Air Pollution
Chemical Analysis
Research & Testing
Environmental Studies
Robotics
Toxicology

September 11, 1991

Mr. Jeff Ludlow
HARDING LAWSON ASSOCIATES
303 2nd Street, Suite 630N
San Francisco, CA 94107

Reference: Job #: 3457,008.04
ELI No: 91-08-212
Location: 505 Paloma Way

Dear Mr. Ludlow:

Eureka Laboratories, Inc. is pleased to submit a laboratory report for the subject task. This report presents analytical results for five (5) water samples for the following analyses:

<u>ANALYSIS</u>	<u>METHOD</u>	<u>SAMPLE ID.</u>
Total Petroleum Hydrocarbons	EPA 8015 (Modified)	91082701, 91082702, 91082703, 91082705
Volatile Compound	EPA 624	91082701, 91082704, 91082705
Oil and Grease	EPA 5520C	same as above
Total Recoverable Hydrocarbons	EPA 5520F	same as above
Purgeable Aromatics	EPA 602	91082702 & 91082703

Sincerely,
EUREKA LABORATORIES, INC.

By: Shao-Pin Yo
Shao-Pin Yo, Ph.D.
Laboratory Director

SPY/pvc

Attachment

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

COPY

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-01A
FILE ID: NA
SAMPLE ID: 91082701

DATE SAMPLED: 08/27/91
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/29/91
INSTRUMENT ID: SVG1
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 1000mL
DILUTION FACTOR: 1.00

PETROLEUM HYDROCARBONS	CONCENTRATION ppm (mg/L)	DETECTION LIMIT ppm (mg/L)
Gasoline Range	<.1	.1
Diesel Range	<.2	.2
Motor Oil Range	<.5	.5
Total Petroleum Hydrocarbons		
CARBON NO. RANGE		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	
PEAK CARBON NO.		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	

Mark Shih, Ph.D.

Chemist

09/03/91

Date

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-02A
FILE ID: NA
SAMPLE ID: 91082702

DATE SAMPLED: 08/27/91
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/29/91
INSTRUMENT ID: SVG1
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 1000mL
DILUTION FACTOR: 1.00

PETROLEUM HYDROCARBONS	CONCENTRATION ppm (mg/L)	DETECTION LIMIT ppm (mg/L)
Gasoline Range	<.1	.1
Diesel Range	<.2	.2
Motor Oil Range	<.5	.5
Total Petroleum Hydrocarbons		
CARBON NO. RANGE		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	
PEAK CARBON NO.		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	

Mark Shih, Ph.D.

Chemist

09/03/91

Date

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-03A
FILE ID: NA
SAMPLE ID: 91082703

DATE SAMPLED: 08/27/91
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/29/91
INSTRUMENT ID: SVG1
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 1000mL
DILUTION FACTOR: 1.00

PETROLEUM HYDROCARBONS	CONCENTRATION ppm (mg/L)	DETECTION LIMIT ppm (mg/L)
Gasoline Range	<.1	.1
Diesel Range	<.2	.2
Motor Oil Range	<.5	.5
Total Petroleum Hydrocarbons		
CARBON NO. RANGE		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	
PEAK CARBON NO.		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	

Mark Shih, Ph.D.

Chemist

09/03/91

Date

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-05A
FILE ID: NA
SAMPLE ID: 91082705

DATE SAMPLED: 08/27/91
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/29/91
INSTRUMENT ID: SVG1
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 1000mL
DILUTION FACTOR: 1.00

PETROLEUM HYDROCARBONS	CONCENTRATION ppm (mg/L)	DETECTION LIMIT ppm (mg/L)
Gasoline Range	<.1	.1
Diesel Range	<.2	.2
Motor Oil Range	<.5	.5
Total Petroleum Hydrocarbons		
CARBON NO. RANGE		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	
PEAK CARBON NO.		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	

Mark Shih, Ph.D.

Chemist

09/03/91

Date

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-06A
FILE ID: NA
SAMPLE ID: METHOD BLANK

DATE SAMPLED: NA
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/29/91
INSTRUMENT ID: SVG1
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 1000mL
DILUTION FACTOR: 1.00

PETROLEUM HYDROCARBONS	CONCENTRATION ppm (mg/L)	DETECTION LIMIT ppm (mg/L)
Gasoline Range	<.1	.1
Diesel Range	<.2	.2
Motor Oil Range	<.5	.5
Total Petroleum Hydrocarbons		
CARBON NO. RANGE		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	
PEAK CARBON NO.		
Gasoline Range	-	
Diesel Range	-	
Motor Oil Range	-	

Mark Shih, Ph.D.

