

ENVIRONMENTAL
PROTECTION
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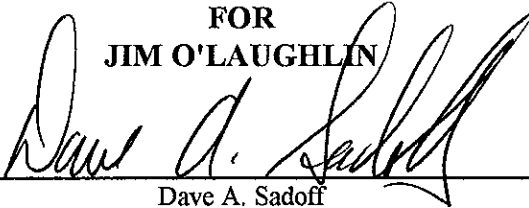
QUARTERLY GROUND WATER
MONITORING REPORT

JUNE 1995
PROJECT #083-358B

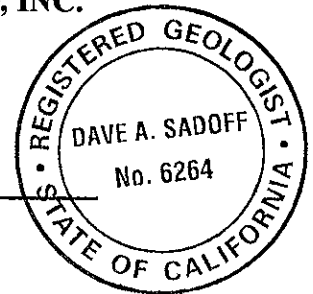
FORMER CHEVRON STATION
11727 MAIN STREET
SUNOL, CALIFORNIA

PREPARED BY ENVIRONMENTAL BIO-SYSTEMS, INC.

FOR
JIM O'LAUGHLIN



Dave A. Sadoff
California R.G. No. 6264



7 July 1995

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7 July 1995

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

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ENVIRONMENTAL BIO-SYSTEMS, INC.

Innovative Solutions for a Better Environment

Cont. Lic. # 687236

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 Health Care Services Agency (ACHCSA).

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 ACHCSA. 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 elevations 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, slightly dipping 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 gravely 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 underground storage tank (UST) used to contain diesel fuel, one 550 gallon UST used to contain regular gasoline, one 1,000 gallon UST used to contain unleaded gasoline, and one 1,000 gallon UST used to contain premium gasoline were excavated and removed from the site by Hageman Schank, Inc. (HSI) on 7 February 1990.



ENVIRONMENTAL BIO-SYSTEMS, INC.
Innovative Solutions for a Better Environment

93 OCT -5 PM 12:44

4 October 1993

Mr. Scott Seery
Alameda County Health Care Services Agency
80 Swan Way, Room 200
Oakland, CA 94621

**RE: EBS Report #083-246-01B, Former Chevron Station, 11727
Main Street, Sunol, California**

Dear Mr. Seery:

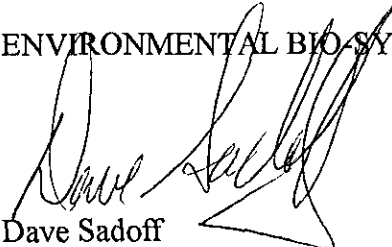
Please find enclosed pages 20, 21, and 22 of our report referenced above. These pages are Figures 1 through 3, titled "Site Location Map, Site Diagram, and Ground Water Gradient Map", respectively.

Please insert these pages in the appropriate place in our report (immediately preceding Appendix A). We apologize for any inconvenience this may cause you.

We may be reached at (510) 429-9988 if you have any further questions or comments.

Sincerely,

ENVIRONMENTAL BIO-SYSTEMS, INC.


Dave Sadoff
Project Geologist

DAS/
encl.

Soil samples collected by HSI from the UST excavation sidewalls and bottom 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 enlarged 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 utilizing 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. EBS initiated quarterly ground water sampling in April 1994. 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 6 June 1995. 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 each 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 stainless steel bailer (approximately 1/3 gallon capacity). Periodic measurements of pH, temperature, and conductivity were taken of the purged ground water until the measurements were found to stabilize. Table 2 lists these measurements recorded during the well purging, prior to ground water sampling.

Approximately 27 gallons of water was purged from MW1, 17 gallons from MW2, and 13 gallons from MW3 prior to sampling. All water evacuated from the wells was contained on-site in labeled 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. A new polyethylene disposable bailer was used to collect a ground water sample from each well. Ground water samples were contained in unpreserved, laboratory cleaned 1 liter amber bottles and 40 milliliter volatile organic analysis vials containing hydrochloric acid as a preservative. The sample bottles were labeled, placed in a cooler on top of crushed ice, and transported under chain of custody to American Environmental Network (AEN) laboratory of Pleasant Hill, California. AEN possesses current accreditation through the California State Department of Toxic Substances Control environmental laboratory accreditation program (ELAP) to perform the stated analyses. Chain of custody documentation is included in Appendix C.

