



January 31, 1996

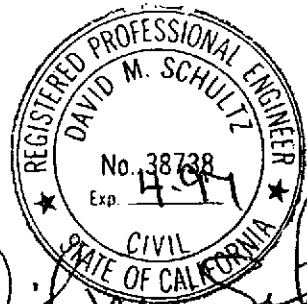
QUARTERLY GROUNDWATER MONITORING REPORT  
JANUARY 12, 1996 GROUNDWATER SAMPLING

at

Lim Family Property  
250 8th Street  
Oakland, California

06-011 2-01313  
1/11/96 11:09 AM  
1/11/96 11:09 AM

Submitted by:  
AQUA SCIENCE ENGINEERS, INC.  
2411 Old Crow Canyon Road, #4  
San Ramon, CA 94583  
(510) 820-9391



## 1.0 INTRODUCTION

This report outlines the methods and findings of Aqua Science Engineer's, Inc. (ASE) quarterly groundwater monitoring at the property located at 250 8th Street in Oakland, California (*Figures 1 and 2*).

## 2.0 SITE HISTORY

A gasoline service station previously occupied the site. In May 1992, ASE removed ten underground fuel storage tanks from the site. The tanks consisted of one (1) 10,000-gallon gasoline tank, one (1) 5,000-gallon diesel tank, three (3) 2,000-gallon gasoline tanks, one (1) 2,000-gallon diesel tank, three (3) 500-gallon gasoline tanks and one (1) 250-gallon waste oil tank. Up to 10,000 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPH-G) and 5,900 ppm total petroleum hydrocarbons as diesel (TPH-D) were detected in soil samples collected during the tank removal.

Between December 1992 and March 1993, All Environmental of San Ramon, California overexcavated 1,762 cubic yards of soil from the site and off-hauled the soil to the BFI Landfill in Livermore, California. Analytical results show that all on-site soil with hydrocarbon concentrations greater than 10 ppm was removed from the site with the exception of soil along the 8th Street shoring. Up to 1,800 ppm TPH-G and 120 ppm TPH-D were detected in soil samples collected along the shoring indicating that contamination likely extends below 8th Street. This contamination left in place may still be a source for groundwater contamination.

In January 1995, ASE installed monitoring wells MW-1 and MW-2 at the site. High hydrocarbon concentrations were detected in monitoring well MW-2, downgradient of the site. Moderate hydrocarbon concentrations were detected in on-site monitoring well MW-1.

Since April 1995, the site has been on a quarterly groundwater monitoring program. Analytical results for these sampling periods are presented in Tables Two and Three.

## 3.0 GROUNDWATER FLOW DIRECTION AND GRADIENT

On January 12, 1996, ASE environmental specialist Scott Ferriman measured the depth to water in each site well using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen. ~~A sheen was present on~~

the surface of the groundwater in monitoring well MW-2. No free-floating hydrocarbons or sheen was present on the surface of water in monitoring well MW-1. Depth to groundwater and product thickness measurements for the wells on the LUM property were measured by personnel from All Environmental. These measurements are utilized along with the data from the Lim property measurements to determine the groundwater flow direction and gradient beneath the site. This data is presented below in Table One.

**TABLE ONE**  
Summary of Groundwater Well Survey Data

Well I.D.	Date of Measurement	Top of Casing Elevation (msl)	Depth to Water (feet)	Product Thickness (feet)	Groundwater Elevation (msl)
MW-1	01-30-95	25.51	16.21		9.30
	04-12-95		15.71		9.80
	07-14-95		16.71		8.80
	10-17-95		17.72		7.79
	01-12-96		18.03		7.48
MW-2	01-30-95	23.99	15.02		8.97
	04-12-95		14.75		9.24
	07-14-95		16.02		7.97
	10-17-95		16.94		7.05
	01-12-96		17.05		6.94
LUM-1	07-14-95	23.42	Unknown		Unknown
	10-17-95		18.21	1.53	6.43*
	01-12-96		18.15	1.35	6.35*
LUM-2	07-14-95	23.98	17.21		6.77
	10-17-95		17.67		6.31
	01-12-96		17.89	0.01	6.10*

\* = Adjusted for the presence of free-floating oil by the equation: Adjusted Groundwater Elevation = Top of Casing Elevation - Depth to Groundwater + (0.8 x Floating Hydrocarbon Thickness)

Groundwater elevation contours are presented on Figure 2. On January 12, 1996, groundwater flowed to the south beneath the site at a gradient of 0.008-feet/foot, which is consistent with previous findings.

