

**QUARTERLY GROUND WATER
MONITORING REPORT**

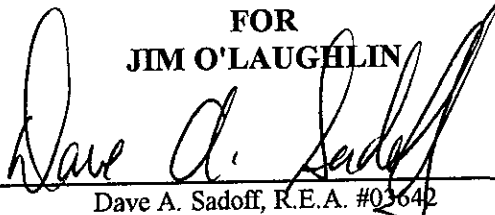
APRIL 1994

PROJECT #083-300-01B

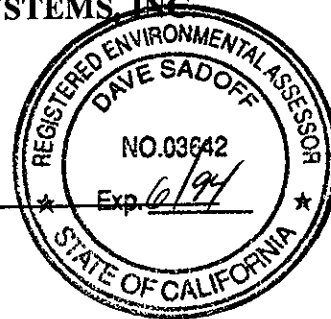
**FORMER CHEVRON STATION
11727 MAIN STREET
SUNOL, CALIFORNIA**

PREPARED BY ENVIRONMENTAL BIO-SYSTEMS, INC

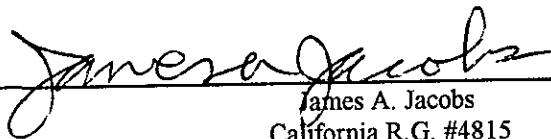
**FOR
JIM O'LAUGHLIN**



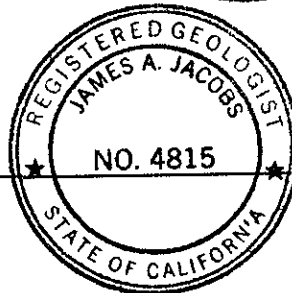
Dave A. Sadoff, R.E.A. #03642
Project Geologist



Reviewed by:



James A. Jacobs
California R.G. #4815



13 May 1994

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1. INTRODUCTION	1
2. PURPOSE AND SCOPE OF WORK	1
3. SITE LOCATION AND DESCRIPTION	2
3.1. REGIONAL GEOLOGY AND HYDROGEOLOGY	2
4. PREVIOUS ENVIRONMENTAL WORK	3
5. PROCEDURES	5
5.1. MONITORING WELL SAMPLING	5
5.1.1. Decontamination Procedures	6
5.2. SAMPLE ANALYSIS AND RESULTS	7
5.3. EVALUATION OF THE DIRECTION AND GRADIENT OF GROUND WATER FLOW	7
6. CONCLUSIONS	8
7. RECOMMENDATIONS	8
8. LIMITATIONS	9
9. REFERENCES	10

TABLES

TABLE 1:	
RESULTS OF GROUND WATER SAMPLE ANALYSES (IN $\mu\text{G/L}$)	11
TABLE 2:	
MEASUREMENTS OF PH, TEMPERATURE, AND CONDUCTIVITY IN PURGED WATER FROM WELLS MW1, MW2, AND MW3	12
TABLE 3:	
QUARTERLY WELL ELEVATION DATA	13

13 May 1994

Mr. Jim O'Laughlin
Former Chevron Station
11727 Main Street, Sunol, California

Page ii

APPENDICES

- APPENDIX A: DIAGRAMS
- APPENDIX B: WELL MONITORING LOGS
- APPENDIX C: LABORATORY REPORTS AND CHAIN OF
CUSTODY DOCUMENTATION
- APPENDIX D: GROUND WATER GRADIENT MAP



ENVIRONMENTAL BIO-SYSTEMS, INC.

Innovative Solutions for a Better Environment

1. INTRODUCTION

Environmental Bio-Systems, Inc. (EBS) provides this report of ground water monitoring well sampling for Mr. Jim O'Laughlin (the client) at 11727 Main Street in Sunol, California (the site). EBS was retained to performed the reported work to satisfy the requests of the Alameda County Water District (ACWD).

The principal contacts are:

Principal Client Contact - Mr. Jim O'Laughlin, P.O. Box 400, Sunol, CA 94586, (510) 471-1100.

Consultant - Environmental Bio-Systems, Inc., 30028 Industrial Parkway Southwest, Suite C, Hayward, CA 94544, (510) 429-9988.
Mr. Dave A. Sadoff - Project Manager

2. PURPOSE AND SCOPE OF WORK

EBS was retained by the Client to perform the reported tasks as requested by the ACDEH. A list of the services performed is as follows:

- Evaluation of the presence or absence of free product within the wells.
- Measurement of ground water depths within the wells.
- Evaluation of the direction and gradient of ground water flow.
- Collection and laboratory analysis of water samples.

3. SITE LOCATION AND DESCRIPTION

The site is located at 11727 Main Street in Sunol, County of Alameda, California. A site location map is presented in Appendix A (Figure 1) along with a site diagram showing the locations of the monitoring wells and relevant site structures (Figure 2).

The site lies approximately 100-feet south of Sinbad Creek and approximately 400-feet west of Arroyo de la Laguna, on the north edge of the Sunol Valley.

The site is currently vacant. A fire destroyed two site structures in 1989. A concrete pad and pump island are the only remaining structures on the site. The topography of the site is generally flat, dipping slightly to the east.

3.1. REGIONAL GEOLOGY AND HYDROGEOLOGY

The site is located in the northern tip of the Sunol Valley, which is an elongate northwest-southeast trending structural trough bounded to the east by the Calaveras Fault, and to the west by the Sinbad Fault. The Sunol Valley is drained by Alameda Creek, which is located approximately 2,600-feet southwest of the site.

The site is underlain by highly permeable Quaternary Alluvium characteristic of stream bed deposits which were derived from the ancestral Alameda Creek. These deposits consist of unconsolidated beds of sand, gravel and boulders with discontinuous layers of clay. 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-feet per day.

Recharge of the ground water is accomplished largely through infiltration and percolation. Sources of recharge include precipitation, stream flow along the Alameda Creek, and water applied for irrigation and other uses on the valley alluvium.

