PIERS
Environmental Services

100 N. Winchester Blvd., Suite 230
Santa Clara, CA 95050

May 27, 1997

American Auto Wrecking

2017

Mr. Eric Freeberg
River Bend Properties, Inc.
P.O. Box 9440
Rancho Santa Fe, CA 92067-4440

AND

Ms. Amy Leech
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject: **Groundwater Monitoring Well Sampling Report and Request for No Further Action Status; 3744 Depot Road, Hayward, California**

Please find attached the Groundwater Monitoring Well Sampling Report and Request for a No Further Action Status for 3744 Depot Road, Hayward, California. PIERS ios pleased to have been of service to you on this project. If you have any questions, please do not hesitate to call the undersigned.

Very truly yours,

Stuart G. Solomon
Principal

Lawerence D. Pavlak, C.E.G. No. 1187

REGISTERED GEOLOGIST
LAWRENCE D. PAVLAK
№ 1187
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

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1.0 INTRODUCTION AND ENVIRONMENTAL HISTORY

The subject Property at 3744 Depot Road, Hayward, California, is located in a commercial/industrial district of Hayward, California, and is currently occupied by an automotive recycler. A 500 gallon waste oil tank and a 1000 gallon gasoline tank were apparently excavated and removed from the ground in the late 1980's by a previous tenant without a permit. The tanks were subsequently disposed of by the tenant. No soil samples were retrieved at the time of removal, and no tank closure report submitted. Subsequent to the tank removals, the Alameda County Department of Environmental Health (ACDEH) became aware of the situation, and requested that the property owner collect samples from the tank excavations. An environmental consultant apparently collected the required samples, however, a report on the sample results was not forwarded to the agency. The consultant has since closed the business, and no records were available. The previous tenant and property owners (Patricia and Kenneth Hein) are now (assumed) bankrupt, and the property was foreclosed on by the lender (Jack Lotz and Jesse Allen). The property was then sold to River Bend Properties, Inc., who is the current owner.

PIERS Environmental Services performed a "Limited Phase II Environmental Assessment" on the Property in August 1995. The PIERS report on this assessment is dated September 12, 1995, and is on file with the Alameda County Department of Environmental Health (ACDEH). In the PIERS investigation, five exploratory borings were installed at the site. Soil samples were collected from each boring, and groundwater grab samples were collected from the down-gradient boring at each tank pit. A third groundwater grab sample was collected from a well discovered along the western property line by Amy Leech (ACDEH representative) during her site visit. An overview of the significant findings resulting from laboratory analyses of these soil and groundwater samples is as follows:

- Up to 3300 Parts Per Million (PPM) of Oil and Grease, and 2795 Parts Per Billion (PPB) of Semi-Volatile Organic Compounds (SVOC's) was discovered in soil sampled from the immediate area of the former waste oil tank. 390 PPM of Oil and Grease, and up to 600 PPB of Volatile Organic Compounds (VOC's) were detected in a sample of groundwater collected from the immediate area down-gradient from the former waste oil tank.

- Groundwater sampled in the immediate area down-gradient from the former gasoline tank was found to contain 43,000 PPB of Total Petroleum Hydrocarbons as Gasoline (TPHg), and 300 PPB of Benzene.

In order to meet the requirements of the ACDEH and the Regional Water Quality Control Board (RWQCB), PIERS performed a Preliminary Site Assessment to delineate and assess the extent of soil and groundwater impact, and to formulate a plan for site closure. This work was performed in accordance with a workplan submitted to the ACDEH on July

2, 1996, and included drilling four exploratory borings and converting two of them to groundwater monitoring wells. The scope of work included soil and groundwater grab sampling from the exploratory borings, installation of the two groundwater monitoring wells, development and sampling of the two new wells plus a third existing well located on site, and hydraulic gradient characterization. A report detailing the results of this investigation was prepared by PIERS, and is entitled *Preliminary Site Assessment, Groundwater Well Installation and 1st Quarterly Report*. This report is dated February 10, 1997, and is on file with the ACDEH.

Soil and groundwater sample results from this initial groundwater investigation indicated that there had been little, if any, migration of contaminants outside of the immediate vicinity of both former tanks. PIERS had suggested that over-excavating soils in the immediate vicinity of the two former tank pits should be sufficient to remedy any threat. After reviewing the data contained in the PIERS report, Amy Leech, the case worker at the ACDEH suggested that over-excavation may not be warranted, and recommended evaluating the next sampling event to determine if it was even necessary.

On April 29, 1997, PIERS performed the latest sampling of the three groundwater wells located on the site. The following reports on this sampling event.

2.0 FIELD SAMPLING AND LABORATORY METHODS

The following table briefly describes the current well status:

Table 1. Monitoring Well Sampling Data

Well No.	*Depth Water*	*Depth to Elev ft.**	*Casing*	*Damage Product*	*Floating*
MW # 1	15.01	5.46	10.02	None	None
MW # 2	15.25	5.61	10.45	None	None
MW # 3	30.00	5.22	10.06	None	None

* Measured to a City of Hayward Bench Mark at Cabot Blvd. and Depot Road

2.1 Sampling Procedures:

On April 29, 1997, the three wells located at the subject Property were purged and sampled in accordance with applicable sampling protocols provided by the Regional Water Quality Control Board and the Alameda County Department of Environmental Health.