Chemist

09/03/91

Date

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-10A
FILE ID: NA
SAMPLE ID: REAGENT SPIKE RECOVERY

DATE SAMPLED: NA
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/29/91
INSTRUMENT ID: SVG1
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 500mL

PETROLEUM HYDROCARBONS

CONCENTRATION
%

Gasoline Range	NA
Diesel Range	93%
Motor Oil Range	NA
Total Petroleum Hydrocarbons	

CARBON NO. RANGE

Gasoline Range	-
Diesel Range	-
Motor Oil Range	-

PEAK CARBON NO.

Gasoline Range	-
Diesel Range	-
Motor Oil Range	-

Reagent spike set is used due to insufficient sample provided.

Mark Shih, Ph.D.

Chemist

09/03/91

Date

TOTAL PETROLEUM HYDROCARBONS
Modified EPA Method 8015(GC-FID)

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-11A
FILE ID: NA
SAMPLE ID: REAGENT SPIKE RECOVERY DUP

DATE SAMPLED: NA
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/29/91
INSTRUMENT ID: SVG1
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 500mL

PETROLEUM HYDROCARBONS

CONCENTRATION
%

Gasoline Range	NA
Diesel Range	96%
Motor Oil Range	NA
Total Petroleum Hydrocarbons	

CARBON NO. RANGE

Gasoline Range	-
Diesel Range	-
Motor Oil Range	-

PEAK CARBON NO.

Gasoline Range	-
Diesel Range	-
Motor Oil Range	-

Reagent spike set is used due to insufficient sample provided.

Mark Shih, Ph.D.

Chemist

09/03/91

Date

ORGANICS ANALYSIS REPORT
Volatile Compound ,EPA Method 624

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-01A
FILE ID: GX982
SAMPLE ID: 91082701

DATE SAMPLED: 08/27/91
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/29/91
INSTRUMENT ID: voa2
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5ML
DILUTION FACTOR: 1.00

CAS#	COMPOUND	CONCENTRATION ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
74-87-3	Chloromethane	<10	10
74-83-9	Bromomethane	<10	10
75-01-4	Vinyl chloride	<10	10
75-00-3	Chloroethane	<10	10
75-09-2	Methylene chloride	<10	10
75-69-4	Trichlorofluoromethane	<5	5
75-34-3	1,1-Dichloroethene	<5	5
75-35-4	1,1-Dichloroethane	<5	5
156-60-5	trans-1,2-Dichloroethene	<5	5
67-66-3	Chloroform	<5	5
107-06-2	1,2-Dichloroethane	<5	5
71-55-6	1,1,1,-Trichloroethane	<5	5
56-23-5	Carbon tetrachloride	<5	5
75-27-4	Bromodichloromethane	<5	5
78-87-5	1,2-Dichloropropane	<5	5
10061-02-6	trans-1,3-Dichloropropene	<5	5
79-01-6	Trichloroethene	<5	5
71-43-2	Benzene	<5	5
124-48-1	Dibromochloromethane	<10	10
79-00-5	1,1,2-Trichloroethane	<5	5
10061-01-5	Cis-1,3-Dichloropropene	<5	5
110-75-8	2-Chloroethyl vinyl ether	<10	10
75-25-2	Bromoform	<5	5
79-34-5	1,1,2,2,-Tetrachloroethane	<5	5
127-18-4	Tetrachloroethene	<5	5
108-88-3	Toluene	<5	5
108-90-7	Chorobenzene	<5	5
100-41-4	Ethylbenzene	<5	5
	Total Xylenes	<5	5
	Total Dichlorobenzene	<5	5

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 624

Order No.: 91-08-212

SAMPLE ID: 91082701

CLIENT: HARDING LAWSON ASSOCIATES

Chemist

Chung P. Li

Chung P. Li, Ph.D.

08/30/91

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANICS ANALYSIS REPORT
Volatile Compound ,EPA Method 624

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-Q4A
FILE ID: GE985
SAMPLE ID: 91082704

DATE SAMPLED: 08/27/91
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/30/91
INSTRUMENT ID: voa2
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5ML
DILUTION FACTOR: 1.00

CAS#	COMPOUND	CONCENTRATION ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
74-87-3	Chloromethane	<10	10
74-83-9	Bromomethane	<10	10
75-01-4	Vinyl chloride	<10	10
75-00-3	Chloroethane	<10	10
75-09-2	Methylene chloride	<10	10
75-69-4	Trichlorofluoromethane	<5	5
75-34-3	1,1-Dichloroethene	<5	5
75-35-4	1,1-Dichloroethane	<5	5
156-60-5	trans-1,2-Dichloroethene	<5	5
67-66-3	Chloroform	<5	5
107-06-2	1,2-Dichloroethane	<5	5
71-55-6	1,1,1,-Trichloroethane	<5	5
56-23-5	Carbon tetrachloride	<5	5
75-27-4	Bromodichloromethane	<5	5
78-87-5	1,2-Dichloropropane	<5	5
10061-02-6	trans-1,3-Dichloropropene	<5	5
79-01-6	Trichloroethene	<5	5
71-43-2	Benzene	<5	5
124-48-1	Dibromochloromethane	<10	10
79-00-5	1,1,2-Trichloroethane	<5	5
10061-01-5	Cis-1,3-Dichloropropene	<5	5
110-75-8	2-Chloroethyl vinyl ether	<10	10
75-25-2	Bromoform	<5	5
79-34-5	1,1,2,2,-Tetrachloroethane	<5	5
127-18-4	Tetrachloroethene	<5	5
108-88-3	Toluene	<5	5
108-90-7	Chorobenzene	<5	5
100-41-4	Ethylbenzene	<5	5
	Total Xylenes	<5	5
	Total Dichlorobenzene	<5	5