The largest extraction of ground water in the Sunol Sub Basin is at the Sunol filter galleries, located approximately 2.5-miles northeast of the site. Significant discharge is also achieved 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 in Fremont.

Soils encountered during the previous ground water monitoring well installations included sandy gravel and gravelly sand; and well sorted gravel with cobbles. Ground water was first encountered at 29-feet below ground surface (bgs) in one boring, and at 33.5-feet bgs in the other boring.

4. PREVIOUS ENVIRONMENTAL WORK

One 550-gallon diesel underground storage tank (UST), one 550-gallon regular gasoline UST, one 1,000-gallon unleaded gasoline, and one 1,000-gallon premium gasoline UST were excavated and removed from the site by Hageman Schank, Inc. (HSI) on 7 February 1990.

Former Chevron Station
11727 Main Street, Sunol, California

Soil samples collected by HSI from the UST excavations revealed that soil at the site had been impacted by up to 200-parts per million (ppm) total petroleum hydrocarbons as diesel (TPHd), 1,100-ppm total petroleum hydrocarbons as gasoline (TPHg), and BTEX concentrations as high as 2.4-ppm benzene, 12-ppm toluene, 6.2-ppm ethylbenzene, and 18-ppm xylenes.

According to their report dated 25 July 1990, HSI extended the two excavations until confirmation soil samples contained below detectable levels of petroleum hydrocarbons. The excavated soil (approximately 40-cubic yards) is presently stockpiled on an area of the site which is covered by asphalt or concrete.

HSI attempted to install one ground water monitoring well at the site, by using an air-rotary drill rig on 13 July 1990. HSI was not able to set casing due to sloughing within the boring. Ground water was reportedly encountered at approximately 70-feet bgs. This boring was reportedly backfilled with Monterey sand.

HSI redrilled the backfilled boring using hollow-stem augers on 30 October 1990. At this time, ground water was reportedly encountered at approximately 33-feet bgs. This ground water monitoring well (designated MW1) was completed to a total depth of 65-feet bgs.

HSI collected a ground water sample from MW1 on 13 November 1990. The sample contained 840-micrograms per liter ($\mu\text{g/L}$) TPHd, and below detectable levels of TPHg and BTEX.

Nine sampling events were performed by HSI (now known as Hageman-Aguiar, Inc.) between February 1991 and 22 February 1993. The results of these previous sampling events reviewed by EBS are presented in Table 1.

EBS installed, developed, and sampled two additional wells at the site in late June and early July 1993. The two wells were designated MW2 and MW3. Results of our cumulative ground water sample analyses have been compiled and are presented in Table 1.

5. PROCEDURES

Monitoring wells MW1, MW2, and MW3 were gauged for depth and sampled on 19 April 1994. Figure 1 shows the locations of site features and ground water monitoring wells.

5.1. MONITORING WELL SAMPLING

The depth to water and total well depths were measured upon opening of the wells using a water level indicator (Slope Indicator Co. Model #51453). The volume of water contained within the wells was then calculated.

A disposable polyethylene bailer was used to withdraw a sample of water from the well to evaluate the presence of free product prior to purging. No free product was noted in any of the wells.

A volume of water not less than 4-well volumes was then purged from within each well using a 3-foot long PVC bailer (approximately 1/3-gallon

Former Chevron Station
11727 Main Street, Sunol, California

capacity). Measurements of pH, temperature, and conductivity were taken periodically from the bailer until the readings were found to stabilize.

Approximately 24-gallons of water was purged from MW1, 14-gallons from MW2, and 10-gallons from MW3 prior to sampling. All water evacuated from the wells was contained on-site in DOT approved 55-gallon drums pending disposal. Table 2 lists the measurements of pH, temperature, and conductivity taken during purging prior to sampling. Appendix B contains copies of the logs completed during well purging and sampling.

The ground water level was allowed to recover to at least 80% of the initially measured volume in each well prior to sampling of that well. Single-use disposable bailers were used to collect ground water samples from each well. Ground water samples were contained within laboratory cleaned 40-milliliter volatile organic analysis vials (VOAs).

The sample bottles were labeled, placed in a cooler on top of crushed ice, and transferred to American Environmental Network, Inc. (AEN) of Pleasant Hill, California for analysis. AEN is a California State certified Hazardous Materials Testing Laboratory. Chain of custody documentation was maintained for each sample in transit to the laboratory.

5.1.1. Decontamination Procedures

The PVC bailers used for purging were cleaned between wells. Decontamination procedures included initial scrubbing with Alconox detergent solution (non-phosphate contributing), a tap water rinse, and

Former Chevron Station
11727 Main Street, Sunol, California

triple rinsing with distilled water. Disposable bailers used to collect the samples were discarded after a single use.

5.2. SAMPLE ANALYSIS AND RESULTS

Ground water samples were analyzed for TPHg and BTEX using Environmental Protection Agency (EPA) Method 5030, and modified Methods 8015 and 8020; TPHd and total petroleum hydrocarbons as kerosene (TPHk) by EPA Method 3510 gas chromatography-flame ionization detector (GC-FID). The results of water sample analyses are summarized in Table 1. The chain of custody forms and certified laboratory analytical reports are presented in Appendix C.

5.3. EVALUATION OF THE DIRECTION AND GRADIENT OF GROUND WATER FLOW

The elevations of the tops of casings of wells MW1 through MW3 were surveyed 1 July 1993 by Fremont Engineers, Inc. (FEI) of Fremont, California. Ground water level measurements were taken on 19 April 1994. The direction and gradient of ground water flow across the site was evaluated as southwest and 0.002, respectively, on the indicated date. Appendix D displays a graphic depiction of our evaluation. A previous evaluation performed on 1 July 1993 at the site showed the direction of ground water flow beneath the site to be toward the northwest.