5.2. DECONTAMINATION

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

All decontamination water was collected and stored on-site in labeled DOT approved 55 gallon drums. Disposal of the drummed liquids is pending, based on results of laboratory analyses.

6. SAMPLE ANALYSES 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.

6.1. GROUND WATER SAMPLE ANALYTICAL RESULTS

The ground water sample collected from MW1 contained 0.2 milligrams per liter (mg/L) TPHg; 0.6 micrograms per liter ($\mu\text{g/L}$) benzene; 0.1 mg/L

TPHd; and 0.3 mg/L TPHk. The ground water samples collected from MW2 and MW3 did not contain reportable concentrations of any of the chosen analytes.

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

The elevations of the tops of casings of wells MW1, MW2 and MW3 were surveyed 1 July 1993 by Fremont Engineers, Inc. (FEI) of Fremont, California. Ground water level measurements were taken on 6 June 1995. The direction and gradient of ground water flow across the site was evaluated as southwest and 0.002, respectively, on the indicated date. Figure 3 in Appendix A displays a graphic depiction of our evaluation.

8. SUMMARY AND CONCLUSIONS

1. Free product was not observed in any of the wells monitored during this scope of work.
2. Samples collected from wells MW1, MW2, and MW3 were analyzed for TPHg, BTEX, TPHd, and TPHk.
3. The sample from wells MW2 and MW3 did not yield reportable concentrations of any of the above analytes.
4. A ground water sample collected from MW1 contained 0.2 mg/L TPHg; 0.6 µg/L benzene; 0.1 mg/L TPHd; and 0.3 mg/L TPHk.

5. Ground water flow direction and gradient were measured 6 June 1995 at to the southwest and 0.002 ft/ft, respectively.

9. 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

responsibility of the client to convey these recommendations to regulatory agencies and other parties, 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

10. REFERENCES

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

Environmental Bio-Systems, Inc., Quarterly Ground Water Monitoring Report, Former Chevron Station, 11727 Main Street, Sunol, California, April 1994

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.

7 July 1995

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

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

TABLE 1: RESULTS OF GROUND WATER SAMPLE ANALYSES

Well	Date	<i>mg/l</i>			<i>ug/l</i>				TOG
		TPHg	TPHd	TPHk	B	T	E	X	
MW1	11/13/90	ND	0.84	NA	ND	ND	ND	ND	--
MW1	2/26/91	ND	ND	NA	ND	ND	ND	ND	--
MW1	5/16/91	ND	ND	NA	ND	ND	ND	ND	--
MW1	8/19/91	0.26	0.22	NA	0.6	ND	0.7	3.1	--
MW1	12/20/91	0.50	0.48	NA	ND	ND	ND	1.7	--
MW1	2/12/92	0.44	ND	2.20	0.6	0.6	0.6	2.9	--
MW1	5/13/92	ND	ND	0.28	ND	ND	0.6	3.6	ND
MW1	8/10/92	ND	0.65	0.52	ND	ND	ND	ND	--
MW1	12/4/92	ND	0.18	0.12	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	--
MW1	4/19/94	0.3	ND	0.63	0.6	ND	ND	ND	--
MW1	6/6/95	0.2	0.1	0.3	0.6	ND	ND	ND	--
MW2	7/1/93	ND	ND	ND	ND	ND	ND	ND	--
MW2	4/19/94	ND	ND	ND	ND	ND	ND	ND	--
MW2	6/6/95	ND	ND	ND	ND	ND	ND	ND	--
MW3	7/19/93	ND	ND	ND	ND	ND	ND	ND	--
MW3	4/19/94	ND	ND	ND	ND	ND	ND	ND	--
MW3	6/6/95	ND	ND	ND	ND	ND	ND	ND	--

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 (ug/L)
 TOG: Total Oil and Grease (mg/L)
 ND: Not Detected
 --: Not Analyzed
 Note: Sampling conducted prior to 7/19/93 reported by HSI