The PIERS sample technician proceeded to purge a minimum of four well volumes (a calculation was done for each well following depth to water sounding measurements) of groundwater from each well using a new disposable bailer for MW-1 and MW-2, and a clean 2 inch Whale well-sampling pump for MW-3. The wells were then allowed to re-charge. Between each well volume, conductivity, pH, and water temperature readings were obtained and noted on the **Groundwater Sampling Information Sheets** (see **Appendix A**). Once the minimum number of well volumes was purged and stabilization of the readings was noted, the sample was collected from the well. Purge water was stored on-site in 55 gallon DOT approved drums. The well sampling information sheets containing data on temperature, conductivity, pH, depth to water, and well volumes purged can be found in **Appendix A**. A copy of the Chain-of-Custody form and the Laboratory Analysis Results can be found in **Appendix B.**

A new disposable bailer was used to obtain a groundwater sample from each well. Samples were placed in two 40 milliliter voa clear glass bottles for MW-1 and MW-2, and two 1 liter amber glass bottles for MW-2 and MW-3, leaving no headspace. The containers were immediately labeled and placed on ice for transport to Entech Analytical Laboratories, Inc. in Sunnyvale, California **(a State Certified Lab)** for the requested analyses under Chain-of-Custody documentation. As per the instructions from the case worker, Ms. Amy Leech of the ACDEH, Entech Analytical Labs tested the groundwater samples from MW-1 and MW-2 for Total Petroleum Hydrocarbons quantified as Gasoline (TPHg), and for Benzene, Toluene, Ethyl benzene, and Total Xylenes (BTEX) using EPA Method 8015M/8020. Samples from MW-2 and MW-3 were tested for Total Recoverable Petroleum Hydrocarbons (TRPH) by EPA Method 418.1. The water sample from MW-2 was also tested for Volatile Organic Compounds (VOC's) by EPA Method 8240, and for Semi-Volatile Organic Compounds (SVOC's) by EPA Method 8270.

2.2 Analytical Laboratory Results:

The analytical results for the groundwater samples revealed the following;

Table 2. Groundwater Sample Analytical Data

TEST	*MW-1*	*MW-2*	*MW-3*
TPHg	ND	ND	NA
Benzene	ND	ND	NA
Toluene	ND	ND	NA

Ethyl Benzene	ND	ND	NA
Total Xylenes	ND	ND	NA
VOC's (8240)	NA	ND	NA
SVOS's (8270)	NA	ND	NA
TRPH (418.1)	NA	ND	ND

ND - None detected; (see laboratory report for reporting limits)
NA - *Not Analyzed*

The laboratory analysis reports are presented in **Appendix B**.

2.3 Groundwater Gradient Data:

The groundwater flow direction was estimated to be North Northwesterly at a flow rate of approximately .0009 ft. per foot (nearly a flat gradient). **Figure 2** shows the respective locations of the wells, and the gradient calculations.

3.0 CONCLUSIONS AND RECOMMENDATIONS

- MW-1 and MW-2 are positioned in the immediate vicinity of and down-gradient from the former gasoline and waste oil tanks. Groundwater samples from these wells have never contained detectable petroleum constituents. The only chemical constituent previously detected in MW-2 was 32 PPB of Di-n-butylphthalate, which, according to the Merck Index Encylopedia for Chemicals and Drugs is a chemical used in insect repellant. This constituent was not detected in the most recent sampling of the well. We speculate that the previous sample containing this chemical may have been contaminated by the sampler's gloves or clothing. Aside from this anomoly, no chemical constituents for which they were tested have been detectable in any of the three wells sampled on this site.

- Both of the former tank excavation pits were left open, and therefore allowed to aerate for more than two years. Any exposed aromatic fuel, VOC, or SVOC constituents in soil would likely have dissipated over this period of time.

- It does not appear that the previous fuel tanks at this site have posed a significant impact to groundwater in the their immediate vicinity. PIERS recommends that this site be granted a no-further-action status, and that the case be closed.

4.0 LIMITATIONS

The sampling and related report for this site were performed using recommended current guidance documents of the Regional Water Quality Control Board. The statements, conclusions, and recommendations are based on present site conditions. PIERS Environmental Services, Inc. is not responsible for laboratory errors and no warranty or guarantee is implied thereon.

If you have any questions regarding this report, please do not hesitate to call PIERS.

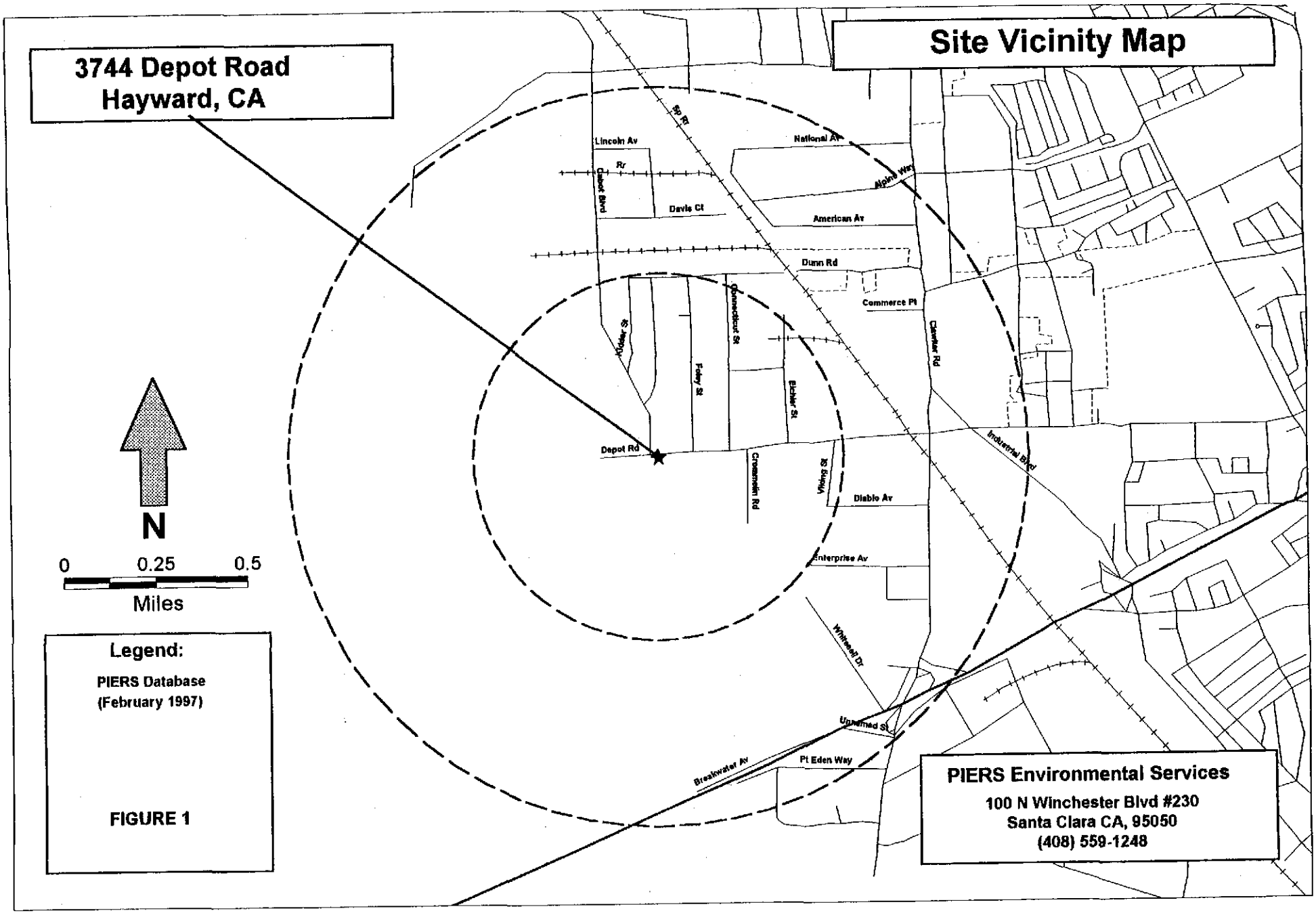
Attachments:

Figure 1. Site Vicinity Map
Figure 2. Site Map with Well Locations and Gradient Study

Appendices:
A. Groundwater Sampling Information Sheets
B. Chemical Analytical Data and Chain-of-Custody Form

Site Vicinity Map

3744 Depot Road
Hayward, CA



Legend:

PIERS Database
(February 1997)

FIGURE 1

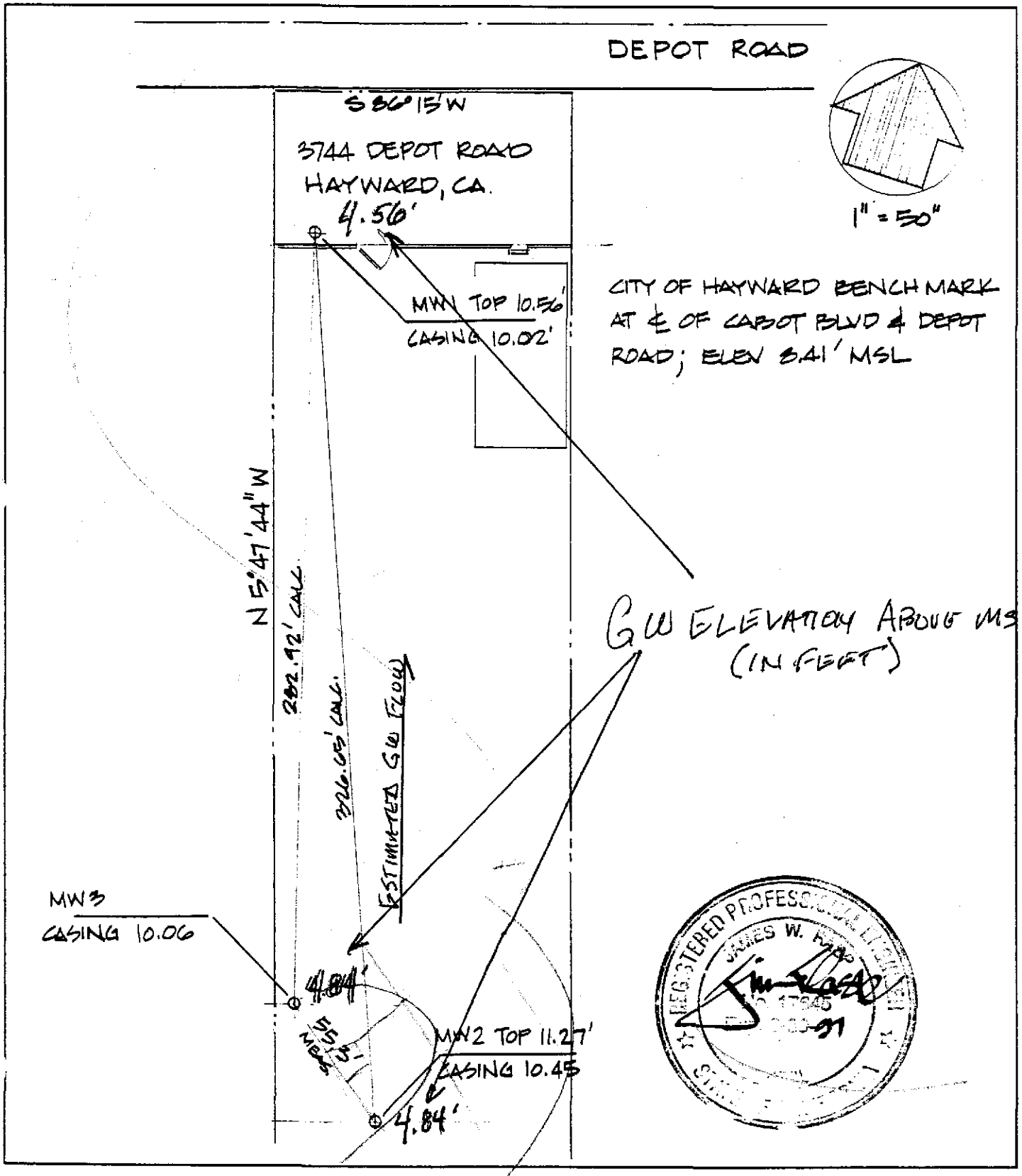
PIERS Environmental Services
100 N Winchester Blvd #230
Santa Clara CA, 95050
(408) 559-1248