#### 4.0 MONITORING WELL SAMPLING

On January 12, 1996, ASE sampled monitoring wells MW-1 and MW-2 at the site. Prior to sampling, four well casing volumes of water were removed from each well. The pH, temperature and conductivity were monitored during the purging, and samples were not collected until these parameters stabilized. After the water level in each well recovered to at least 80% of the water level measured prior to purging water from the well, groundwater samples were collected from the wells with dedicated polyethylene bailers. The groundwater samples from each well were decanted from the bailer into four (3) 40-ml volatile organic analysis (VOA) vials and three (2) 1-liter amber glass bottles. All of the samples were properly preserved, labeled, placed in protective foam sleeves, and stored on ice for transport to Curtis and Tompkins, Ltd. of Berkeley, California (ELAP #1459) under chain of custody. There was a slight hydrocarbon odor present in groundwater from monitoring well MW-1 and a strong hydrocarbon odor was present in groundwater from monitoring well MW-2.

Well sampling purge water was contained in a DOT 17H drum and stored on-site for handling by the client at a later date. See Appendix A for a copy of the well sampling field logs.

#### 5.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed for TPH-G by modified EPA Method 5030/8015, TPH-D by modified EPA Method 3510/8015, MTBE, benzene, toluene, ethylbenzene, and total xylenes (MBTEX) by EPA Method 8020 and oil and grease (O&G) by Standard Method 5520BF. The analytical results are tabulated below in Tables Two and Three, and the certified analytical report and chain of custody record are included in Appendix B.

**TABLE TWO**  
**Summary of Chemical Analysis of GROUNDWATER Samples**  
**TPH-G, TPH-D, BTEX and MTBE**  
**All results are in parts per billion**

Well/ Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
<u>MW-1</u>							
01-30-95	740	200	3	5	1	4	--
04-12-95	400	500	<0.5	<0.5	3	<2	--
07-14-95	520	400	1	<0.5	2	3	--
10-17-95	400	200	0.5	1	3	<2	--
01-12-96	120	890	<0.5	<0.5	<0.5	<1.0	<2.0
<u>MW-2</u>							
01-30-95	88,000	800	19,000	18,000	2,400	10,000	--
04-12-95	110,000	990	21,000	28,000	2,800	14,000	--
07-14-95	120,000	5,000	20,000	25,000	3,200	15,000	--
10-17-95	190,000	4,000	15,000	26,000	4,900	23,000	--
01-12-96	32,000	2,600	10,000	8,000	1,100	4,800	<2.0
EPA METHOD	5030/ 8015M	3550/ 8015M	8020	8020	8020	8020	8020

**TABLE THREE**  
**Summary of Chemical Analysis of GROUNDWATER Samples**  
**Lead, Oil & Grease and Volatile Organic Compounds**  
**All results are in parts per billion**

Compound	MW-1	MW-2
<u>1-30-95</u> NO		
Dissolved Lead	<0.04	<0.04
Total Oil and Grease	<500	19,000
Hydrocarbon Oil and Grease	<500	17,000
Chloroform	0.5	<30
Tetrachloroethene (PCE)	8	<30
Other VOCs	<0.5-2	<30-100
<u>4-12-95</u>		
Dissolved Lead	<0.04	<0.04
Hydrocarbon Oil and Grease	<500	22,000
Tetrachloroethene (PCE)	6	0.9
1,2-Dichloroethane	<0.5	43
Other VOCs	<0.5-2	<30-100

**TABLE THREE (Continued)**  
**Summary of Chemical Analysis of GROUNDWATER Samples**  
**Lead, Oil & Grease and Volatile Organic Compounds**  
**All results are in parts per billion**

<u>Compound</u>	<u>MW-1</u>	<u>MW-2</u>
<u>7-14-95</u>		
Total Oil and Grease	<500	25,000
Hydrocarbon Oil and Grease	<500	23,000
1,2-Dichloroethane	<0.5	35
Tetrachloroethene (PCE)	4	<5
Other VOCs	<0.5-2	<5-20
<u>10-17-95</u>		
Total Oil and Grease	<1,000	15,000
Hydrocarbon Oil and Grease	<1,000	13,000
Tetrachloroethene (PCE)	5	<0.5
Trichloroethene (TCE)	<0.5	5
<u>01-12-96</u>		
Hydrocarbon Oil and Grease	<5,000	( <5,000 ) ↓

## 6.0 CONCLUSIONS AND RECOMMENDATION

Very high hydrocarbon concentrations were detected in groundwater samples collected from monitoring well MW-2, downgradient of the site. The benzene, ethylbenzene and total xylene concentrations in these samples exceeded the California Department of Toxic Substances (DTSC) maximum contaminant levels (MCLs) for drinking water. In addition, the toluene concentration in these samples exceeded the DTSC recommended action level for drinking water. Only low TPH-G and TPH-D concentrations were detected in groundwater samples collected from monitoring well MW-1. No BTEX was detected in groundwater samples collected from MW-1, and no MTBE or oil and grease was detected in either of these groundwater samples. **These concentrations represent a historical low for both wells.** *except TPHd in MW1.*

The Alameda County Health Care Services Agency has requested that further assessment activities be performed at the site. A workplan for this additional assessment will be submitted during the next quarter. The next quarterly groundwater sampling is scheduled for early April 1996.