**TABLE 2: MEASUREMENTS OF PH, TEMPERATURE,
AND CONDUCTIVITY FROM PURGED
GROUND WATER**

WELL	VOLUME PURGED (gallons)	pH (Standard Units)	TEMPERATURE (Fahrenheit)	CONDUCTIVITY (x10 ²)
MW1	5	7.1	62.3	4.65
	10	7.0	66.2	9.95
	15	8.1	69.9	13.13
	20	7.9	62.2	12.32
	25	7.9	62.3	12.15
MW2	4	8.8	60.8	7.80
	8	8.3	58.8	7.60
	12	7.9	58.0	7.65
	16	7.7	57.5	7.52
MW3	4	7.2	60.0	7.8
	8	7.4	58.7	7.60
	12	7.3	58.1	7.64

TABLE 3: QUARTERLY WELL ELEVATION DATA

WELL DESIG- NATION	DATE OF MEASURE -MENT	DEPTH TO WATER MEASURED IN FEET	SURVEYED TOP OF CASING ELEVATION (ABOVE MSL)	GROUND WATER ELEVATION (ABOVE MSL)
MW1	7/1/93	29.75	248.74	218.99
	4/19/94	29.95	248.74	218.79
	6/6/95	25.59	248.74	223.15
MW2	7/1/93	30.26	249.08	218.82
	4/19/94	30.33	249.08	218.75
	6/6/95	25.98	249.08	223.10
MW3	7/1/93	28.44	247.39	218.95
	4/19/94	28.52	247.39	218.87
	6/6/95	24.15	247.39	223.24

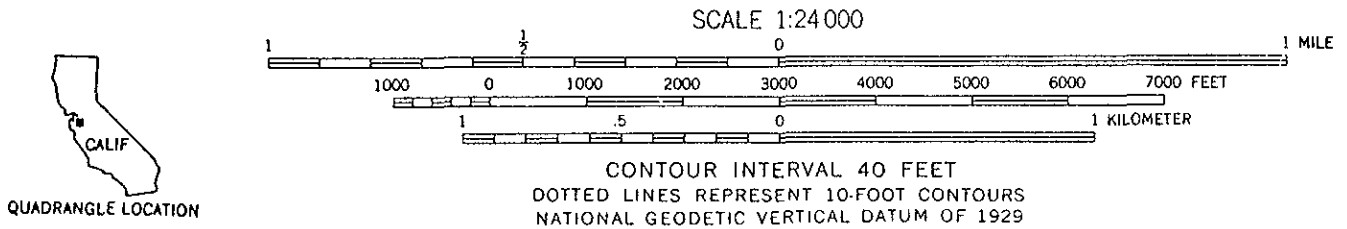
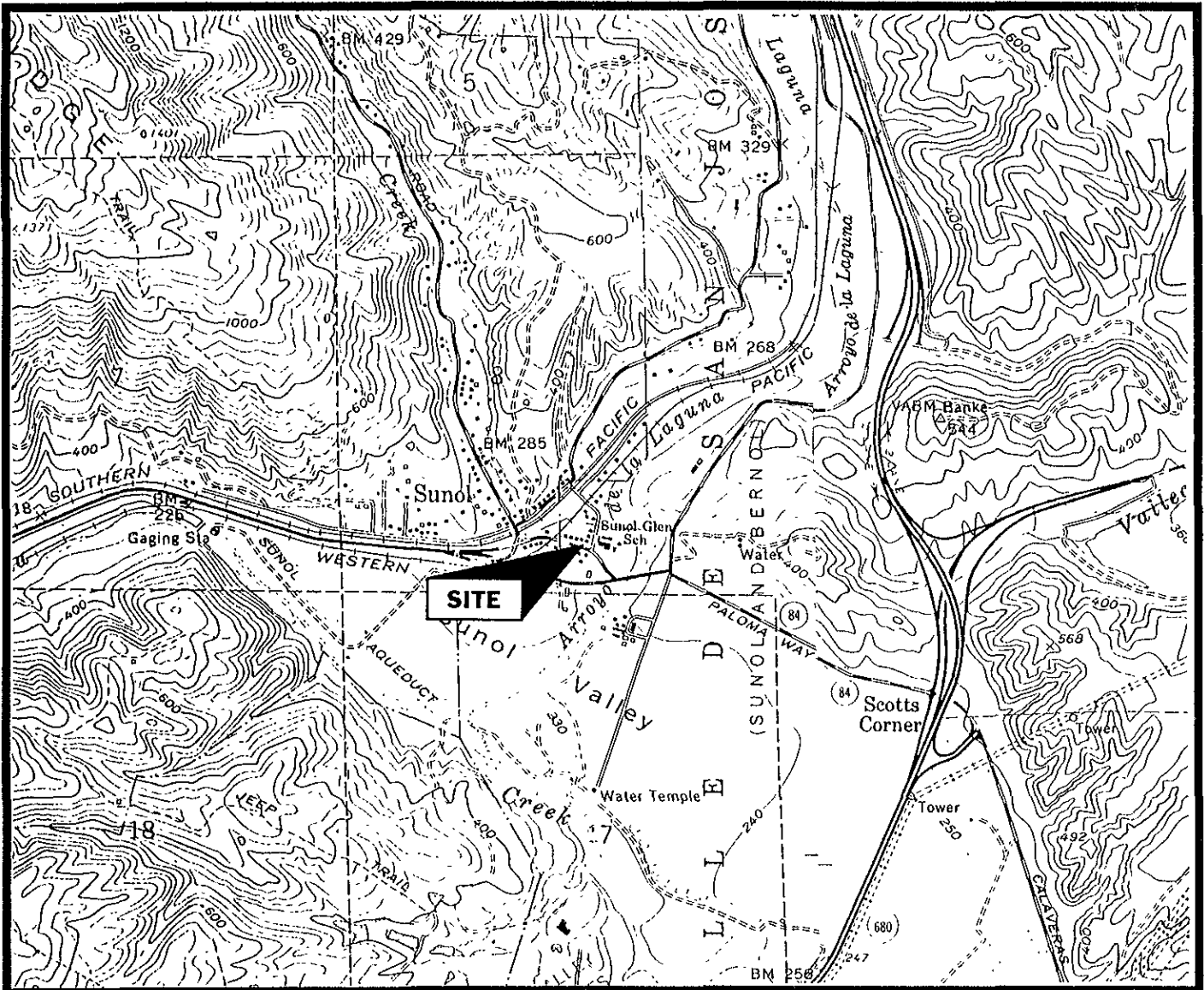
7 July 1995