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 624

Order No.: 91-08-212

SAMPLE ID: 91082704

CLIENT: HARDING LAWSON ASSOCIATES

Chemist

Chung P. Li

Chung P. Li, Ph.D.

08/30/91

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANICS ANALYSIS REPORT
Volatile Compound , EPA Method 624

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-05A
FILE ID: GE986
SAMPLE ID: 91082705

DATE SAMPLED: 08/27/91
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/30/91
INSTRUMENT ID: voa2
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5ML
DILUTION FACTOR: 1.00

CAS#	COMPOUND	CONCENTRATION ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
74-87-3	Chloromethane	<10	10
74-83-9	Bromomethane	<10	10
75-01-4	Vinyl chloride	<10	10
75-00-3	Chloroethane	<10	10
75-09-2	Methylene chloride	<10	10
75-69-4	Trichlorofluoromethane	<5	5
75-34-3	1,1-Dichloroethene	<5	5
75-35-4	1,1-Dichloroethane	<5	5
156-60-5	trans-1,2-Dichloroethene	<5	5
67-66-3	Chloroform	<5	5
107-06-2	1,2-Dichloroethane	<5	5
71-55-6	1,1,1,-Trichloroethane	<5	5
56-23-5	Carbon tetrachloride	<5	5
75-27-4	Bromodichloromethane	<5	5
78-87-5	1,2-Dichloropropane	<5	5
10061-02-6	trans-1,3-Dichloropropene	<5	5
79-01-6	Trichloroethene	<5	5
71-43-2	Benzene	<5	5
124-48-1	Dibromochloromethane	<10	10
79-00-5	1,1,2-Trichloroethane	<5	5
10061-01-5	Cis-1,3-Dichloropropene	<5	5
110-75-8	2-Chloroethyl vinyl ether	<10	10
75-25-2	Bromoform	<5	5
79-34-5	1,1,2,2,-Tetrachloroethane	<5	5
127-18-4	Tetrachloroethene	<5	5
108-88-3	Toluene	<5	5
108-90-7	Chorobenzene	<5	5
100-41-4	Ethylbenzene	<5	5
	Total Xylenes	<5	5
	Total Dichlorobenzene	<5	5

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 624

Order No.: 91-08-212

SAMPLE ID: 91082705

CLIENT: HARDING LAWSON ASSOCIATES

Chemist

Chung P. Li

Chung P. Li, Ph.D.

08/30/91

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANICS ANALYSIS REPORT
Volatile Compound ,EPA Method 624

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-06A
FILE ID: ge970
SAMPLE ID: METHOD BLANK

DATE SAMPLED: NA
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/29/91
INSTRUMENT ID: voa2
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5ML
DILUTION FACTOR: 1.00

CAS#	COMPOUND	CONCENTRATION ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
74-87-3	Chloromethane	<10	10
74-83-9	Bromomethane	<10	10
75-01-4	Vinyl chloride	<10	10
75-00-3	Chloroethane	<10	10
75-09-2	Methylene chloride	11	10
75-69-4	Trichlorofluoromethane	<5	5
75-34-3	1,1-Dichloroethene	<5	5
75-35-4	1,1-Dichloroethane	<5	5
156-60-5	trans-1,2-Dichloroethene	<5	5
67-66-3	Chloroform	<5	5
107-06-2	1,2-Dichloroethane	<5	5
71-55-6	1,1,1,-Trichloroethane	<5	5
56-23-5	Carbon tetrachloride	<5	5
75-27-4	Bromodichloromethane	<5	5
78-87-5	1,2-Dichloropropane	<5	5
10061-02-6	trans-1,3-Dichloropropene	<5	5
79-01-6	Trichloroethene	<5	5
71-43-2	Benzene	<5	5
124-48-1	Dibromochloromethane	<10	10
79-00-5	1,1,2-Trichloroethane	<5	5
10061-01-5	Cis-1,3-Dichloropropene	<5	5
110-75-8	2-Chloroethyl vinyl ether	<10	10
75-25-2	Bromoform	<5	5
79-34-5	1,1,2,2,-Tetrachloroethane	<5	5
127-18-4	Tetrachloroethene	<5	5
108-88-3	Toluene	<5	5
108-90-7	Chorobenzene	<5	5
100-41-4	Ethylbenzene	<5	5
	Total Xylenes	<5	5
	Total Dichlorobenzene	<5	5

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 624

Order No.: 91-08-212

SAMPLE ID: METHOD BLANK

CLIENT: HARDING LAWSON ASSOCIATES

Chemist

Chung P. Li

Chung P. Li, Ph.D.