FIGURE 2

Site Map with Well Locations

JAMES RASP P.E.
Civil and Structural Engineering
5134 Elrose Avenue
San Jose, California 95124
(408) 448-6768

JOB 96121 / FIERS ENVIRONMENTAL
SHEET NO. 1 OF 1
CALCULATED BY J RASP DATE 12/96
CHECKED BY _____ DATE _____
SCALE 1" = 50'



MAY 1997

FIGURE 2

APPENDIX A

Groundwater Sampling Information Sheets

CGS Sampling Specialists *1172 Delmas Street, San Jose, California 95125 (408) 286-7009*

WATER-QUALITY SAMPLING INFORMATION

Project Name: DEPOT ROAD
Address:
Samplers Name: SG SOLOMON
Sampling Method: DISP BAILER
Analyses Requstd: 8015/8020
Number/Types of Sample Bottles: 2 40ML VOAS,
Method of Shipmt: ON ICE

Date: 4/29/97
Project No.: DEPOT RD
Sample No: MW#1

Well Location Map

Groundwater Well Data

Well No.: MW-1
Well Diameter (in.): 2"
Well Head Elevation: 10.07
Depth to Water (Static - ft.): 5.46
Total Well Depth (ft.): 15.01
Height of Water Column (in ft.): 9.55
Water Volume in Well (gal): 1.53
Water in Well Box ?: NO
Silt Removal Necessary?: NO
Well Depth After Silt Removal: —

2-inch casing = 0.16 gal/ft
4-inch casing = 0.65 gal/ft
5-inch casing = 1.02 gal/ft
6-inch casing = 1.47 gal/ft

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN	TEMP. (F)	pH (s.u.)	Cond. (mhos/cm)	Purge Volumes X	Purge Volumes Vol.	REMARKS
	5.46	0	59.9	8.33	9.05	X	0	NO ODOR
	/	1.5	58.0	7.86	9.91	+-	1	
	/	3.0	57.8	7.54	9.81	+-	2	
	/	4.5	58.0	7.22	9.80	+-	3	TURBID
	/	6.0	58.0	7.24	9.80	+-	4	
	6.50	7.5	58.1	7.29	9.82	+-	4/+	STABLE

COMMENTS:

CGS Sampling Specialists *1172 Delmas Street, San Jose, California 95125 (408) 286-7009*

WATER-QUALITY SAMPLING INFORMATION

Project Name: DEPOT RD
Address: 3741 S. SOLOMON
Samplers Name: S. SOLOMON
Sampling Method: DISP BAILER
Analyses Requstd: 8015/8020/418.1/8240/8270
Number/Types of Sample Bottles: 2/40 ML / 2 - 1 LTR'S
Method of Shipmt: ON ICE

Date: 4/29/97
Project No.: DEPOT RD
Sample No: MW-#2

Well Location Map

Groundwater Well Data

Well No.: MW-2
Well Diameter (in.): 2"
Well Head Elevation: 10.45
Depth to Water (Static - ft.): 5.61
Total Well Depth (ft.): 15.25
Height of Water Column (in ft.): 9.64
Water Volume in Well (gal): 1.54
Water in Well Box ?:
Silt Removal Necessary?:
Well Depth After Silt Removal:

2-inch casing = 0.16 gal/ft
4-inch casing = 0.65 gal/ft
5-inch casing = 1.02 gal/ft
6-inch casing = 1.47 gal/ft

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN	TEMP. (F)	pH (s.u.)	Cond. (mhos/cm)	Purge Volumes X	Purge Volumes Vol.	REMARKS
	5.61	0	61.5	8.51	9.40	X	0	NO ODOR
	″	1.5	60.3	7.92	9.73	+-	1	
	″	3.0	59.4	7.68	9.68	+-	2	
	″	4.5	58.7	7.55	9.80	+-	3	
	″	6.0	58.5	7.48	9.79	+-	4	
	6.53	7.5	58.8	7.49	9.78	+-	4+	STABLE

COMMENTS:

CGS Sampling Specialists *1172 Delmas Street, San Jose, California 95125 (408) 286-7009*

WATER-QUALITY SAMPLING INFORMATION

Project Name: ALPOT RD
Address: 3744
Samplers Name: S G SOLOMON
Sampling Method: DISP BAILER
Analyses Requstd: 418.1
Number/Types of Sample Bottles: 2/1 LTR
Method of Shipmt: ON ICE

Date: 4/29/97
Project No.: DOT
Sample No: MW#3

Well Location Map

Groundwater Well Data

Well No.: MW-3
Well Diameter (In.): 6"
Well Head Elevation: 10.06
Depth to Water (Static - ft.): 5.22
Total Well Depth (ft.): 30.00
Height of Water Column (In ft.): 24.78
Water Volume in Well (gal): 36.43
Water in Well Box ?: NO
Silt Removal Necessary?: NO
Well Depth After Silt Removal: —

2-inch casing = 0.16 gal/ft
4-inch casing = 0.65 gal/ft
5-inch casing = 1.02 gal/ft
6-inch casing = 1.47 gal/ft

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN	TEMP. (F)	pH (s.u.)	Cond. (mhos/cm)	Purge Volumes X	Purge Volumes Vol.	REMARKS
	5.22	0	60.5	8.53	9.68	/	0	NO ODOR
	/	36	59.2	8.01	9.51	+-	1	
	/	72	59.4	7.96	9.58	+-	2	
	/	108	59.1	7.93	9.61	+-	3	
	6.85	146	59.1	7.95	9.58	+-	4	SAMPLE

COMMENTS:

APPENDIX B

CHEMICAL ANALYTICAL DATA AND

CHAIN-OF-CUSTODY FORMS

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • Telephone: (408) 735-1550 (800) 287-1799 • Fax: (408) 735-1554