## 7.0 REPORT LIMITATIONS

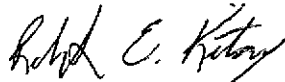
The results of this investigation represent conditions at the time of the groundwater sampling, at the specific locations at which the samples were collected, and for the specific parameters analyzed for by the laboratory.

It does not fully characterize the site for contamination resulting from unknown sources, or for parameters not analyzed for by the laboratory. All of the laboratory work cited in this report was prepared under the direction of an independent CA-DHS certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

Aqua Science Engineers appreciates the opportunity to assist The Lim Family with their environmental needs. Should you have any questions or comments, please feel free to call us at (510) 820-9391.

Respectfully submitted,

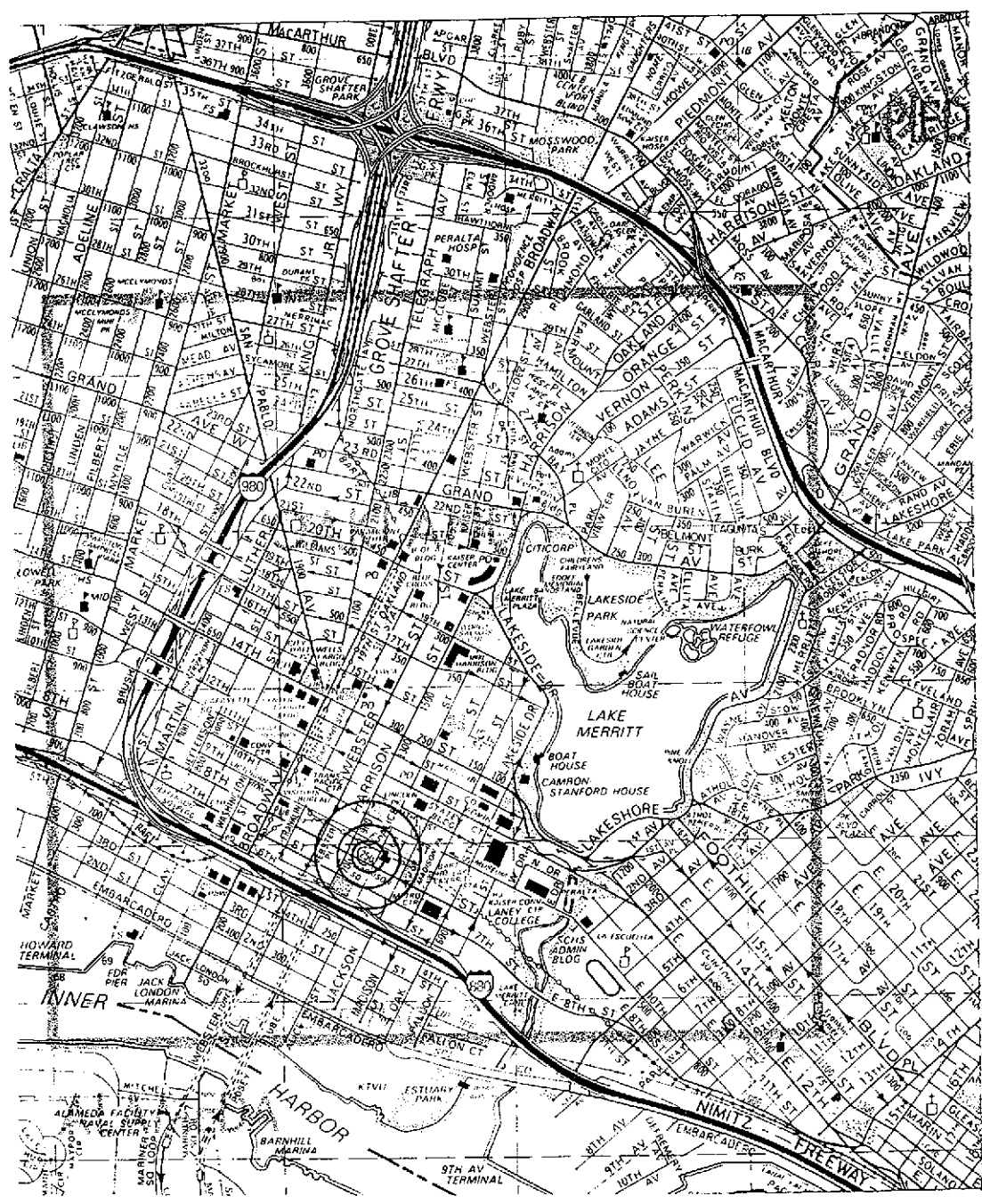
AQUA SCIENCE ENGINEERS, INC.