08/30/91

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANICS ANALYSIS REPORT
Volatile Compound , EPA Method 624

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-08A
FILE ID: GX983
SAMPLE ID: MATRIX SPIKE RECOVERY
91082701

DATE SAMPLED: NA
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/29/91
INSTRUMENT ID: voa2
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5ML

CAS#	COMPOUND	CONCENTRATION %
74-87-3	Chloromethane	NA
74-83-9	Bromomethane	NA
75-01-4	Vinyl chloride	NA
75-00-3	Chloroethane	NA
75-09-2	Methylene chloride	NA
75-69-4	Trichlorofluoromethane	NA
75-34-3	1,1-Dichloroethene	104%
75-35-4	1,1-Dichloroethane	NA
156-60-5	trans-1,2-Dichloroethene	NA
67-66-3	Chloroform	NA
107-06-2	1,2-Dichloroethane	NA
71-55-6	1,1,1,-Trichloroethane	NA
56-23-5	Carbon tetrachloride	NA
75-27-4	Bromodichloromethane	NA
78-87-5	1,2-Dichloropropane	NA
10061-02-6	trans-1,3-Dichloropropene	NA
79-01-6	Trichloroethene	103%
71-43-2	Benzene	109%
124-48-1	Dibromochloromethane	NA
79-00-5	1,1,2-Trichloroethane	NA
10061-01-5	Cis-1,3-Dichloropropene	NA
110-75-8	2-Chloroethyl vinyl ether	NA
75-25-2	Bromoform	NA
79-34-5	1,1,2,2,-Tetrachloroethane	NA
127-18-4	Tetrachloroethene	NA
108-88-3	Toluene	106%
108-90-7	Chorobenzene	114%
100-41-4	Ethylbenzene	NA
	Total Xylenes	NA
	Total Dichlorobenzene	NA

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 624

Order No.: 91-08-212

SAMPLE ID: MATRIX SPIKE RECOVERY

CLIENT: HARDING LAWSON ASSOCIATES

91082701

Chemist

Chung P. Li

Chung P. Li, Ph.D.

08/30/91

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANICS ANALYSIS REPORT
Volatile Compound ,EPA Method 624

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-09A
FILE ID: GE984
SAMPLE ID: MATRIX SPIKE RECOVERY DUP
91082701

DATE SAMPLED: NA
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/30/91
INSTRUMENT ID: voa2
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: SML

CAS#	COMPOUND	CONCENTRATION %
74-87-3	Chloromethane	NA
74-83-9	Bromomethane	NA
75-01-4	Vinyl chloride	NA
75-00-3	Chloroethane	NA
75-09-2	Methylene chloride	NA
75-69-4	Trichlorofluoromethane	NA
75-34-3	1,1-Dichloroethene	94%
75-35-4	1,1-Dichloroethane	NA
156-60-5	trans-1,2-Dichloroethene	NA
67-66-3	Chloroform	NA
107-06-2	1,2-Dichloroethane	NA
71-55-6	1,1,1,-Trichloroethane	NA
56-23-5	Carbon tetrachloride	NA
75-27-4	Bromodichloromethane	NA
78-87-5	1,2-Dichloropropane	NA
10061-02-6	trans-1,3-Dichloropropene	NA
79-01-6	Trichloroethene	118%
71-43-2	Benzene	101%
124-48-1	Dibromochloromethane	NA
79-00-5	1,1,2-Trichloroethane	NA
10061-01-5	Cis-1,3-Dichloropropene	NA
110-75-8	2-Chloroethyl vinyl ether	NA
75-25-2	Bromoform	NA
79-34-5	1,1,2,2,-Tetrachloroethane	NA
127-18-4	Tetrachloroethene	NA
108-88-3	Toluene	103%
108-90-7	Chorobenzene	108%
100-41-4	Ethylbenzene	NA
	Total Xylenes	NA
	Total Dichlorobenzene	NA

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 624

Order No.: 91-08-212

SAMPLE ID: MATRIX SPIKE RECOVERY DUP

CLIENT: HARDING LAWSON ASSOCIATES

91082701

Chemist

Chung P. Li

Chung P. Li, Ph.D.