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

Page A

APPENDIX A

FIGURES



Source: USGS La Costa Valley and Niles 7.5 Minute Quadrangles

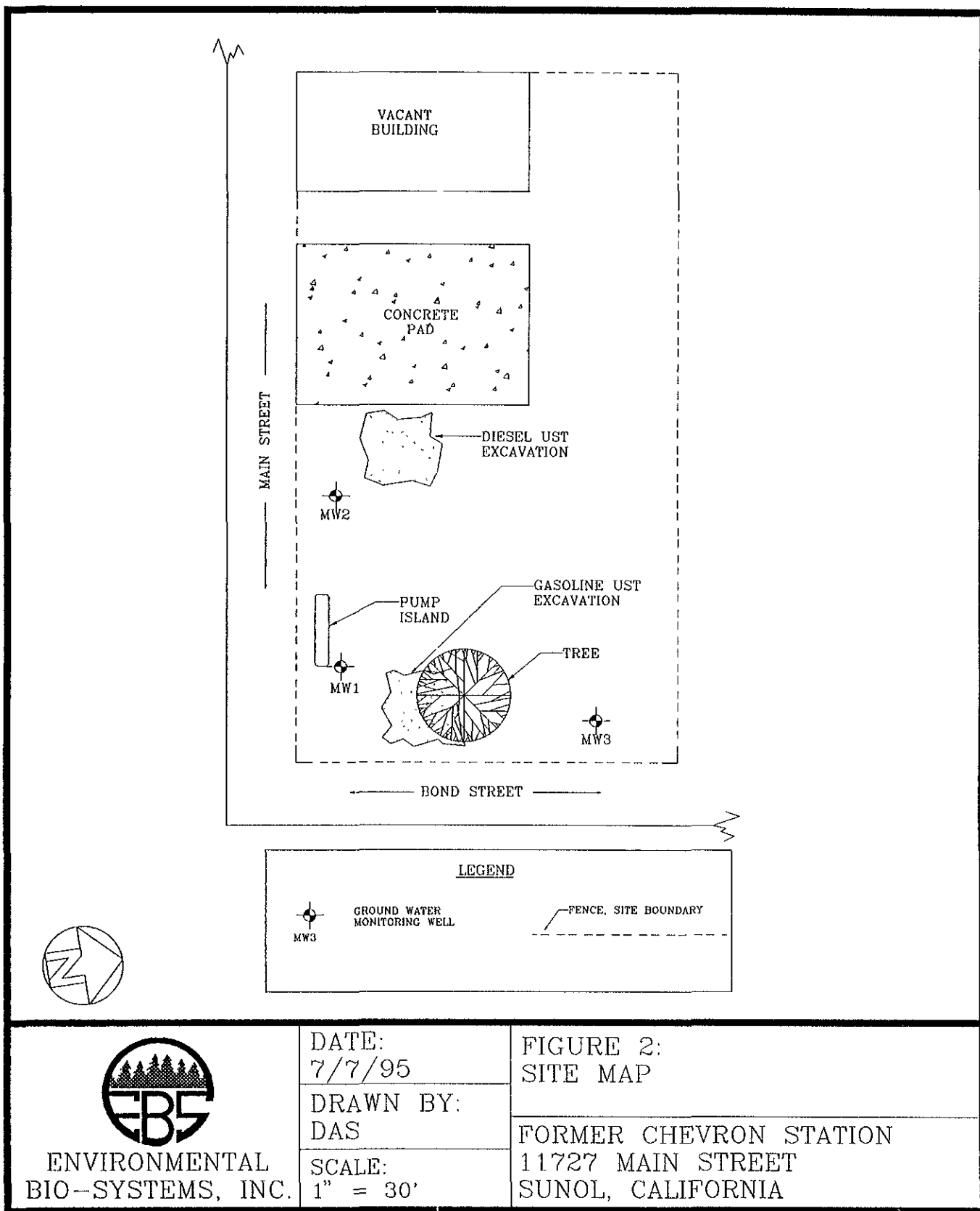


DATE:
 7/7/95

DRAWN BY:
 BJN

SCALE:
 1"=2,000'