Chain of Custody/Analysis Work Order

Client: GS Samplers
Address: 1172 Delmas

Contact: Chris Solomon
Telephone #: 286-2154
Date Received: 4-29-97
Turn Around: Normal

Project ID: Depot Rd
Purchase Order #:

Sampler/Company: GS Telephone #:

Special Instructions/Comments

LAB USE ONLY

Samples arrived chilled and intact:

Yes No

Notes:

Sample Information								Requested Analysis							
Lab #	Sample ID	Grab/ Composite	Matrix	Date Collected	Time Collected	Pres.	Sample Container	TPH-G BTEX	418.1	8270	8240				
D7444	MW#1		water	4-29-97			2-40ml	X							
D7445	MW#2		"	"			2-40ml, 2-1L Amber	X	X	X	X				
D7446	MW#3		"	"			2-1L Amber		X						

Relinq. By:	Received By:	Date 4-29-97	Time 9:00
Relinq. By:	Received By:	Date	Time
Relinq/ By:	Received By:	Date	Time

Entech Analytical Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Attn: Chris Solomon
CGS Sampling Specialists
1172 Delmas Street
San Jose, CA 95125

Date:	5/6/97
Date Received:	4/29/97
Date Analyzed:	4/30-5/1/97
Project:	Depot Rd.
Sampled By:	Client

Certified Analytical Report

Water Sample Analysis:

Test	*MW #1*	*MW #2*	*Units*	*PQL*	*EPA Method #*
Sample Matrix	Water	Water			
Sample Date	4/29/97	4/29/97			
Sample Time					
Lab #	D7444	D7445			
DF-Gas/BTEX	1	1			
TPH-Gas	**ND**	**ND**	µg/liter	50.0 µg/l	8015M
Benzene	**ND**	**ND**	µg/liter	0.5 µg/l	8020
Toluene	**ND**	**ND**	µg/liter	0.5 µg/l	8020
Ethyl Benzene	**ND**	**ND**	µg/liter	0.5 µg/l	8020
Xylenes	**ND**	**ND**	µg/liter	0.5 µg/l	8020
Volatile Organics	**na**	**ND**	µg/liter	See Worksheet	8240
Semivolatile Organics	**na**	**ND**	µg/liter	See Report	8270

1. DLR=DF x PQL
2. **na: not analyzed**
3. See EPA 8240 Analysis Worksheet for individual compounds, detection limits, and analysis date
4. EPA 8270 analysis performed by Advanced Technology Laboratories (CAELAP #1838); see ATL report for individual compounds, detection limits, and analysis dates
5. Remaining analysis performed by Entech Analytical Labs, Inc. (CAELAP #2224)

Michael N. Golden, Lab Director

DF=Dilution Factor
DLR=Detection Reporting Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above DLR

Entech Analytical Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Attn: Chris Solomon
CGS Sampling Specialists
1172 Delmas Street
San Jose, CA 95125

Date:	5/6/97
Date Received:	4/29/97
Date Analyzed:	5/5/97
Project:	Depot Rd.
Sampled By:	Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	*Sample Date*	*Sample Time*	*Lab #*	**TRPH**
MW #2	4/29/97		D7445	**ND**
MW #3	4/29/97		D7446	**ND**

1. DLR=DF x PQL (DF=1 unless noted)
2. Analysis performed by Entech Analytical Labs, Inc. (CAELAP #2224)

Test Methods:

Test	*EPA Method #*	*Units*	*PQL*
TRPH	418.1	mg/liter	5.0 mg/l

Michael N. Golden, Lab Director

DF=Dilution Factor
DLR=Detection Reporting Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above DLR

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Certified Analytical Report: EPA Method 8240

Client:	CGS Sampling Specialists
Sample Matrix:	Water
Lab #:	D7445
Sample ID:	MW #2

Date:	5/6/97
Date Received:	4/29/97
Date Analyzed	4/30/97
Dilution Factor	1

Constituent	Concentration	Units	PQL	Constituent	Concentration	Units	PQL
Chloromethane	ND	µg/liter	5.0	Trichloroethene	ND	µg/liter	5.0
Bromomethane	ND	µg/liter	5.0	Benzene	ND	µg/liter	5.0
Dichlorodifluoromethane	ND	µg/liter	5.0	Chlorodibromomethane	ND	µg/liter	5.0
Vinyl Chloride	ND	µg/liter	10	1,1,2-Trichloroethane	ND	µg/liter	5.0
Chloroethane	ND	µg/liter	10	Trans-1,3-Dichloropropene	ND	µg/liter	5.0
Iodomethane	ND	µg/liter	100	1,2-Dibromoethane (EDB)	ND	µg/liter	5.0
Methylene Chloride	ND	µg/liter	20	2-Chloroethylvinyl Ether	ND	µg/liter	10
Acetone	ND	µg/liter	100	Bromoform	ND	µg/liter	5.0
Carbon Disulfide	ND	µg/liter	100	1,1,1,2-Tetrachloroethane	ND	µg/liter	5.0
Trichlorofluoromethane	ND	µg/liter	10	4-Methyl-2-Pentanone (MIBK)	ND	µg/liter	50
1,1-Dichloroethene	ND	µg/liter	5.0	2-Hexanone	ND	µg/liter	50
Allyl Chloride	ND	µg/liter	5.0	1,2,3-Trichloropropane	ND	µg/liter	5.0
1,1-Dichloroethane	ND	µg/liter	5.0	1,1,2,2-Tetrachloroethane	ND	µg/liter	5.0
Trans-1,2-Dichloroethene	ND	µg/liter	5.0	Tetrachloroethene	ND	µg/liter	5.0
Chloroform	ND	µg/liter	5.0	Toluene	ND	µg/liter	5.0
2-Butanone (MEK)	ND	µg/liter	100	Chlorobenzene	ND	µg/liter	5.0
1,2-Dichloroethane	ND	µg/liter	5.0	Ethylbenzene	ND	µg/liter	5.0
Dibromomethane	ND	µg/liter	5.0	1,2-Dibromo 3-Chloropropane	ND	µg/liter	100
1,1,1-Trichloroethane	ND	µg/liter	5.0	Benzyl Chloride	ND	µg/liter	100
Carbon Tetrachloride	ND	µg/liter	5.0	Styrene	ND	µg/liter	5.0
Vinyl Acetate	ND	µg/liter	50	Xylenes	ND	µg/liter	15
Bromodichloromethane	ND	µg/liter	5.0	1,3-Dichlorobenzene	ND	µg/liter	5.0
1,2-Dichloropropane	ND	µg/liter	5.0	1,2-Dichlorobenzene	ND	µg/liter	5.0
Cis-1,3-Dichloropropene	ND	µg/liter	5.0	1,4-Dichlorobenzene	ND	µg/liter	5.0
Bromoacetone	ND	µg/liter	100				