08/30/91

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANICS ANALYSIS REPORT
Volatile Compound , EPA Method 624

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-10A
FILE ID: GE971
SAMPLE ID: REAGENT SPIKE RECOVERY

DATE SAMPLED: NA
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/29/91
INSTRUMENT ID: voa2
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5ML

CAS#	COMPOUND	CONCENTRATION %
74-87-3	Chloromethane	NA
74-83-9	Bromomethane	NA
75-01-4	Vinyl chloride	NA
75-00-3	Chloroethane	NA
75-09-2	Methylene chloride	NA
75-69-4	Trichlorofluoromethane	NA
75-34-3	1,1-Dichloroethene	105%
75-35-4	1,1-Dichloroethane	NA
156-60-5	trans-1,2-Dichloroethene	NA
67-66-3	Chloroform	NA
107-06-2	1,2-Dichloroethane	NA
71-55-6	1,1,1,-Trichloroethane	NA
56-23-5	Carbon tetrachloride	NA
75-27-4	Bromodichloromethane	NA
78-87-5	1,2-Dichloropropane	NA
10061-02-6	trans-1,3-Dichloropropene	NA
79-01-6	Trichloroethene	113%
71-43-2	Benzene	103%
124-48-1	Dibromochloromethane	NA
79-00-5	1,1,2-Trichloroethane	NA
10061-01-5	Cis-1,3-Dichloropropene	NA
110-75-8	2-Chloroethyl vinyl ether	NA
75-25-2	Bromoform	NA
79-34-5	1,1,2,2,-Tetrachloroethane	NA
127-18-4	Tetrachloroethene	NA
108-88-3	Toluene	103%
108-90-7	Chorobenzene	109%
100-41-4	Ethylbenzene	NA
	Total Xylenes	NA
	Total Dichlorobenzene	NA

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 624

Order No.: 91-08-212

SAMPLE ID: REAGENT SPIKE RECOVERY

CLIENT: HARDING LAWSON ASSOCIATES

Chemist

Chung P. Li
Chung P. Li, Ph.D.

08/30/91

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

ORGANICS ANALYSIS REPORT
Volatile Compound , EPA Method 624

EUREKA LABORATORIES, INC.
6790 Florin Perkins Road
Sacramento, CA 95828
(916)381-7953

Order No.: 91-08-212
Hazardous Waste Testing
Certification No.: E765

CLIENT: HARDING LAWSON ASSOCIATES
CONTRACT #: NA
PROJECT: NONE
TASK #: NA
P.O.#: NA
SAMPLE LOCATION: NA
ELI SAMPLE ID: 9108212-11A
FILE ID: GE972
SAMPLE ID: REAGENT SPIKE RECOVERY DUP

DATE SAMPLED: NA
DATE RECEIVED: 08/27/91
DATE EXTRACTED: 08/29/91
DATE ANALYZED: 08/29/91
INSTRUMENT ID: voa2
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5ML

CAS#	COMPOUND	CONCENTRATION %
74-87-3	Chloromethane	NA
74-83-9	Bromomethane	NA
75-01-4	Vinyl chloride	NA
75-00-3	Chloroethane	NA
75-09-2	Methylene chloride	NA
75-69-4	Trichlorofluoromethane	NA
75-34-3	1,1-Dichloroethene	98%
75-35-4	1,1-Dichloroethane	NA
156-60-5	trans-1,2-Dichloroethene	NA
67-66-3	Chloroform	NA
107-06-2	1,2-Dichloroethane	NA
71-55-6	1,1,1,-Trichloroethane	NA
56-23-5	Carbon tetrachloride	NA
75-27-4	Bromodichloromethane	NA
78-87-5	1,2-Dichloropropane	NA
10061-02-6	trans-1,3-Dichloropropene	NA
79-01-6	Trichloroethene	113%
71-43-2	Benzene	102%
124-48-1	Dibromochloromethane	NA
79-00-5	1,1,2-Trichloroethane	NA
10061-01-5	Cis-1,3-Dichloropropene	NA
110-75-8	2-Chloroethyl vinyl ether	NA
75-25-2	Bromoform	NA
79-34-5	1,1,2,2,-Tetrachloroethane	NA
127-18-4	Tetrachloroethene	NA
108-88-3	Toluene	101%
108-90-7	Chorobenzene	106%
100-41-4	Ethylbenzene	NA
	Total Xylenes	NA
	Total Dichlorobenzene	NA

ORGANIC ANALYSIS REPORT
Volatile Compound, EPA Method 624

Order No.: 91-08-212

SAMPLE ID: REAGENT SPIKE RECOVERY DUP

CLIENT: HARDING LAWSON ASSOCIATES

Chemist

Chung P. Li
Chung P. Li, Ph.D.