6. CONCLUSIONS

- Free product was not observed in any of the wells monitored during this scope of work.
- Samples collected from wells MW1, MW2, and MW3 were analyzed for TPHg, BTEX, TPHd, and TPHk.
- The sample from wells MW2 and MW3 did not yield reportable concentrations of any of the above analytes.
- A ground water sample collected from MW1 contained 0.3-mg/L TPHg; 0.6-µg/L benzene; and 0.63-mg/L TPHk.
- The direction and gradient of ground water flow was evaluated on 30 March 1994. The results of our evaluation on this date indicated a ground water direction and gradient of southwest and 0.002, respectively.

7. RECOMMENDATIONS

1. The results of this quarterly ground water monitoring do not alter previous recommendations. EBS recommends that the Client continue to perform quarterly sampling as requested by the ACDEH.
2. A copy of this report should be sent, along with a cover letter from the client, to the ACDEH. An additional copy of the report has been provided for this purpose.

8. LIMITATIONS

The recommendations in this report were developed in accordance with generally accepted standards of current environmental practice in Northern California. These recommendations are time-dependent and should not be considered valid after a 1-year period from the issue of this report. After 1-year from the issue of this report, site conditions and recommendations contained within this report should be reviewed.

This study was performed solely for the purpose of evaluating environmental conditions of the site subsurface relative to hydrocarbon impact at the subject site. No engineering or geotechnical references are implied or should be inferred.

Evaluation of the condition of the site, for the purpose of this study, was made from a limited number of observation points. Subsurface conditions may deviate away from these points. Additional work, including further study of the subsurface, can reduce the inherent uncertainties associated with this type of work.

This study was performed, and the report was prepared for the sole use of our Client, Mr. Jim O'Laughlin. This report and the findings contained herein shall not be disclosed to nor used by any other party without the prior written consent of Environmental Bio-Systems, Inc. It is the sole responsibility of the Client to convey these recommendations to City, County, and State regulatory agencies as appropriate.

The recommendations herein are professional opinions that our firm has endeavored to provide with competence and reasonable care. We are not

able to eliminate the risks associated with environmental work. No guarantees or warrants, express or implied, are provided regarding our recommendations.

9. REFERENCES

Environmental Bio-Systems, Inc., Subsurface Soil and Ground Water Exploration, Former Chevron Station, 11727 Main Street, Sunol, California, 30 July 1993.

Hageman-Schank, Inc., Proposal for Subsurface Investigation, Former Chevron Station, 11727 Main Street, Sunol, California, 25 July 1990.

Hageman-Schank, Inc., Report of Groundwater Sampling, Former Chevron Station, 11727 Main Street, Sunol, California, 10 December 1990.

Hageman-Aguiar, Inc., Quarterly Groundwater Sampling Report and Proposal for Additional Subsurface Investigation, Former Chevron Station, 11727 Main Street, Sunol, California, 27 August 1992.

Former Chevron Station
11727 Main Street, Sunol, California

TABLE 1: RESULTS OF GROUND WATER SAMPLE ANALYSES (IN μ G/L)

Well	Date	TPHg	TPHd	TPHk	B	T	E	X	TOG
MW1	11/13/90	ND	840	NA	ND	ND	ND	ND	NA
MW1	2/26/91	ND	ND	NA	ND	ND	ND	ND	NA
MW1	5/16/91	ND	ND	NA	ND	ND	ND	ND	NA
MW1	8/19/91	260	220	NA	0.6	ND	0.7	3.1	NA
MW1	12/20/91	500	480	NA	ND	ND	ND	1.7	NA
MW1	2/12/92	440	ND	2,200	0.6	0.6	0.6	2.9	NA
MW1	5/13/92	ND	ND	280	ND	ND	0.6	3.6	ND
MW1	8/10/92	ND	650	520	ND	ND	ND	ND	NA
MW1	12/4/92	ND	180	120	ND	ND	ND	ND	ND
MW1	2/22/93	ND	ND	ND	ND	ND	ND	ND	ND
MW1	7/1/93	ND	ND	0.3	ND	ND	ND	ND	NA
MW1	4/19/94	0.3	ND	0.63	0.6	ND	ND	ND	NA
MW2	7/1/93	ND	ND	ND	ND	ND	ND	ND	NA
MW2	4/19/94	ND	ND	ND	ND	ND	ND	ND	NA
MW3	7/19/93	ND	ND	ND	ND	ND	ND	ND	NA
MW3	4/19/94	ND	ND	ND	ND	ND	ND	ND	NA

LEGEND

TPHg: Total Petroleum Hydrocarbons as Gasoline (mg/L)
 TPHd: Total Petroleum Hydrocarbons as Diesel (mg/L)
 TPHk: Total Petroleum Hydrocarbons as Kerosene (mg/L)
 BTEX: Benzene, Toluene, Ethylbenzene, Xylene Isomers (μ g/L)
 TOG: Total Oil and Grease (mg/L)
 ND: Not Detected
 NA: Not Analyzed
 Note: Sampling conducted prior to 7/19/93 reported by HSI

Former Chevron Station
11727 Main Street, Sunol, California

**TABLE 2: MEASUREMENTS OF PH, TEMPERATURE,
AND CONDUCTIVITY IN PURGED WATER
FROM WELLS MW1, MW2, AND MW3**

<u>WELL</u>	<u>VOLUME PURGED</u> (gallons)	<u>pH</u>	<u>TEMPERATUR</u> <u>E</u> (Fahrenheit)	<u>CONDUCTIVITY</u> ($\times 10^3$)
MW1	6	6.9	68.1	1.53
	12	6.9	68.0	1.38
	18	6.9	67.6	1.32
MW2	4	7.6	68.5	1.32
	8	7.9	68.8	1.26
	12	8.0	68.7	1.30
MW3	4	8.4	69.2	0.7
	8	8.1	69.8	0.9
	12	7.7	68.6	1.2