Surrogate	Recovery (%)
1,2-Dichloroethane-d4	85
Toluene-d8	104
4-Bromofluorobenzene	98

1. DLR=PQL x DF
2. Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2224)
3. This worksheet is an integral part of the Certified Analytical Report for Lab #D7445 and should not be reproduced except in full without the written consent of Entech Analytical Labs, Inc.

Michael N. Golden, Lab Director

DF=Dilution Factor
DLR=Detection Reporting Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above DLR

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

QC Batch ID: WTRPIR970505
Matrix: Water
Units: mg/L

Date Analyzed: 05/05/97
Spiked Sample: Blank Spike

PARAMETER	SA mg/L	SR mg/L	SP mg/L	**SP PR**	SPD mg/L	**SPD PR**	RPD	QC LIMITS RPD	QC LIMITS PR
TRPH	20	0	17	**85**	18	**90**	5.7	25	70-130

Definition of Terms:

RPD: Relative Percent Difference (Duplicate Analyses)
SA: Spike Added
SR: Sample Result
SP: Spike Result
SP (PR): Spike % Recovery
SPD: Spike Duplicate Result
SPD (PR): Spike Duplicate % Recovery

Advanced Technology Laboratories

May 5, 1997 ELAP No.: 1838

Entech Analytical Labs, Inc.
525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

ATTN: Mr. Mike Golden

Client's Project: CGS
Lab No.: 17188-001

Gentlemen:

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (310) 989 - 4045 if I can be of further assistance to your company.

Sincerely,

Edgar P. Caballero
Laboratory Director
EPC/ms

Enclosures

This cover letter is an integral part of this analytical report.

Mailing Address: P.O. Box 9108 Newport Beach, CA 92658
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 310 989-4045 Fax: 310 989-4040

Client: Entech Analytical Labs, Inc.
Attn: Mr. Mike Golden

Client's Project: CGS
Date Sampled: -----
Date Received: -----
Matrix: -----
Units: ug/L
Analyst Initials: DC

Lab No.: Method Blank
Sample ID: -----
QC Batch No.: R978270W086
Extraction Date: 05/01/97
Date Analyzed: 05/01/97
Extraction Method: 3510
Dilution Factor: 1

EPA 8270

Analyte	DLR	Results	Analyte	DLR	Results
Acenaphthene	10	ND	4,6-Dinitro-2-methylphenol	10	ND
Acenaphthylene	10	ND	2,4-Dinitrophenol	10	ND
Anthracene	10	ND	2,4-Dinitrotoluene	10	ND
Benzoic Acid	10	ND	2,6-Dinitrotoluene	10	ND
Benzo[a]anthracene	10	ND	Di-n-octylphthalate	10	ND
Benzo[a]pyrene	10	ND	Fluoranthene	10	ND
Benzo[b]fluoranthene	10	ND	Fluorene	10	ND
Benzo[g,h,i]perylene	10	ND	Hexachlorobenzene	10	ND
Benzo[k]fluoranthene	10	ND	Hexachlorobutadiene	10	ND
Benzyl Alcohol	10	ND	Hexachlorocyclopentadiene	20	ND
bis (2-Chloroethyl)ether	10	ND	Hexachloroethane	10	ND
bis(2-Chloroethoxy)methane	10	ND	Indeno[1,2,3-cd]pyrene	10	ND
bis(2-chloroisopropyl)ether	10	ND	Isophorone	10	ND
bis(2-Ethylhexyl)phthalate	10	ND	2-Methylnaphthalene	10	ND
4-Bromophenyl-phenyl ether	10	ND	2-Methylphenol	10	ND
Butylbenzylphthalate	10	ND	4-Methylphenol	10	ND
4-Chloro-3-methylphenol	10	ND	Naphthalene	10	ND
4-Chloroaniline	10	ND	2-Nitroaniline	10	ND
2-Chloronaphthalene	10	ND	3-Nitroaniline	10	ND
2-Chlorophenol	10	ND	4-Nitroaniline	10	ND
4-Chlorophenyl-phenyl ether	10	ND	Nitrobenzene	10	ND
Chrysene	10	ND	2-Nitrophenol	10	ND
Dibenzofuran	10	ND	4-Nitrophenol	10	ND
Dibenz[a,h,]anthracene	10	ND	n-Nitroso-di-n-propylamine	10	ND
1,2-Dichlorobenzene	10	ND	n-Nitrosodiphenylamine	10	ND
1,3-Dichlorobenzene	10	ND	Pentachlorophenol	10	ND
1,4-Dichlorobenzene	10	ND	Phenanthrene	10	ND
2,4- Dichlorophenol	10	ND	Phenol	10	ND
3,3'-Dichlorobenzidine	10	ND	Pyrene	10	ND
Diethylphthalate	10	ND	1,2,4-Trichlorobenzene	10	ND
2,4-Dimethylphenol	10	ND	2,4,5-Trichlorophenol	10	ND
Dimethylphthalate	10	ND	2,4,6-Trichlorophenol	10	ND
Di-n-butylphthalate	10	ND			

ND = Not Detected (Below DLR)
DLR = Detection Limit Reporting

Reviewed/Approved By: _____ Date: 5/6/97
Yun Pan
Department Supervisor

The cover letter is an integral part of this analytical report.