08/30/91

Date

ND=NOT DETECTED AT OR ABOVE DETECTION LIMIT
NA=NOT AVAILABLE

OIL AND GREASE
5520C

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-08-212
Hazardous Waste Testing
Certification: E765


CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 3457,008.04
LOCATION: 505 PALOMA WAY

DATE SAMPLED: 08/27/1991
DATE RECEIVED: 08/27/1991
DATE EXTRACTED: 09/03/1991
DATE ANALYZED: 09/03/1991
INSTRUMENT ID: FTIR1
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 1000ml
DILUTION FACTOR: 1.0

<u>ELI SAMPLE ID.</u>	<u>CLIENT ID.</u>	<u>CONCENTRATION</u> <u>[mg/L (ppm)]</u>
9108212-01A	91082701	<0.5
9108212-04A	91082704	<0.5
9108212-05A	91082705	<0.5
9108212-06A	METHOD BLANK	<0.5
9108212-10A	REAGENT SPIKE RECOVERY - 102% *	
9108212-11A	REAGENT SPIKE RECOVERY DUP. - 98% *	

DETECTION LIMIT [mg/L (ppm)] 0.5

* Reagent spike set is used due to insufficient sample provided.


Mitra Rafiei
Chemist

September 11, 1991
Date

TOTAL RECOVERABLE HYDROCARBONS
5520F

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-08-212
Hazardous Waste Testing
Certification: E765

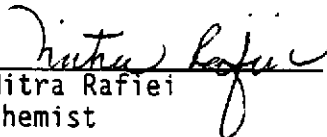
CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 3457,008.04
LOCATION: 505 PALOMA WAY

DATE SAMPLED: 08/27/1991
DATE RECEIVED: 08/27/1991
DATE EXTRACTED: 09/03/1991
DATE ANALYZED: 09/03/1991
INSTRUMENT ID: FTIR1
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 1000ml
DILUTION FACTOR: 1.0

<u>ELI SAMPLE ID.</u>	<u>CLIENT SAMPLE ID.</u>	<u>CONC. [mg/L (ppm)]</u>
9108212-01A	91082701	<0.5
9108212-04A	91082704	<0.5
9108212-05A	91082705	<0.5
9108212-06A	METHOD BLANK	<0.5
9108212-10A	REAGENT SPIKE RECOVERY - 102% *	
9108212-11A	REAGENT SPIKE RECOVERY DUP. - 94% *	

DETECTION LIMIT [mg/L (ppm)] 0.5

* Reagent spike set is used due to insufficient sample provided.


Mitra Rafiei September 11, 1991
Chemist Date

ORGANIC ANALYSIS REPORT
PURGEABLE AROMATICS, EPA Method 602

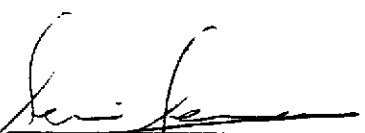
EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-08-212
Hazardous Waste Testing
Certification: E765

CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 3457,008.04
LOCATION: 505 PALOMA WAY
ELI SAMPLE ID: 9108212-06A
SAMPLE ID: METHOD BLANK

DATE SAMPLED: NA
DATE RECEIVED: 08/27/1991
DATE EXTRACTED: NA
DATE ANALYZED: 09/03/1991
INSTRUMENT ID: VG-4
MATRIX: NA
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: NA
DILUTION FACTOR: 1

COMP. NO.	COMPOUND	CONCENTRATION ug/L (ppb)	DETECTION LIMIT ug/L (ppb)
V1	Benzene	<0.5	0.5
V2	Chlorobenzene	<0.5	0.5
V3	1,2-Dichlorobenzene	<0.5	0.5
V4	1,3-Dichlorobenzene	<0.5	0.5
V5	1,4-Dichlorobenzene	<0.5	0.5
V6	Ethyl benzene	<0.5	0.5
V7	Toluene	<0.5	0.5
V8	Xylenes (Dimethyl benzenes)	<0.5	0.5


Samir Samaan
Date

September 11, 1991
Date

ORGANIC ANALYSIS REPORT
PURGEABLE AROMATICS, EPA Method 602


EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-08-212
Hazardous Waste Testing
Certification: E765

CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 3457,008.04
LOCATION: 505 PALOMA WAY
ELI SAMPLE ID: 9108212-02A
SAMPLE ID: 91082702

DATE SAMPLED: 08/27/1991
DATE RECEIVED: 08/27/1991
DATE EXTRACTED: NA
DATE ANALYZED: 09/03/1991
INSTRUMENT ID: VG-4
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5ml
DILUTION FACTOR: 1

COMP. NO.	COMPOUND	CONCENTRATION ug/L (ppb)	DETECTION LIMIT ug/L (ppb)
V1	Benzene	<0.5	0.5
V2	Chlorobenzene	<0.5	0.5
V3	1,2-Dichlorobenzene	<0.5	0.5
V4	1,3-Dichlorobenzene	<0.5	0.5
V5	1,4-Dichlorobenzene	<0.5	0.5
V6	Ethyl benzene	<0.5	0.5
V7	Toluene	<0.5	0.5
V8	Xylenes (Dimethyl benzenes)	<0.5	0.5



Samir Samaan
Date

September 11, 1991
Date

ORGANIC ANALYSIS REPORT
PURGEABLE AROMATICS, EPA Method 602


EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-08-212
Hazardous Waste Testing
Certification: E765

CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 3457.008.04
LOCATION: 505 PALOMA WAY
ELI SAMPLE ID: 9108212-03A
SAMPLE ID: 91082703

DATE SAMPLED: 08/27/1991
DATE RECEIVED: 08/27/1991
DATE EXTRACTED: NA
DATE ANALYZED: 09/03/1991
INSTRUMENT ID: VG-4
MATRIX: WATER
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: 5ml
DILUTION FACTOR: 1

COMP. NO.	COMPOUND	CONCENTRATION ug/L (ppb)	DETECTION LIMIT ug/L (ppb)
V1	Benzene	<0.5	0.5
V2	Chlorobenzene	<0.5	0.5
V3	1,2-Dichlorobenzene	<0.5	0.5
V4	1,3-Dichlorobenzene	<0.5	0.5
V5	1,4-Dichlorobenzene	<0.5	0.5
V6	Ethyl benzene	<0.5	0.5
V7	Toluene	<0.5	0.5
V8	Xylenes (Dimethyl benzenes)	<0.5	0.5


Samir Samaan
Date

September 11, 1991
Date

ORGANIC ANALYSIS REPORT
PURGEABLE AROMATICS, EPA Method 602

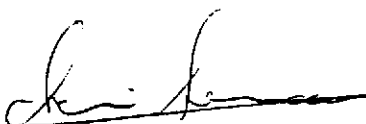
EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-08-212
Hazardous Waste Testing
Certification: E765

CLIENT: HARDING LAWSON ASSOCIATES	DATE SAMPLED: NA
JOB #: 3457,008.04	DATE RECEIVED: 08/27/1991
LOCATION: 505 PALOMA WAY	DATE EXTRACTED: NA
ELI SAMPLE ID: 9108212-10A	DATE ANALYZED: 09/03/1991
SAMPLE ID: REAGENT SPIKE RECOVERY *	INSTRUMENT ID: VG-4
	MATRIX: NA
	% MOISTURE: NA
	REPORT WT: NA
	SAMPLE VOL./WT.: NA
	DILUTION FACTOR: 1

<u>COMP.</u> <u>NO.</u>	<u>COMPOUND</u>	<u>SPIKE RECOVERY</u>
V1	Benzene	111%
V2	Chlorobenzene	107%
V3	1,2-Dichlorobenzene	-
V4	1,3-Dichlorobenzene	110%
V5	1,4-Dichlorobenzene	108%
V6	Ethyl benzene	106%
V7	Toluene	109%
V8	Xylenes (Dimethyl benzenes)	99%

* Reagent spike set is used due to insufficient sample provided.



Samir Samaan
Chemist

September 11, 1991
Date

ORGANIC ANALYSIS REPORT
PURGEABLE AROMATICS, EPA Method 602

EUREKA LABORATORIES, INC.
6790 Florin-Perkins Road
Sacramento, CA 95828
(916) 381-7953

Order No: 91-08-212
Hazardous Waste Testing
Certification: E765

CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 3457,008.04
LOCATION: 505 PALOMA WAY
ELI SAMPLE ID: 9108212-11A
SAMPLE ID: REAGENT SPIKE RECOVERY *
DUPLICATE

DATE SAMPLED: NA
DATE RECEIVED: 08/27/1991
DATE EXTRACTED: NA
DATE ANALYZED: 09/03/1991
INSTRUMENT ID: VG-4
MATRIX: NA
% MOISTURE: NA
REPORT WT: NA
SAMPLE VOL./WT.: NA
DILUTION FACTOR: 1

<u>COMP.</u> <u>NO.</u>	<u>COMPOUND</u>	<u>SPIKE RECOVERY</u>
V1	Benzene	109%
V2	Chlorobenzene	107%
V3	1,2-Dichlorobenzene	-
V4	1,3-Dichlorobenzene	110%
V5	1,4-Dichlorobenzene	108%
V6	Ethyl benzene	104%
V7	Toluene	108%
V8	Xylenes (Dimethyl benzenes)	101%

* Reagent spike set is used due to insufficient sample provided.


Samir Samaan
Chemist

September 11, 1991
Date



Harding Lawson Associates
 303 Second Street, Suite 630N
 San Francisco, California 94107
 (415) 543-8422
 (415) 777-8708 Telecopy

CHAIN OF CUSTODY FORM

Lab: Eureka Analytical Laboratories

91-08-212 A-62

Samplers: Ron Reindl

Job Number: 3457,008.04

Name/Location: 505 Paloma Way

Project Manager: Jeff Ludlow

Recorder: [Signature]
 (Signature Required)

ANALYSIS REQUESTED										
EPA 601/8010	EPA 602/8020	STEX	EPA 624/8240	VOC	EPA 625/8270	ICP METALS	EPA 8015M/TPH	CNS & DMS	TOTAL OIL AND GREASE	EPA 5520 O&F/C&F
	X							X		
		X								
								X		
	X									
	X									
								X		
	X									
								X		