FIGURE 1:
 SITE LOCATION MAP
 FORMER CHEVRON STATION
 11727 MAIN STREET
 SUNOL, CALIFORNIA



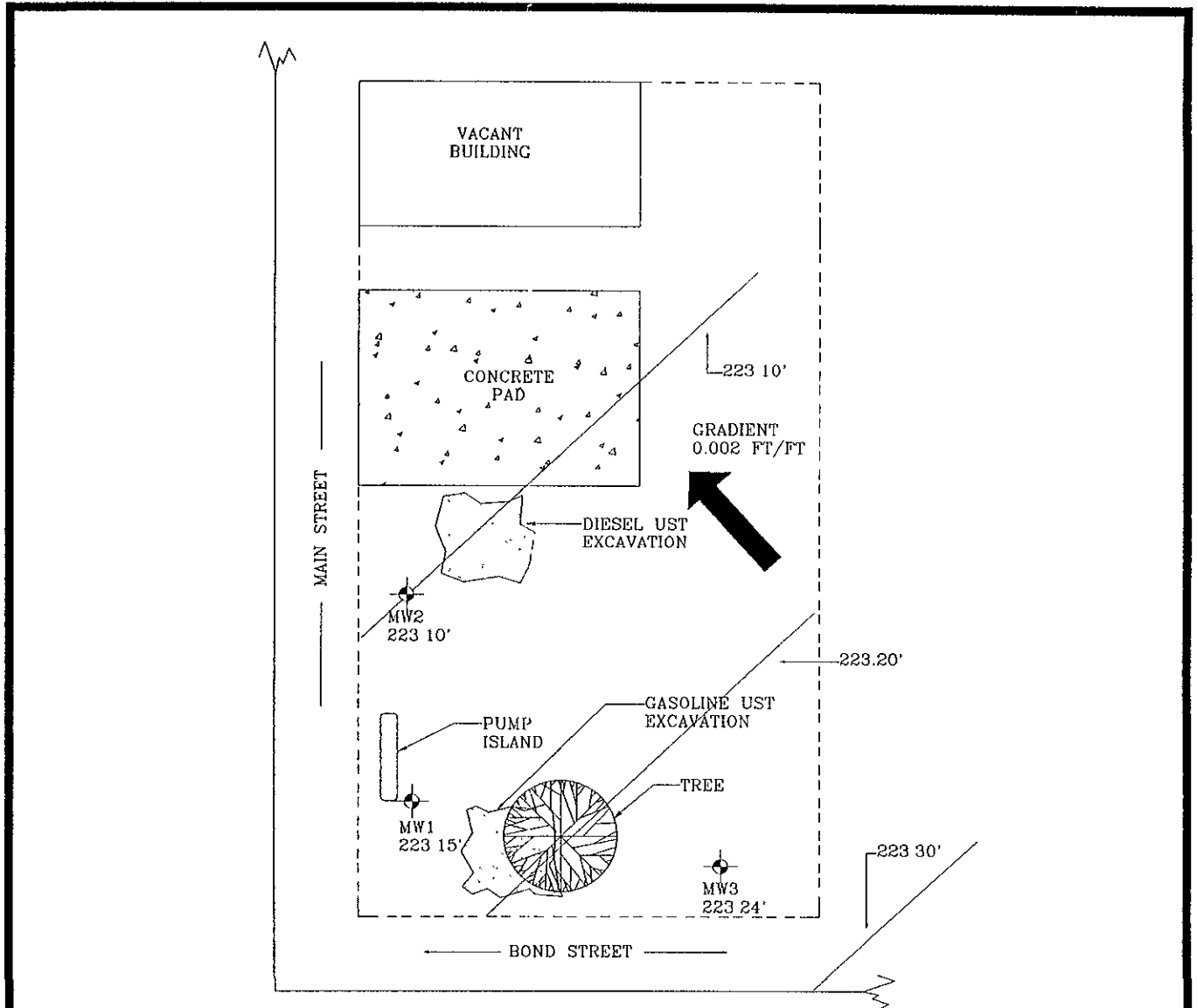
DATE:
7/7/95

DRAWN BY:
DAS


SCALE:
1" = 30'

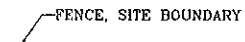
FIGURE 2:
SITE MAP


FORMER CHEVRON STATION
11727 MAIN STREET
SUNOL, CALIFORNIA




LEGEND


 GROUND WATER MONITORING WELL AND WATER ELEVATION (IN FEET ABOVE MEAN SEA LEVEL)
 MW3 223 24'


 FENCE, SITE BOUNDARY


 223.30' LINES OF EQUIPOTENTIAL GROUND WATER SURFACE (IN FEET ABOVE MEAN SEA LEVEL)



 ENVIRONMENTAL BIO-SYSTEMS, INC.	DATE: 7/7/95	FIGURE 3: GROUND WATER GRADIENT MAP, MEASURED 6 JUNE 1995
	DRAWN BY: DAS	FORMER CHEVRON STATION 11727 MAIN STREET SUNOL, CALIFORNIA
	SCALE: 1" = 30'	

7 July 1995

Mr. 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, Jim
 Project No.: 083-358
 Date and Time Collected: 6/6/95
 Sample No.: MW1

Sample Collected by: Arcayena
 Weather: sunny, warm, breezy

EQUIPMENT

Purging Method/Equipment: downhole electric pump
 Sampling Method/Equipment: bailer

PURGING INFORMATION

Casing Diameter (A): 2" Unit Casing Volume (Gal/Linear Ft.) (B): 0.17 gallons
 Total Depth to Well Bottom (C): 64.2' Depth to Water (D): 25.59'
 Length of Water Column in Casing (E) = (C) - (D) = _____ = _____
 Casing Water Volume (F) = (B) × (E) = _____ × _____ = _____
 Purged Well Volume (G) = (F) × 4 = 27 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 (×100)	Water Description	Time
5	7.1	62.3	4.65	clear	13:22
10	7.0	66.2	9.95	"	13:50
15	8.1	69.9	13.13	"	14:15
20	7.9	62.2	12.32	"	14:44
25	7.9	62.3	12.15	"	14:58

COMMENTS:

No sheen or odor.