Client: Entech Analytical Labs, Inc.
Attn: Mr. Mike Golden

Client's Project: CGS
Date Sampled: 04/29/97
Date Received: 04/30/97
Matrix: Water
Units: ug/L
Analyst Initials: DC

Lab No.: 17188-001
Sample ID: D7445 (MW #2)
QC Batch No.: R978270W086
Extraction Date: 05/01/97
Date Analyzed: 05/01/97
Extraction Method: 3510
Dilution Factor: 1

EPA 8270

Analyte	DLR	Results	Analyte	DLR	Results
Acenaphthene	10	ND	4,6-Dinitro-2-methylphenol	10	ND
Acenaphthylene	10	ND	2,4-Dinitrophenol	10	ND
Anthracene	10	ND	2,4-Dinitrotoluene	10	ND
Benzoic Acid	10	ND	2,6-Dinitrotoluene	10	ND
Benzo[a]anthracene	10	ND	Di-n-octylphthalate	10	ND
Benzo[a]pyrene	10	ND	Fluoranthene	10	ND
Benzo[b]fluoranthene	10	ND	Fluorene	10	ND
Benzo[g,h,i]perylene	10	ND	Hexachlorobenzene	10	ND
Benzo[k]fluoranthene	10	ND	Hexachlorobutadiene	10	ND
Benzyl Alcohol	10	ND	Hexachlorocyclopentadiene	20	ND
bis (2-Chloroethyl)ether	10	ND	Hexachloroethane	10	ND
bis(2-Chloroethoxy)methane	10	ND	Indeno[1,2,3-cd]pyrene	10	ND
bis(2-chloroisopropyl)ether	10	ND	Isophorone	10	ND
bis(2-Ethylhexyl)phthalate	10	ND	2-Methylnaphthalene	10	ND
4-Bromophenyl-phenyl ether	10	ND	2-Methylphenol	10	ND
Butylbenzylphthalate	10	ND	4-Methylphenol	10	ND
4-Chloro-3-methylphenol	10	ND	Naphthalene	10	ND
4-Chloroaniline	10	ND	2-Nitroaniline	10	ND
2-Chloronaphthalene	10	ND	3-Nitroaniline	10	ND
2-Chlorophenol	10	ND	4-Nitroaniline	10	ND
4-Chlorophenyl-phenyl ether	10	ND	Nitrobenzene	10	ND
Chrysene	10	ND	2-Nitrophenol	10	ND
Dibenzofuran	10	ND	4-Nitrophenol	10	ND
Dibenz[a,h,]anthracene	10	ND	n-Nitroso-di-n-propylamine	10	ND
1,2-Dichlorobenzene	10	ND	n-Nitrosodiphenylamine	10	ND
1,3-Dichlorobenzene	10	ND	Pentachlorophenol	10	ND
1,4-Dichlorobenzene	10	ND	Phenanthrene	10	ND
2,4- Dichlorophenol	10	ND	Phenol	10	ND
3,3'-Dichlorobenzidine	10	ND	Pyrene	10	ND
Diethylphthalate	10	ND	1,2,4-Trichlorobenzene	10	ND
2,4-Dimethylphenol	10	ND	2,4,5-Trichlorophenol	10	ND
Dimethylphthalate	10	ND	2,4,6-Trichlorophenol	10	ND
Di-n-butylphthalate	10	ND			

ND = Not Detected (Below DLR)
DLR = Detection Limit Reporting

Reviewed/Approved By: Yun Pan
Department Supervisor

Date: 5/6/97

The cover letter is an integral part of this analytical report.

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG5970430
Matrix: Water
Units: µg/L

Date Analyzed: 04/30/97
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/L	SA µg/L	SR µg/L	SP µg/L	**SP % R**	SPD µg/L	**SPD %R**	RPD	QC LIMITS (ADVISORY) RPD	QC LIMITS (ADVISORY) %R
Benzene	8020	<0.5	25	0.0	23	**92**	24	**96**	4.3	25	50-150
Toluene	8020	<0.5	25	0.0	24	**96**	23	**92**	4.3	25	50-150
Ethyl Benzene	8020	<0.5	25	0.0	24	**96**	24	**96**	0.0	25	50-150
Xylenes	8020	<0.5	75	0.0	68	**91**	68	**91**	0.0	25	50-150
Gasoline	8015	<50.0	625	0	654	**105**	639	**102**	2.3	25	50-150

Definition of Terms:

- na: Not Analyzed in QC batch
- MB: Method Blank
- SA: Spike Added
- SR: Sample Result
- RPD(%): Duplicate Analysis - Relative Percent Difference
- SP: Spike Result
- SP (%R): Spike % Recovery
- SPD: Spike Duplicate Result
- SPD (%R): Spike % Recovery
- NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Ave., Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Volatile Organic Compounds

QC Batch #: 8240W970430
Matrix: Water
Units: µg/L

Date analyzed: 04/30/97
Spiked Sample: Blank Spike

PARAMETER	Method #	SA µg/L	SR µg/L	SP µg/L	SP %R	SPD µg/L	SPD %R	RPD	QC LIMITS RPD	QC LIMITS %R
1,1- Dichloroethene	624	15	0	15	100%	16	107%	6.5	25	70-130
Benzene	624	15	0	16	107%	16	107%	0.0	25	70-130
Trichloroethene	624	15	0	15	100%	15	100%	0.0	25	70-130
Toluene	624	15	0	16	107%	15	100%	6.5	25	70-130
Chlorobenzene	624	15	0	15	100%	15	100%	0.0	25	70-130

Definition of Terms:

- na: Not Analyzed in QC batch
- SA: Spike Added
- SR: Sample Result
- RPD(%): Duplicate Analysis - Relative Percent Difference
- SP Spike Result
- SP (%R) Spike % Recovery
- SPD: Spike Duplicate Result
- SPD (%R) Spike Duplicate % Recovery
- NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Ave., Suite E
Sunnyvale, CA 94086

Method Blank Report: EPA Method 8240

Date: 04/30/97
Sample Matrix: Water
QC Batch #: 8240W970430
Sample ID: 8240W970430MB

Constituent	Concentration	Units	DLR	Constituent	Concentration	Units	DLR
Chloromethane	ND	µg/liter	5	Trichloroethene	ND	µg/liter	5
Bromomethane	ND	µg/liter	5	Benzene	ND	µg/liter	5
Dichlorodifluoromethane	ND	µg/liter	5	Chlorodibromomethane	ND	µg/liter	5
Vinyl Chloride	ND	µg/liter	10	1,1,2-Trichloroethane	ND	µg/liter	5
Chloroethane	ND	µg/liter	10	Trans-1,3-Dichloropropene	ND	µg/liter	5
Iodomethane	ND	µg/liter	100	1,2-Dibromoethane (EDB)	ND	µg/liter	5
Methylene Chloride	ND	µg/liter	20	2-Chloroethylvinyl Ether	ND	µg/liter	10
Acetone	ND	µg/liter	100	Bromoform	ND	µg/liter	5
Carbon Disulfide	ND	µg/liter	100	1,1,1,2-Tetrachloroethane	ND	µg/liter	5
Trichlorofluoromethane	ND	µg/liter	10	4-Methyl-2-Pentanone (MIBK)	ND	µg/liter	50
1,1-Dichloroethene	ND	µg/liter	5	2-Hexanone	ND	µg/liter	50
Allyl Chloride	ND	µg/liter	5	1,2,3-Trichloropropane	ND	µg/liter	5
1,1-Dichloroethane	ND	µg/liter	5	1,1,2,2-Tetrachloroethane	ND	µg/liter	5
Trans-1,2-Dichloroethene	ND	µg/liter	5	Tetrachloroethene	ND	µg/liter	5
Chloroform	ND	µg/liter	5	Toluene	ND	µg/liter	10
2-Butanone (MEK)	ND	µg/liter	100	Chlorobenzene	ND	µg/liter	5
1,2-Dichloroethane	ND	µg/liter	5	Ethylbenzene	ND	µg/liter	5
Dibromomethane	ND	µg/liter	5	1,2-Dibromo 3-Chloropropane	ND	µg/liter	100
1,1,1-Trichloroethane	ND	µg/liter	5	Benzyl Chloride	ND	µg/liter	100
Carbon Tetrachloride	ND	µg/liter	5	Styrene	ND	µg/liter	5
Vinyl Acetate	ND	µg/liter	50	Xylenes	ND	µg/liter	15
Bromodichloromethane	ND	µg/liter	5	1,3-Dichlorobenzene	ND	µg/liter	5
1,2-Dichloropropane	ND	µg/liter	5	1,2-Dichlorobenzene	ND	µg/liter	5
Cis-1,3-Dichloropropene	ND	µg/liter	5	1,4-Dichlorobenzene	ND	µg/liter	5
Bromoacetone	ND	µg/liter	100				

Surrogate	Recovery (%)
1,2-Dichloroethane-d4	87
Toluene-d8	99
4-Bromofluorobenzene	95

DLR=Detection Reporting Limit

ND=None Detected at or above DLR

Spike Recovery and RPD Summary Report - WATER (ug/L)

Method : C:\HPCHEM\1\METHODS\8270-3.M
Title : 8270 TCL
Last Update : Thu May 01 10:15:23 1997
Response via : Initial Calibration

Non-Spiked Sample: R97B0987.D

	Spike Sample	Spike Duplicate Sample
File ID :	R97S0988.D	R97S0989.D
Sample :	BLK MS 1L-1ML E-5/01/97	BLK MSD 1L-1ML E-5/01/97
Acq Time:	1 May 97 4:18 pm	1 May 97 5:16 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
Phenol	0.0	200	71	70	36	35	2	42	12-110
2-Chlorophenol	0.0	200	123	123	62	61	0	40	27-123
1,4-Dichlorobenzene	0.0	100	57	57	57	57	1	28	36- 97
N-Nitroso-di-n-propy	0.0	100	75	74	74	74	1	38	41-116
1,2,4-Trichlorobenze	0.0	100	67	68	67	68	1	28	39- 98
4-Chloro-3-methylphe	0.0	200	136	134	68	67	1	42	23- 97
Acenaphthene	0.0	100	64	64	64	64	1	31	46-118
4-Nitrophenol	0.0	200	52	36	26	18	35	50	10- 80
2,4-Dinitrotoluene	0.0	100	85	84	85	84	1	38	24- 94
Pentachlorophenol	0.0	200	132	97	66	48	31	50	9-103
Pyrene	0.0	100	72	73	72	73	2	31	26-127

QC BATCH # :R978270W086

Reviewed and Approved by: _____ Date: 5/6/97
Yun Pan
Organics Supervisor

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 310 989-4045 Fax: 310 989-4040

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab: ATL		Date Sent: 04/29/97	Project Name: CGS		Due Date: 05/06/97	
Sample ID and Source	Matrix	Required Analysis	Date Taken	Time Taken	Containers	Pres?
D7445 (MW #2)	W	8270	4/29/97		1-Lit Amb	
~~D7447 (EB #1 W)~~	~~W~~	~~PCBs~~	~~4/29/97~~		~~1 Lit Amb~~	

Relinquished By:	Received By:	Date:	Time:
YTRAN VIA CAL	OVERNIGHT	4/29/97	5:30 pm
Relinquished By:	Received By: Diane Galvan	Date: 4-30-97	Time: 10:00
Relinquished By:	Received By:	Date:	Time:

Notes: _____