Former Chevron Station
11727 Main Street, Sunol, California

TABLE 3: QUARTERLY WELL ELEVATION DATA

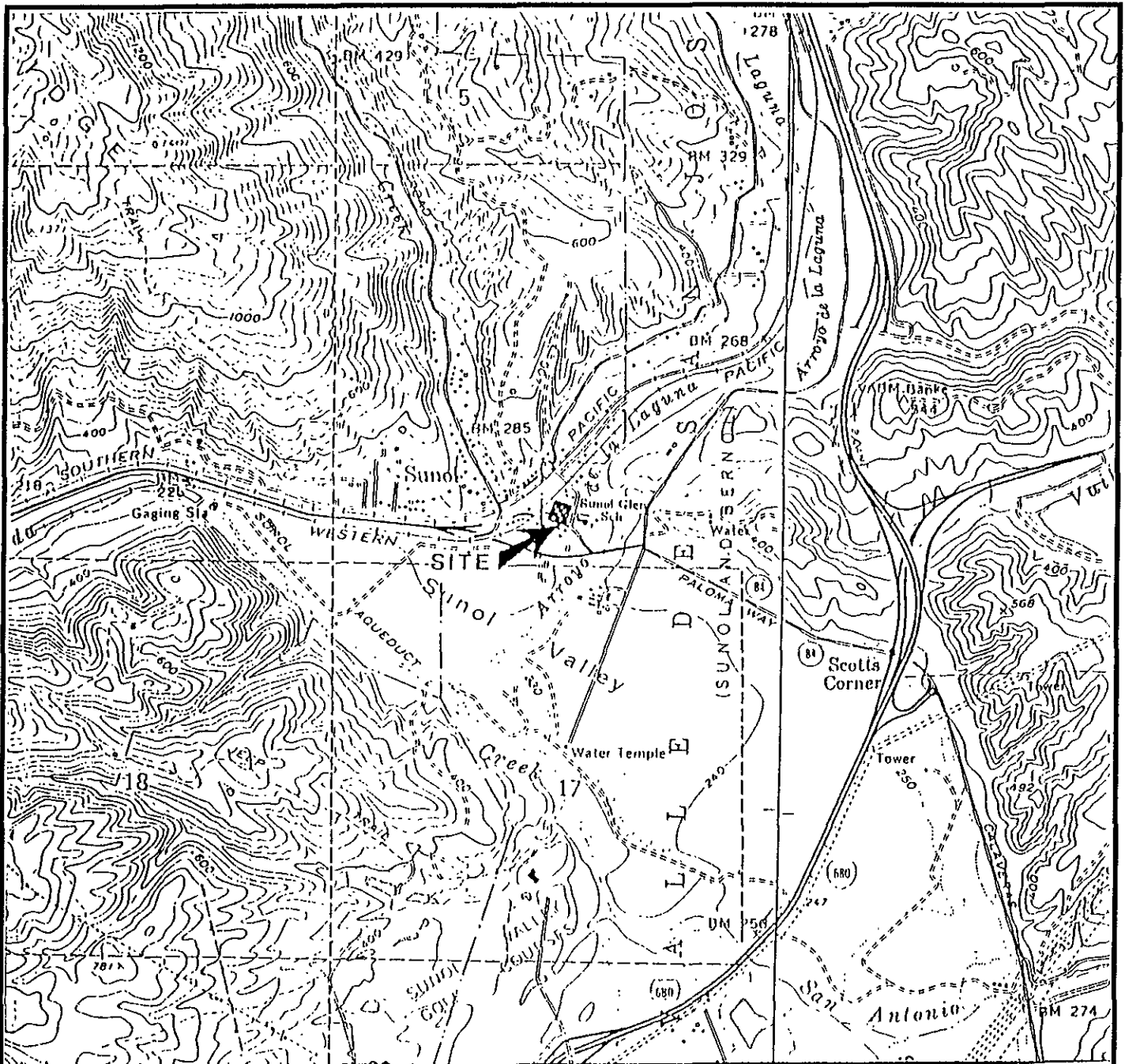
<u>WELL DESIGNATION</u>	<u>DATE OF MEASUREMENT</u>	<u>DEPTH TO WATER MEASURED IN FEET</u>	<u>SURVEYED TOP OF CASING ELEVATION</u>
MW1	3/30/94	20.89	37.25
" "	12/22/93	21.23	" "
MW2	3/30/94	21.14	37.38
" "	12/22/93	21.42	" "
MW3	3/30/94	20.62	36.75
" "	12/22/93	20.92	" "

13 May 1994

Jim O'Laughlin
Former Chevron Station
11727 Main Street, Sunol, California

Page A

APPENDIX A
FIGURES



From USGS La Costa Valley and Niles 7.5-Minute Quadrangles



ENVIRONMENTAL
BIO-SYSTEMS, INC.