Robert E. Kitay, R.E.A.  
Project Geologist



Attachments: Figures 1 and 2  
Appendices A and B



# SITE LOCATION MAP

Lim Property  
250 8th Street  
Oakland, California




Aqua Science Engineers

Figure 1

BASE: The Thomas Guide, Alameda and Contra Costa  
Counties Street Guide & Directory, 1990



**LEGEND**

-  LIM Monitoring Well
-  LUM Monitoring Well
- (7.48') Groundwater elevation
- (6.10\*\*) Groundwater elevation, corrected for free-floating hydrocarbon thickness
-  Groundwater elevation contour



NORTH

**SCALE**

1" = 30'

Buildings

SIDEWALK

8th Street

MW-2  
(6.94')

Groundwater  
Flow Direction

Excavation I

MW-1  
(7.48')

Excavation II

SIDEWALK

CHURCH

PROPERTY LIMITS

BUILDING

LIM  
Property

Alice Street

7.0'

SIDEWALK

LUM-1  
(6.35\*\*) 6.5'

LUM Property

LUM-2  
(6.10\*\*) 6.5'

SIDEWALK

**GROUNDWATER ELEVATION  
CONTOUR MAP - 1/12/96**

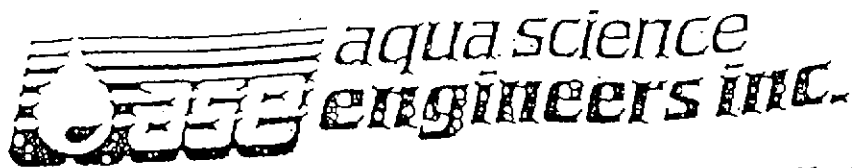
LIM Property  
250 8th Street  
Oakland, California

AQUA SCIENCE ENGINEERS

Figure 2

# **APPENDIX A**

## **Well Sampling Field Log**



# WELL SAMPLING FIELD LOG

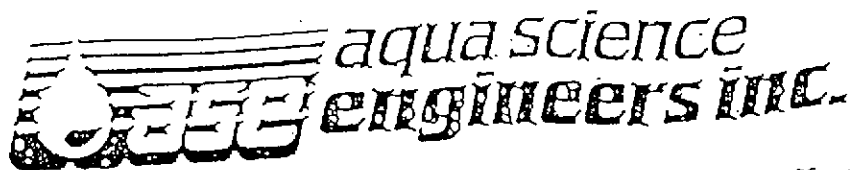
Project Name and Address: Lim Property, 250 8th Street, Oakland, CA  
 Job #: ~~MW~~ 2808 Date of sampling: 1-12-96  
 Well Name: MW-1 Sampled by: SF  
 Total depth of well (feet): 27.96 Well diameter (inches): 2"  
 Depth to water before sampling (feet): 18.03  
 Thickness of floating product if any: none  
 Depth of well casing in water (feet): 9.93  
 Number of gallons per well casing volume (gallons): 1.7  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 6.8  
 Equipment used to purge the well: 12 volt PVC Pump  
 Time Evacuation Began: 10:05 Time Evacuation Finished: 10:18  
 Approximate volume of groundwater purged: 7  
 Did the well go dry?: no After how many gallons: -  
 Time samples were collected: 10:25  
 Depth to water at time of sampling: 18.09'  
 Percent recovery at time of sampling: 99%  
 Samples collected with: Dedicated Rlyethylene Barter  
 Sample color: none Odor: Slight HC odor  
 Description of sediment in sample: small amount of Brown Silt

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1</u>	<u>64.5</u>	<u>7.12</u>	<u>874</u>
<u>2</u>	<u>66.5</u>	<u>7.13</u>	<u>953</u>
<u>3</u>	<u>66.4</u>	<u>7.16</u>	<u>889</u>
<u>4</u>	<u>66.3</u>	<u>7.15</u>	<u>892</u>

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	iced?	Analysis
<u>MW-1</u>	<u>3</u>	<u>40 ml VOAs</u>	<u>Hel</u>	<u>Yes</u>	<u>TPH, BTEX, MTBE</u>
<u>↓</u>	<u>1</u>	<u>1 e Amber</u>	<u>-</u>	<u>↓</u>	<u>TPHO</u>
<u>↓</u>	<u>1</u>	<u>1 e Amber</u>	<u>Hel</u>	<u>↓</u>	<u>DTG BF</u>



# WELL SAMPLING FIELD LOG

Project Name and Address: Lim Property, 250 8<sup>th</sup> Street, Oakland, CA  
 Job #: 2808 Date of sampling: 1-12-96  
 Well Name: MW-2 Sampled by: SF  
 Total depth of well (feet): 25.82 Well diameter (inches): 2"  
 Depth to water before sampling (feet): 17.05  
 Thickness of floating product if any: sheen  
 Depth of well casing in water (feet): 8.77  
 Number of gallons per well casing volume (gallons): 1.4  
 Number of well casing volumes to be removed: 4  
 Req'd volume of groundwater to be purged before sampling (gallons): 6  
 Equipment used to purge the well: 12 volt PVC Pump  
 Time Evacuation Began: 13:27 Time Evacuation Finished: 13:40  
 Approximate volume of groundwater purged: 6  
 Did the well go dry?: no After how many gallons: —  
 Time samples were collected: 13:50  
 Depth to water at time of sampling: 17.12  
 Percent recovery at time of sampling: 99%  
 Samples collected with: Dedicated Polyethylene Bunter  
 Sample color: cloudy Odor: Strong HC odor  
 Description of sediment in sample: grey silt