GROUND WATER SAMPLE COLLECTION LOG FOR WELL No. MW2

Project Name: O'Laughlin, Jim
 Project No.: 083-358
 Date and Time Collected: 6/6/95
 Sample No.: MW2

Sample Collected by: Arcayena
 Weather: sunny, warm, breezy

EQUIPMENT

Purging Method/Equipment: downhole electric pump
 Sampling Method/Equipment: bailer

PURGING INFORMATION

Casing Diameter (A): 2" Unit Casing Volume (Gal/Linear Ft.) (B): 0.17 gallons
 Total Depth to Well Bottom (C): 50.25' Depth to Water (D): 25.98'
 Length of Water Column in Casing (E) = (C) - (D) = _____ = _____
 Casing Water Volume (F) = (B) × (E) = _____ × _____ = _____
 Purged Well Volume (G) = (F) × 4 = 17 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 (× 100)	Water Description	Time
4	8.8	60.8	7.80	cloudy	1:00
8	8.3	58.8	7.60	"	1:03
12	7.9	58.0	7.65	clear	1:05
16	7.7	57.5	7.52	"	1:08

COMMENTS:

No sheen or odor.

GROUND WATER SAMPLE COLLECTION LOG FOR WELL No. MW3

Project Name: O'Laughlin, Jim
 Project No.: 083-358
 Date and Time Collected: 6/6/95
 Sample No.: MW3

Sample Collected by: Arcayena
 Weather: sunny, warm, breezy

EQUIPMENT

Purging Method/Equipment: downhole electric pump
 Sampling Method/Equipment: bailer

PURGING INFORMATION

Casing Diameter (A): 2" Unit Casing Volume (Gal/Linear Ft.) (B): 0.17 gallons
 Total Depth to Well Bottom (C): 42.60' Depth to Water (D): 24.15'
 Length of Water Column in Casing (E) = (C) - (D) = _____ = _____
 Casing Water Volume (F) = (B) × (E) = _____ × _____ = _____
 Purged Well Volume (G) = (F) × 4 = 13 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 (× 100)	Water Description	Time
4	7.2	60.0	7.80	clear	1:18
8	7.4	58.7	7.60	"	1:22
12	7.3	58.1	7.64	"	1:25

COMMENTS:

No sheen or odor.

7 July 1995

Mr. 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

DOHS Certification: 1172

ADHA Accreditation: 11131

PAGE 1

ENVIRONMENTAL BIO-SYSTEMS, INC
30997 HUNTWOOD AVE, STE. 106
HAYWARD, CA 94544

REPORT DATE: 06/22/95

DATE(S) SAMPLED: 06/06/95

DATE RECEIVED: 06/07/95

ATTN: DAVE SADOFF
CLIENT PROJ. ID: 083-358B
CLIENT PROJ. NAME: JIM O'LAUGHLIN

AEN WORK ORDER: 9506096


PROJECT SUMMARY:

On June 7, 1995, this laboratory received 3 water sample(s).

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

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


Larry Klein
Laboratory Director

ENVIRONMENTAL BIO-SYSTEMS, INC

SAMPLE ID: MW1
 AEN LAB NO: 9506096-01
 AEN WORK ORDER: 9506096
 CLIENT PROJ. ID: 083-358B

DATE SAMPLED: 06/06/95
 DATE RECEIVED: 06/07/95
 REPORT DATE: 06/22/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	0.6 *	0.5	ug/L	06/12/95
Toluene	108-88-3	ND	0.5	ug/L	06/12/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	06/12/95
Xylenes, Total	1330-20-7	ND	2	ug/L	06/12/95
Purgeable HCs as Gasoline	5030/GCFID	0.2 *	0.05	mg/L	06/12/95
#Extraction for TPH	EPA 3510	-		Extrn Date	06/16/95
TPH as Diesel	GC-FID	0.1 *	0.05	mg/L	06/19/95
TPH as Kerosene	GC-FID	0.3 *	0.05	mg/L	06/19/95