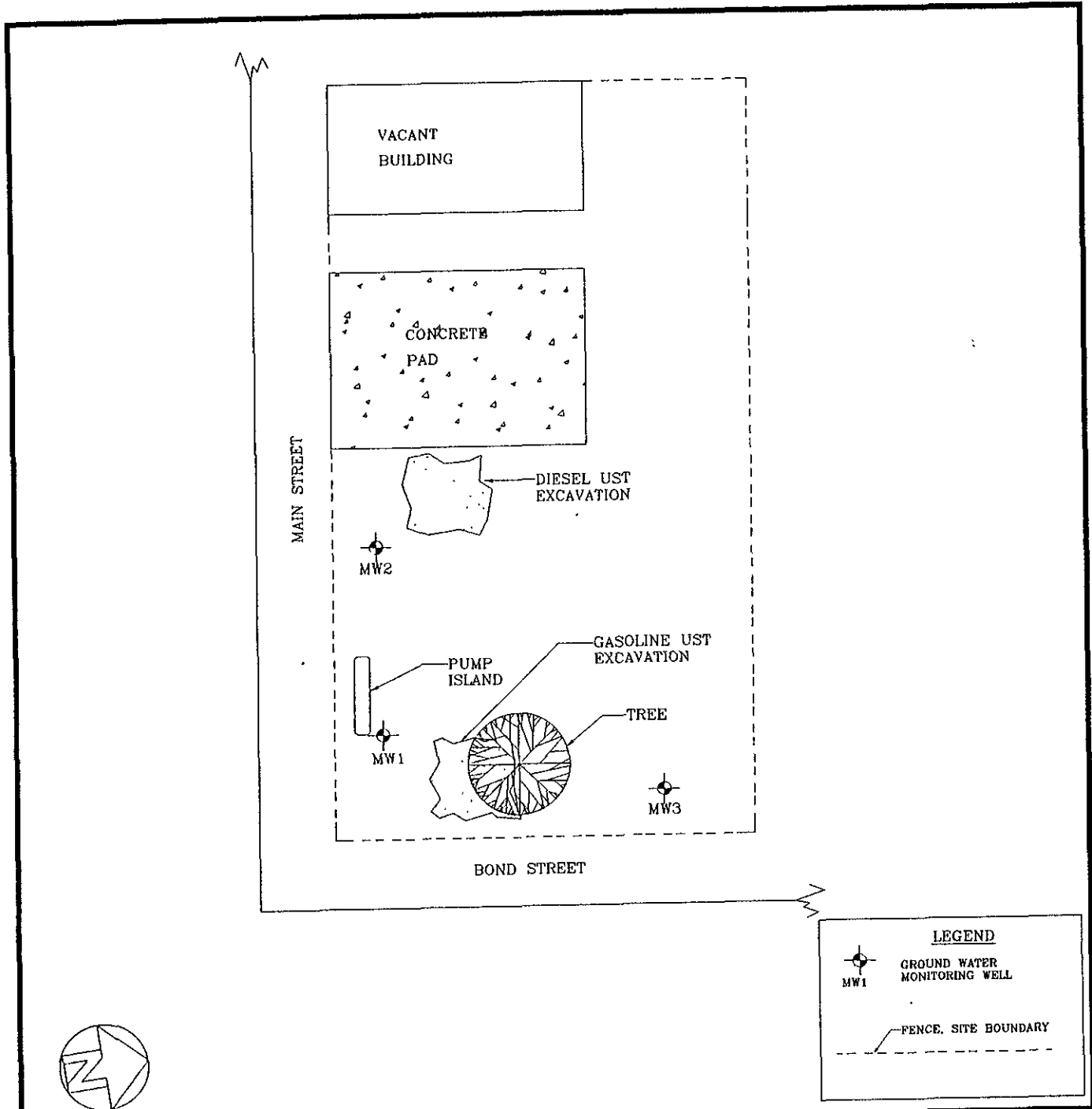
DATE:
5/13/94

DRAWN BY:
DAS


SCALE:
1"=2,000'

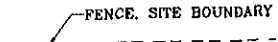
FIGURE 1: SITE LOCATION MAP

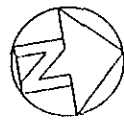
Former Chevron Station
11727 Main Street
Sunol, California




LEGEND

 GROUND WATER MONITORING WELL

 FENCE, SITE BOUNDARY



 <p>ENVIRONMENTAL BIO-SYSTEMS, INC.</p>	<p>DATE: 5/13/94</p>	<p>FIGURE 2: SITE PLAN</p>
	<p>DRAWN BY: DAS</p>	
	<p>SCALE: 1" = 30'</p>	

13 May 1994

Jim O'Laughlin
Former Chevron Station
11727 Main Street, Sunol, California

Page B

APPENDIX B
WELL MONITORING LOGS

GROUND WATER SAMPLE COLLECTION LOG FOR WELL No. MW1

Project Name: O'Laughlin
 Project No.: 083-300-01B
 Date and Time Collected: 4/19/94
 Sample No.: MW1

Sample Collected by: Sadoff
 Weather: sunny, mild, slightly breezy

EQUIPMENT

Purging Method/Equipment: bailer
 Sampling Method/Equipment: bailer (disposable)

PURGING INFORMATION

Casing Diameter (A): 2" Unit Casing Volume (Gal/Linear Ft.) (B): 0.17
 Total Depth to Well Bottom (C): 64.2 Depth to Water (D): 29.95
 Length of Water Column in Casing (E) = (C) - (D) = _____ - _____ = _____
 Casing Water Volume (F) = (B) × (E) = _____ × _____ = _____
 Purged Well Volume (G) = (F) × 4 = 24 gallons
 2"= 0.17 (Gal/Lin.Ft.); 3"= 0.38 (Gal/Lin.Ft.); 4"= 0.66 (Gal/Lin.Ft.); 6"= 1.50 (Gal/Lin.Ft.)

Volume	pH	Temperature	Conductance (×1000)	Water Description	Time
5 gallons	7.3	66.1	1.17	clear	11:43
10 gallons	7.2	65.7	1.16	clear	11:50
15 gallons	7.1	65.5	1.16	clear	11:53
20 gallons	7.2	65.6	1.16	clear	12:02
24 gallons	7.2	65.5	1.16	clear	12:10

COMMENTS:

No sheen or odor.

GROUND WATER SAMPLE COLLECTION LOG FOR WELL No. MW2

Project Name: O'Laughlin
 Project No.: 083-300-01B
 Date and Time Collected: 4/19/94
 Sample No.: MW2

Sample Collected by: Sadoff
 Weather: sunny, mild, slightly breezy

EQUIPMENT

Purging Method/Equipment: bailer
 Sampling Method/ Equipment: bailer (disposable)

PURGING INFORMATION

Casing Diameter (A): 2" Unit Casing Volume (Gal/Linear Ft.) (B): _____
 Total Depth to Well Bottom (C): 50.25 Depth to Water (D): 30.33
 Length of Water Column in Casing (E) = (C) - (D) = _____ = _____
 Casing Water Volume (F) = (B) × (E) = _____ × _____ = _____
 Purged Well Volume (G) = (F) × 4 = 14 gallons
 2"= 0.17 (Gal/Lin.Ft.); 3"= 0.38 (Gal/Lin.Ft.); 4"= 0.66 (Gal/Lin.Ft.); 6"= 1.50 (Gal/Lin.Ft.)