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<p>Not Collected due to HC concentrations</p>			

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	iced?	Analysis
MW-2	3	40 ml VOLS	HC	Yes	TPHs/BTEX/MTBE
↓	1	1 l Amber	—	↓	TPH
↓	1	1 l Amber	HC	↓	O+G BF

## **APPENDIX B**

Analytical Report and Chain of Custody Forms  
For Groundwater Samples



Curtis & Tompkins, Ltd., Analytical Laboratories. Since 1878

2323 Fifth Street, Berkeley, CA 94710. Phone (510) 486-0900

A N A L Y T I C A L   R E P O R T

Prepared for:

Aqua Science Engineers, Inc.  
2411 Old Crow Canyon Rd  
Suite 4  
San Ramon, CA 94583

Date: 22-JAN-96  
Lab Job Number: 124032  
Project ID: 2808  
Location: Lim Property

Reviewed by:

*Susan K Morris*

Reviewed by:

*Tracy Behr*

This package may be reproduced only in its entirety.



## TVH-Total Volatile Hydrocarbons

Client: Aqua Science Engineers, Inc.  
Project#: 2808  
Location: Lim Property

Analysis Method: CA LUFT (EPA 8015M)  
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
124032-001	MW-1	25453	01/12/96	01/19/96	01/19/96	
124032-002	MW-2	25453	01/12/96	01/19/96	01/19/96	

Analyte	Units	124032-001	124032-002
Diln Fac:		1	50
Gasoline	ug/L	120 Y	32000 Z
Surrogate			
Trifluorotoluene	%REC	94	92
Bromobenzene	%REC	81	80

Y: Sample exhibits fuel pattern which does not resemble standard

Z: Sample exhibits unknown single peak or peaks



## BTXE

Client: Aqua Science Engineers, Inc.  
Project#: 2808  
Location: Lim Property

Analysis Method: EPA 8020  
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
124032-001	MW-1	25453	01/12/96	01/19/96	01/19/96	
124032-002	MW-2	25453	01/12/96	01/19/96	01/19/96	

Analyte	Units	124032-001	124032-002
Diln Fac:		1	50
Benzene	ug/L	<0.5	10000
Toluene	ug/L	<0.5	8000
Ethylbenzene	ug/L	<0.5	1100
m,p-Xylenes	ug/L	<0.5	3400
o-Xylene	ug/L	<0.5	+ 1400
Surrogate			
Trifluorotoluene	%REC	95	106
Bromobenzene	%REC	81	82





Lab #: 124032

BATCH QC REPORT

Page 1 of 1

## TVH-Total Volatile Hydrocarbons

Client: Aqua Science Engineers, Inc.  
Project#: 2808  
Location: Lim Property

Analysis Method: CA LUFT (EPA 8015M)  
Prep Method: EPA 5030

## METHOD BLANK

Matrix: Water  
Batch#: 25453  
Units: ug/L  
Diln Fac: 1

Prep Date: 01/19/96  
Analysis Date: 01/19/96

MB Lab ID: QC13283

Analyte	Result	
Gasoline	<50	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	92	69-120
Bromobenzene	75	70-122

Lab #: 124032

## BATCH QC REPORT

Page 1 of 1

BTXE			
Client:	Aqua Science Engineers, Inc.	Analysis Method:	EPA 8020
Project#:	2808	Prep Method:	EPA 5030
Location:	Lim Property		
METHOD BLANK			
Matrix:	Water	Prep Date:	01/19/96
Batch#:	25453	Analysis Date:	01/19/96
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC13283

Analyte	Result		
Benzene	<0.5		
Toluene	<0.5		
Ethylbenzene	<0.5		
m,p-Xylenes	<0.5		
o-Xylene	<0.5		
Surrogate	%Rec		Recovery Limits
Trifluorotoluene	97		58-130
Bromobenzene	78		62-131



Lab #: 124032

## BATCH QC REPORT

Page 1 of 1

TVH-Total Volatile Hydrocarbons			
Client: Aqua Science Engineers, Inc.	Analysis Method: CA LUFT (EPA 8015M)		
Project#: 2808	Prep Method: EPA 5030		
Location: Lim Property			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date:	01/19/96	
Batch#: 25453	Analysis Date:	01/19/96	
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC13372

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2119	2000	106	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	100	69-120		
Bromobenzene	85	70-122		