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

ENVIRONMENTAL BIO-SYSTEMS, INC

SAMPLE ID: MW2
 AEN LAB NO: 9506096-02
 AEN WORK ORDER: 9506096
 CLIENT PROJ. ID: 083-358B

DATE SAMPLED: 06/06/95
 DATE RECEIVED: 06/07/95
 REPORT DATE: 06/22/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5 ug/L		06/12/95
Toluene	108-88-3	ND	0.5 ug/L		06/12/95
Ethylbenzene	100-41-4	ND	0.5 ug/L		06/12/95
Xylenes, Total	1330-20-7	ND	2 ug/L		06/12/95
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05 mg/L		06/12/95
#Extraction for TPH	EPA 3510	-		Extrn Date	06/16/95
TPH as Diesel	GC-FID	ND	0.05 mg/L		06/19/95
TPH as Kerosene	GC-FID	ND	0.05 mg/L		06/19/95

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

ENVIRONMENTAL BIO-SYSTEMS, INC

SAMPLE ID: MW3
 AEN LAB NO: 9506096-03
 AEN WORK ORDER: 9506096
 CLIENT PROJ. ID: 083-358B

DATE SAMPLED: 06/06/95
 DATE RECEIVED: 06/07/95
 REPORT DATE: 06/22/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5 ug/L		06/12/95
Toluene	108-88-3	ND	0.5 ug/L		06/12/95
Ethylbenzene	100-41-4	ND	0.5 ug/L		06/12/95
Xylenes, Total	1330-20-7	ND	2 ug/L		06/12/95
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05 mg/L		06/12/95
#Extraction for TPH	EPA 3510	-		Extrn Date	06/16/95
TPH as Diesel	GC-FID	ND	0.05 mg/L		06/19/95
TPH as Kerosene	GC-FID	ND	0.05 mg/L		06/19/95

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

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9506096

CLIENT PROJECT ID: 083-358B

Quality Control and Project Summary

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

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9506096
 DATE EXTRACTED: 06/16/95
 INSTRUMENT: C
 MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
06/19/95	MW1	01	97
06/19/95	MW2	02	95
06/19/95	MW3	03	87
QC Limits:			59-118

DATE EXTRACTED: 06/10/95
 DATE ANALYZED: 06/11/95
 SAMPLE SPIKED: DI WATER
 INSTRUMENT: C

Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Diesel	1.82	89	5	65-103	12

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

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9506096
 INSTRUMENT: F,H
 MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
06/12/95	MW1	01	96
06/12/95	MW2	02	100
06/12/95	MW3	03	98
QC Limits:			92-109

DATE ANALYZED: 06/09/95
 SAMPLE SPIKED: 9506040-05
 INSTRUMENT: F

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Benzene	17.8	99	6	85-109	17
Toluene	51.6	95	5	87-111	16
HCs as Gasoline	500	86	<1	66-117	19

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

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9506096
DATE ANALYZED: 06/11/95
SAMPLE SPIKED: 9506062-01
INSTRUMENT: H
MATRIX: WATER

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Benzene	36.3	104	2	85-109	17
Toluene	103.0	103	<1	87-111	16
HCs as Gasoline	1000	90	<1	66-117	19

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
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 Suite C
 Hayward, CA 94544

CHAIN OF CUSTODY

R-1, S-2
 R-3, S-2

9506096

PROJECT NUMBER **083-358B**

CLIENT **JIM O'LAUGHLIN**

SITE **11727 MAIN ST.
 SUNOL, CA**

COMPOSITE	ANALYSIS										
	TPHg + BTEX	VENUE	TPH	THAL	THAL	THAL	THAL	THAL	THAL	THAL	THAL
TPH extractables - Diesel											

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 CH-F	H ₂ O	6	STANDARD		
MW2 02A-F	"	6	"		
MW3 03A-F	"	6	"		

SAMPLING COMPLETED: **6/6/95 1500** | DATE: **6/6/95** | TIME: **1500** | SAMPLING PERFORMED BY: **DAE A. SADDY**

RELEASED BY: [Signature]	DATE: 6/7/95	TIME: 10:40	RECEIVED BY: [Signature]	DATE: 6-7-95	TIME: 10:40
RELEASED BY: [Signature]	DATE: 6-7-95	TIME: 11:45	RECEIVED BY: [Signature]	DATE: 6-7-95	TIME: 1145
RELEASED BY: [Signature]	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:

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