Volume	pH	Temperature	Conductance (×1000)	Water Description	Time
5 gallons	7.6	62.3	1.21	clear	11:16
10 gallons	7.7	62.0	1.23	cloudy	11:22
14 gallons	7.6	61.9	1.23	cloudy	11:30

COMMENTS:

No sheen or odor.

GROUND WATER SAMPLE COLLECTION LOG FOR WELL No. MW3

Project Name: O'Laughlin
 Project No.: 083-300-01B
 Date and Time Collected: 4/19/94
 Sample No.: MW3

Sample Collected by: Sadoff
 Weather: sunny, mild, slightly breezy

EQUIPMENT

Purging Method/Equipment: bailer
 Sampling Method/ Equipment: bailer (disposable)

PURGING INFORMATION

Casing Diameter (A): 2" Unit Casing Volume (Gal/Linear Ft.) (B): _____
 Total Depth to Well Bottom (C): 42.60 Depth to Water (D): 28.52
 Length of Water Column in Casing (E) = (C) - (D) = _____ - _____ = _____
 Casing Water Volume (F) = (B) × (E) = _____ × _____ = _____
 Purged Well Volume (G) = (F) × 4 = 10 gallons
 2"= 0.17 (Gal/Lin.Ft.); 3"= 0.38 (Gal/Lin.Ft.); 4"= 0.66 (Gal/Lin.Ft.); 6"= 1.50 (Gal/Lin.Ft.)

Volume	pH	Temperature	Conductance (× 1000)	Water Description	Time
5 gallons	7.7	62.9	1.20	clear	10:50
10 gallons	7.6	62.8	1.22	cloudy	11:02

COMMENTS:
 No sheen or odor.

13 May 1994

Jim O'Laughlin
Former Chevron Station
11727 Main Street, Sunol, California

Page C

APPENDIX C
LABORATORY REPORTS
AND CHAIN OF CUSTODY
DOCUMENTATION

American Environmental Network

Certificate of Analysis

AHIA Accreditation: 11134

DOHS Certification: 4472

PAGE 1

ENVIRONMENTAL BIO-SYSTEMS
30028 INDUSTRIAL PKWY., S.W.
SUITE C
HAYWARD, CA 94544

ATTN: DAVE SADOFF
CLIENT PROJ. ID: 083-300-01B
CLIENT PROJ. NAME: O'LAUGHLIN

REPORT DATE: 05/04/94

DATE(S) SAMPLED: 04/19/94

DATE RECEIVED: 04/19/94

AEN WORK ORDER: 9404214


PROJECT SUMMARY:

On April 19, 1994, this laboratory received 3 water sample(s).

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

Please see quality control report for a summary of QC data pertaining to this project.

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


Larry Klein
General Manager

ENVIRONMENTAL BIO-SYSTEMS

SAMPLE ID: MW1
 AEN LAB NO: 9404214-01
 AEN WORK ORDER: 9404214
 CLIENT PROJ. ID: 083-300-01B

DATE SAMPLED: 04/19/94
 DATE RECEIVED: 04/19/94
 REPORT DATE: 05/04/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	0.6 *	0.5	ug/L	04/21/94
Toluene	108-88-3	ND	0.5	ug/L	04/21/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	04/21/94
Xylenes, Total	1330-20-7	ND	2	ug/L	04/21/94
Purgeable HCs as Gasoline	5030/GCFID	0.3 *	0.05	mg/L	04/21/94
#Extraction for Diesel/Oil	EPA 3510	-		Extrn Date	04/21/94
TPH as Diesel	GC-FID	ND	0.05	mg/L	04/22/94
TPH as Kerosene	GC-FID	0.63 *	0.05	mg/L	04/22/94

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

ENVIRONMENTAL BIO-SYSTEMS

SAMPLE ID: MW2
 AEN LAB NO: 9404214.02
 AEN WORK ORDER: 9404214
 CLIENT PROJ. ID: 083-300-01B

DATE SAMPLED: 04/19/94
 DATE RECEIVED: 04/19/94
 REPORT DATE: 05/04/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	04/21/94
Toluene	108-88-3	ND	0.5	ug/L	04/21/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	04/21/94
Xylenes, Total	1330-20-7	ND	2	ug/L	04/21/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	04/21/94
#Extraction for Diesel/Oil	EPA 3510	-		Extrn Date	04/21/94
TPH as Diesel	GC-FID	ND	0.05	mg/L	04/22/94
TPH as Kerosene	GC-FID	ND	0.05	mg/L	04/22/94

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

ENVIRONMENTAL BIO-SYSTEMS

SAMPLE ID: MW3
 AEN LAB NO: 9404214-03
 AEN WORK ORDER: 9404214
 CLIENT PROJ. ID: 083-300-01B

DATE SAMPLED: 04/19/94
 DATE RECEIVED: 04/19/94
 REPORT DATE: 05/04/94

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	04/21/94
Toluene	108-88-3	ND	0.5	ug/L	04/21/94
Ethylbenzene	100-41-4	ND	0.5	ug/L	04/21/94
Xylenes, Total	1330-20-7	ND	2	ug/L	04/21/94
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	04/21/94
#Extraction for Diesel/Oil	EPA 3510	-		Extrn Date	04/21/94
TPH as Diesel	GC-FID	ND	0.05	mg/L	04/22/94
TPH as Kerosene	GC-FID	ND	0.05	mg/L	04/22/94

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

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9404214

CLIENT PROJECT ID: 083-300-01B

Quality Control Summary

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

Definitions

The following abbreviations are found throughout the QC report:

ND = Not Detected at or above the reporting limit
RPD = Relative Percent Difference
< = Less Than