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

Spike Recovery: 0 out of 1 outside limits



Lab #: 124032

## BATCH QC REPORT

Page 1 of 1

BTXE			
Client: Aqua Science Engineers, Inc.	Analysis Method: EPA 8020		
Project#: 2808	Prep Method: EPA 5030		
Location: Lim Property			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date: 01/19/96		
Batch#: 25453	Analysis Date: 01/19/96		
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC13282

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	22.7	20	114	80-120
Toluene	22.9	20	115	80-120
Ethylbenzene	22.7	20	114	80-120
m,p-Xylenes	45.5	40	114	80-120
o-Xylene	23.7	20	119	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	100	58-130		
Bromobenzene	89	62-131		

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits



Lab #: 124032

## BATCH QC REPORT

Page 1 of 1

TVH-Total Volatile Hydrocarbons	
Client: Aqua Science Engineers, Inc.	Analysis Method: CA LUFT (EPA 8015M)
Project#: 2808	Prep Method: EPA 5030
Location: Lim Property	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: MW-1	Sample Date: 01/12/96
Lab ID: 124032-001	Received Date: 01/12/96
Matrix: Water	Prep Date: 01/19/96
Batch#: 25453	Analysis Date: 01/19/96
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC13323

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	118.2	2273	108	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	100	69-120			
Bromobenzene	92	70-122			

MSD Lab ID: QC13324

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	2354	112	75-125	4	<20
Surrogate	%Rec	Limits				
Trifluorotoluene	108	69-120				
Bromobenzene	100	70-122				

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 124032  
CLIENT: AQUA SCIENCE ENGINEERS, INC.  
PROJECT ID: 2808  
LOCATION: LIM PROPERTY

DATE SAMPLED: 01/12/96  
DATE RECEIVED: 01/12/96  
DATE ANALYZED: 01/23/96  
DATE REPORTED: 01/23/96  
BATCH NO: 25453

=====

ANALYSIS: MTBE  
ANALYSIS METHOD: EPA 8020

=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
124032-001	MW-1	ND	ug/L	2.0
124032-002	MW-2	ND	ug/L	2.0
METHOD BLANK	N/A	ND	ug/L	2.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: LCS

=====

RECOVERY, %

=====

102



TEH-Tot Ext Hydrocarbons

Client: Aqua Science Engineers, Inc.  
Project#: 2808  
Location: Lim Property

Analysis Method: CA LUFT (EPA 8015M)  
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
124032-001	MW-1	25296	01/12/96	01/12/96	01/15/96	
124032-002	MW-2	25296	01/12/96	01/12/96	01/15/96	

Analyte	Units	124032-001	124032-002
Diln Fac:		1	1
Diesel Range	ug/L	890 YL	2600 YL
Surrogate			
Hexacosane	%REC	121	127

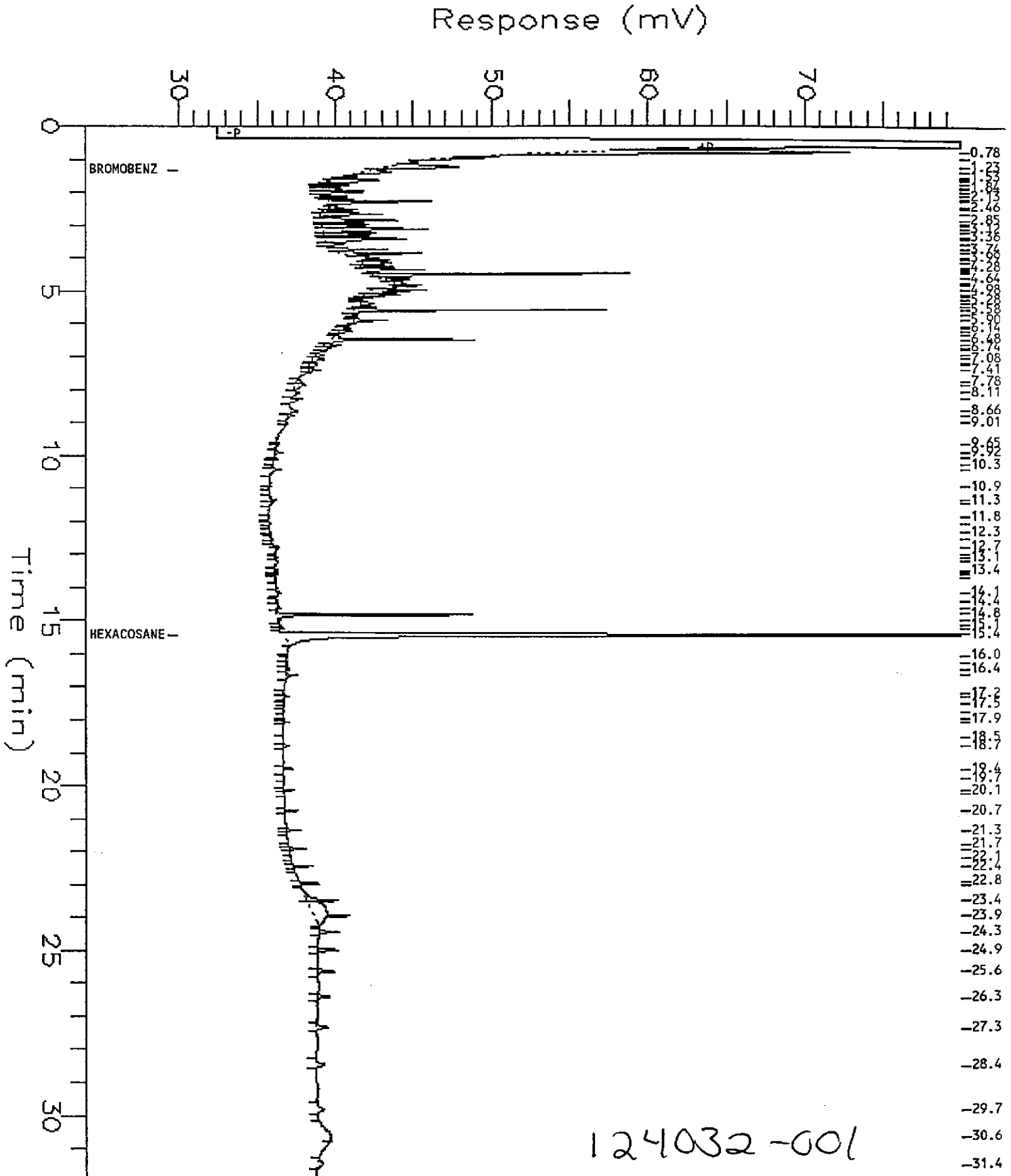
Y: Sample exhibits fuel pattern which does not resemble standard  
L: Lighter hydrocarbons than indicated standard