SOURCE CODE	MATRIX				#CONTAINERS & PRESERV.				SAMPLE NUMBER OR LAB NUMBER			DATE			
	Water	Sediment	Soil	Oil	Unpres.	H ₂ SO ₄	HNO ₃	MTC	Yr	Wk	Seq	Yr	Mo	Dy	Time
23	X						X		91	08	2701	91	08	27	0910
23	X						X		91	08	2701	91	08	27	0910
23	X						X		91	08	2701	91	08	27	0910
23	X						X		91	08	2701	91	08	27	0910
23	X						X		91	08	2702	91	08	27	1100
23	X						X		91	08	2702	91	08	27	1100
23	X						X		91	08	2702	91	08	27	1100
23	X						X		91	08	2703	91	08	27	1100
23	X						X		91	08	2703	91	08	27	1100
23	X						X		91	08	2703	91	08	27	1100

STATION DESCRIPTION / NOTES
VOA
VOA
Amber/Litre
Amber/Litre
VOA
VOA
Amber/Litre
VOA
VOA
Amber/Litre

LAB NUMBER			DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
Yr	Wk	Seq				

CHAIN OF CUSTODY RECORD		
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
<u>[Signature]</u>	<u>Wynn 310</u>	
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature) DATE/TIME
		<u>[Signature]</u> 8/27/91 5:30
METHOD OF SHIPMENT		



Harding Lawson Associates
 303 Second Street, Suite 630N
 San Francisco, California 94107
 (415) 543-8422
 (415) 777-9706 Telecopy

CHAIN OF CUSTODY FORM

Lab: Eureka Analytical Laboratories

Job Number: 3457, 008.04
 Name/Location: 505 Paloma Way
 Project Manager: _____

Samplers: Ron Reinold
 Recorder: [Signature]
 (Signature Required)

SOURCE CODE	MATRIX				#CONTAINERS & PRESERV.				SAMPLE NUMBER OR LAB NUMBER			DATE			
	Water	Sediment	Soil	Oil	Unpres.	H ₂ SO ₄	HNO ₃	H ₂ O ₂	Yr	Wk	Seq	Yr	Mo	Dy	Time
23	X							X	91	08	2704	91	08	27	1230
23	X							X	91	08	2704	91	08	27	1230
23	X							X	91	08	2704	91	08	27	1230
23	X							X	91	08	2705	91	08	27	1400
23	X							X	91	08	2705	91	08	27	1400
23	X							X	91	08	2705	91	08	27	1400
23	X							X	91	08	2705	91	08	27	1400

STATION DESCRIPTION/ NOTES
VQA
VQA
Amber/Litre

ANALYSIS REQUESTED									
EPA 601/8010									
EPA 602/8020									
EPA 624/8240	X								
EPA 625/8270									
ICP METALS									
EPA 8015/MTPH Gas & Dissol									
Total Oil & Grease EPA									
SS20 D&F C&F									

LAB NUMBER			DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
Yr	Wk	Seq				

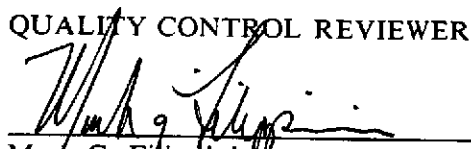
CHAIN OF CUSTODY RECORD			
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME	
<u>Ron Reinold</u>	<u>Cooper</u>	<u>310</u>	
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME	
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME	
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME	
DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
METHOD OF SHIPMENT			

DISTRIBUTION

- 3 copies: San Francisco Water Department
P.O. Box 730
Millbrae, California 94030
Attention: Mr. Robert Vasconcellos
- 1 copy: San Francisco Water Department
P.O. Box 730
Millbrae, California 94030
Attention: Mr. Phil Caskey
- 1 copy: San Francisco Water Department
505 Paloma Way
Sunol, California 94586
Attention: Mr. Leo Bauer
- 1 copy: Hetch Hetchy Water and Power
P.O. Box 160
Moccasin, California 95347
Attention: Mr. Larry James
- 1 copy: San Francisco Utilities Engineering Bureau
1155 Market Street
San Francisco, California 94103
Attention: Mr. Suresh Patel
- 1 copy: San Francisco Department of Public Health
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San Francisco, California 94102
Attention: Mr. Dave Wells
- 1 copy: San Francisco City Attorneys Office
1590 Market Street, 6th Floor
San Francisco, California 94102
Attention: Ms. Elaine Warren
- 1 copy: Alameda County Water District
P.O. Box 5110
Fremont, California 94537
Attention: Ms. Jill Durig
- 1 copy: Alameda County Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621
Attention: Mr. Scott Seery

JFL/NTS/dm/B12414-R68

QUALITY CONTROL REVIEWER


Mark G. Filippini
Engineering Geologist