QUALITY CONTROL DATA

DATE EXTRACTED: 04/14/94
DATE ANALYZED: 04/15/94
CLIENT PROJ. ID: 083-300-01B

AEN JOB NO: 9404214
SAMPLE SPIKED: DI WATER
INSTRUMENT: C

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

ANALYTE	Spike Added (mg/L)	Average Percent Recovery	RPD
Diesel	2.09	86	5

CURRENT QC LIMITS

<u>Analyte</u>	<u>Percent Recovery</u>	<u>RPD</u>
Diesel	(63-109)	10

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

QUALITY CONTROL DATA

CLIENT PROJ. ID: 083-300-01B

AEN JOB NO: 9404214

INSTRUMENT: F

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

Date Analyzed	SAMPLE IDENTIFICATION		SURROGATE RECOVERY (PERCENT)
	Client Id.	Lab Id.	Fluorobenzene
04/21/94	MW1	01	104
04/21/94	MW2	02	105
04/21/94	MW3	03	105

CURRENT QC LIMITS

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

QUALITY CONTROL DATA

DATE ANALYZED: 04/20/94
SAMPLE SPIKED: LCS
CLIENT PROJ. ID: 083-300-01B

AEN JOB NO: 9404214
INSTRUMENT: F

LABORATORY CONTROL SAMPLE
METHOD: EPA 8020, 5030 GCFID
(WATER MATRIX)

ANALYTE	Spike Added (ug/L)	Percent Recovery
Benzene	10.0	100
Toluene	34.7	109
Hydrocarbons as Gasoline	500	105

CURRENT QC LIMITS

<u>Analyte</u>	<u>Percent Recovery</u>
Benzene	(65-122)
Toluene	(67-124)
Gasoline	(60-125)

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

*** END OF REPORT ***



ENVIRONMENTAL BIO-SYSTEMS, INC.
 Innovative Solutions for a Better Environment
 30028 Industrial Pkwy., S.W.
 Suite C
 Hayward, CA 94544

CHAIN OF CUSTODY

9404214

PROJECT NUMBER: 083-300-01B
 CLIENT: O'LAUGHLIN
 SITE: 11727 MAIN ST.
SUNOL, CA

COMPOSITE	ANALYSIS							
	TPH	BTEX	TRID	TPHK				
	X	X	X					
	X	X	X					
	X	X	X					

ALL SAMPLES TO BE ANALYZED USING METHODS AND DETECTION LIMITS ESTABLISHED BY REGION _____ OF THE STATE WATER RESOURCES CONTROL BOARD.

INSTRUCTIONS:

SAMPLE I.D.	MATRIX	NUMBER OF CONTAINERS	TURNAROUND	SAMPLE CONDITION	LAB SAMPLE#
MW1	H ₂ O	4	STANDARD		01A-D
MW2	"	4	"		02A-D
MW3	"	4	"		03A-D

SAMPLING COMPLETED: DATE 4/19/94 TIME 12:29 SAMPLING PERFORMED BY: D. SADOFF

RELEASED BY: [Signature] DATE 4/19/94 TIME 16:32 RECEIVED BY: [Signature] DATE 4/19/94 TIME 16:??

RELEASED BY: [Signature] DATE 4/19/94 TIME 17:55 RECEIVED BY: [Signature] DATE 4/19/94 TIME 17:55

RELEASED BY: _____ DATE _____ TIME _____ RECEIVED BY: _____ DATE _____ TIME _____

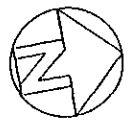
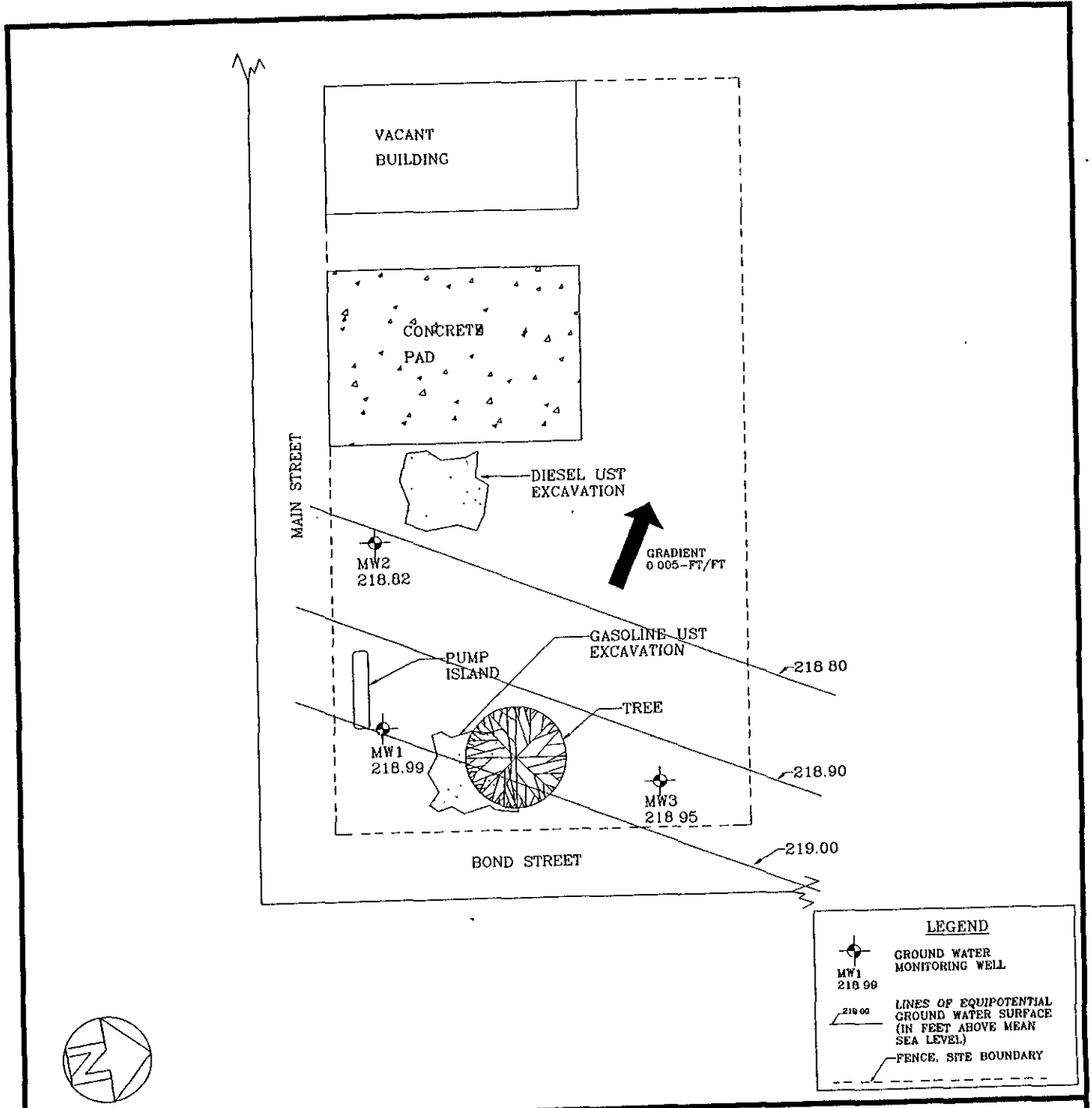
SHIPPED VIA: _____ DATE SENT _____ TIME SENT _____ COOLER # _____