TEH Chromatogram - GC 11 Ch B

Sample Name : 124032-001,500:2.5  
 FileName : g:\gc11\chb\015B004.raw  
 Method : GC11DUAL.ins  
 Start Time : 0.00 min  
 Scale Factor : -1

End Time : 31.92 min  
 Plot Offset: 30 mV

Sample #: 25296  
 Date : 1/15/96 12:36 PM  
 Time of Injection: 1/15/96 12:00 PM  
 Low Point : 29.94 mV  
 High Point : 79.94 mV  
 Plot Scale: 50 mV



124032-001



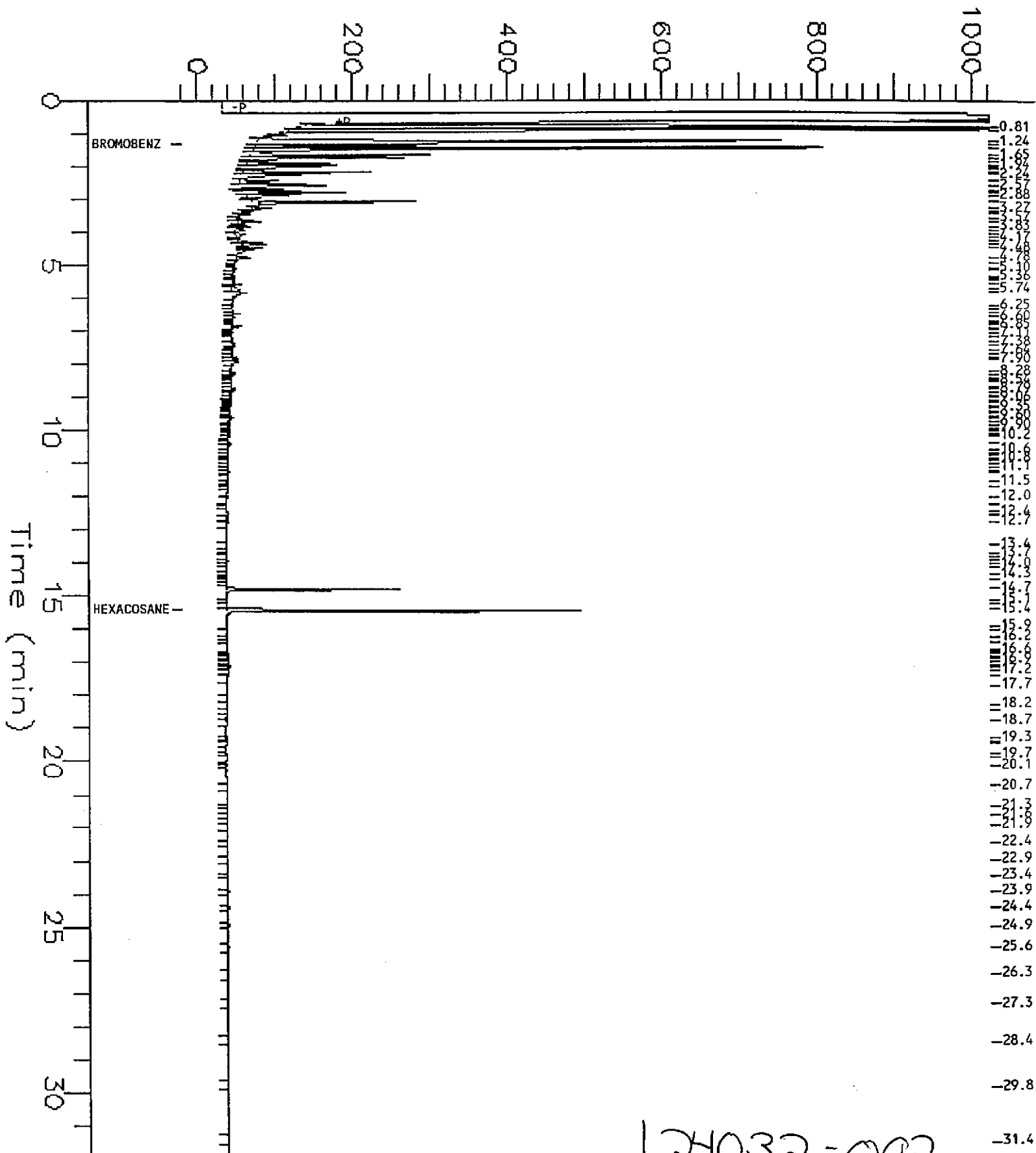
TEH Chromatogram - GC 11 Ch B

Sample Name : 124032-002,500:2.5  
 FileName : G:\GC11\CHB\015B012.raw  
 Method : GC11DUAL.ins  
 Start Time : 0.00 min  
 Scale Factor : 0

End Time : 31.92 min  
 Plot Offset: -20 mV

Sample #: 25296  
 Date : 1/16/96 08:29 AM  
 Time of Injection: 1/15/96 06:23 PM  
 Low Point : -20.26 mV  
 Plot Scale: 1044 mV  
 Page 1 of 1  
 High Point : 1024.00 mV

Response (mV)



124032-002



Lab #: 124032

## BATCH QC REPORT

TEH-Tot Ext Hydrocarbons			
Client:	Aqua Science Engineers, Inc.	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	2808	Prep Method:	EPA 3520
Location:	Lim Property		
METHOD BLANK			
Matrix:	Water	Prep Date:	01/12/96
Batch#:	25296	Analysis Date:	01/15/96
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC12705

Analyte	Result		
Diesel Range	<50		
Surrogate	%Rec	Recovery Limits	
Hexacosane	105	60-140	



Lab #: 124032

## BATCH QC REPORT

TEH-Tot Ext Hydrocarbons			
Client: Aqua Science Engineers, Inc.	Analysis Method: CA LUFT (EPA 8015M)		
Project#: 2808	Prep Method: EPA 3520		
Location: Lim Property			
BLANK SPIKE/BLANK SPIKE DUPLICATE			
Matrix: Water	Prep Date:	01/12/96	
Batch#: 25296	Analysis Date:	01/15/96	
Units: ug/L			
Diln Fac: 1			

BS Lab ID: QC12706

Analyte	Spike Added	BS	%Rec #	Limits
Diesel Range	2475	2407	97	60-140
Surrogate	%Rec	Limits		
Hexacosane	121	60-140		

BSD Lab ID: QC12707

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel Range	2475	2660	107	60-140	10	<35
Surrogate	%Rec	Limits				
Hexacosane	129	60-140				

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

Client: Aqua Science Engineers, Inc.

Laboratory Login Number: 124032

 Project Name: Lim Property  
 Project Number: 2808

Report Date: 22 January 96

ANALYSIS: Hydrocarbon Oil &amp; Grease (Gravimetric)      METHOD: SMWW 17:5520BF

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
124032-001	MW-1	Water	12-JAN-96	12-JAN-96	15-JAN-96	ND	mg/L	5	TR	25329
124032-002	MW-2	Water	12-JAN-96	12-JAN-96	15-JAN-96	ND	mg/L	5	TR	25329

ND = Not Detected at or above Reporting Limit (RL).

## Q C B a t c h R e p o r t

Client: Aqua Science Engineers, Inc.  
 Project Name: Lim Property  
 Project Number: 2808

Laboratory Login Number: 124032  
 Report Date: 22 January 96

ANALYSIS: Hydrocarbon Oil &amp; Grease (Gravimetric)

QC Batch Number: 25329

## Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
MB	ND	5	mg/L	SMWW 17:5520BF	15-JAN-96

## Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	86%	SMWW 17:5520BF	15-JAN-96
BSD	82%	SMWW 17:5520BF	15-JAN-96

		Control Limits
Average Spike Recovery	84%	80% - 120%
Relative Percent Difference	5.3%	< 20%