13 May 1994

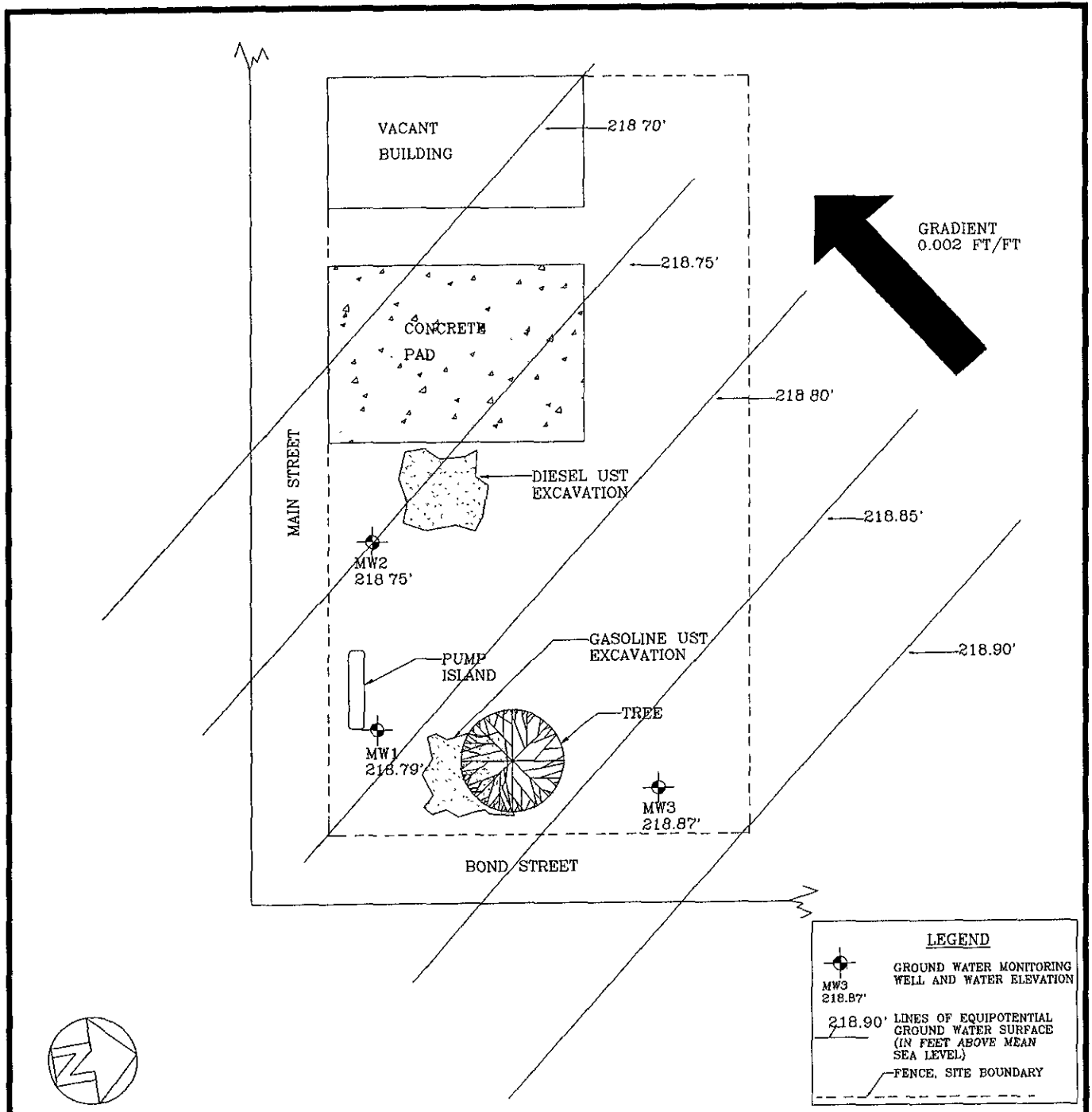
Jim O'Laughlin
Former Chevron Station
11727 Main Street, Sunol, California


Page D

APPENDIX D
GROUND WATER GRADIENT MAPS



 <p>ENVIRONMENTAL BIO-SYSTEMS, INC.</p>	DATE: 5/13/94	FIGURE 1: GROUND WATER GRADIENT MAP, MEASURED 1 JULY 1993
	DRAWN BY: DAS	
	SCALE: 1" = 30'	



 <p>ENVIRONMENTAL BIO-SYSTEMS, INC.</p>	DATE: 5/13/94	FIGURE 2: GROUND WATER GRADIENT MAP, MEASURED 19 APRIL 1994
	DRAWN BY: DAS	
	SCALE: 1" = 30'	