PORT OF OAKLAND

January 13, 1997

Mr. Barney Chan
Alameda County Health Care Agency
Environmental Protection Division
1131 Harbor Bay Pkwy., Suite #250
Alameda, CA 94502-6577

SUBJECT: SUBSURFACE INVESTIGATION REPORTS FOR KEEP ON TRUCKING AT 370 8TH AVENUE, OAKLAND, CALIFORNIA - FORMER ABOVEGROUND STORAGE TANK FACILITY (ADJACENT TO FORMER BUILDING H-213) AND FORMER UNDERGROUND STORAGE TANK FACILITY (ADJACENT TO BUILDING H-107)

Dear Mr. Chan:

Enclosed please find the Quarterly Groundwater Sampling Reports for the fourth quarter of 1996 at the former aboveground tank site adjacent to former Building H-213 and former underground storage tank adjacent to Building H-107 located at Keep on Trucking facilities.

If you have any questions or need additional information, please call me at (510) 272-1118.

Sincerely,

Jeffrey L. Rubin, CPSS, REA
Associate Environmental Scientist
Environmental Health and
Safety Compliance

Enclosures

cc with encl.: Richard Padovani, Keep on Trucking
Richard Hiett, Regional Water Quality Control Board, San Francisco Bay Region

530 Water Street ■ Jack London's Waterfront ■ P.O. Box 2064 ■ Oakland, California 94604-2064
Telephone (510) 272-1100 ■ Fax (510) 272-1172 ■ TDD (510) 763-5703 ■ Cable address, PORTOFOAK, Oakland

DECEMBER 1996
QUARTERLY GROUNDWATER
SAMPLING REPORT FOR
FORMER UNDERGROUND STORAGE TANK
KEEP ON TRUCKING FACILITY (H-107)
370 8TH AVENUE
OAKLAND, CALIFORNIA 1/9/97

JANUARY 9, 1997

SCI 133.005

171 12th Street - Suite 205 - Oakland, California 94607 - (510) 268-0461
3736 Mt. Diablo Boulevard - Suite 200 - Lafayette, California 94549 - (510) 299-7960

CONTENTS

1.0 INTRODUCTION

Subsurface Consultants, Inc. (SCI) was retained to perform quarterly groundwater sampling and analyses at the Keep on Trucking Facility located at 370-8th Avenue in Oakland, California (Plate 1). On December 4, 1996, SCI collected groundwater samples from monitoring well MW-7 located near Building H-107. The monitoring well location is shown on Plate 2.

2.0 BACKGROUND

A 1,000-gallon capacity underground storage tank (UST) was removed in October 1994 by Environmental Investigations and Actions of Hayward, California. ERM-West, Inc. collected soil and groundwater samples from the excavation. Concentrations of total petroleum hydrocarbons quantitated as diesel (TPH-D) were detected in the soil samples collected from the excavation. Concentrations of total petroleum hydrocarbons as gasoline (TPH-G) were detected in the groundwater sample collected from the excavation.

In April 1995, Clayton Environmental Consultants (Clayton) drilled three boreholes at the subject facility. As requested by the Alameda County Health Care Services Agency (ACHCSA), in their letter dated March 9, 1995, two of the boreholes were converted into temporary wells for collection of grab groundwater samples. The third borehole was completed as monitoring well MW-7.

TPH-D concentrations in groundwater samples collected to date from monitoring well MW-7 range from 260 ug/L to 6,100 ug/L. Concentrations of TPH-G and benzene, toluene, ethylbenzene and total xylenes (BTEX) have not been detected in any groundwater samples collected during quarterly groundwater monitoring sampling events.

3.0 FIELD ACTIVITIES

On December 2, 1996, monitoring well MW-7 was purged using a new disposable bailer. Approximately three times the well volume was purged from the well to ensure that water representative of the aquifer was present prior to sampling. The well volume was calculated using depth to groundwater and total well depth measurements which were recorded to the nearest 0.01 foot upon arrival at the site. Purging of monitoring well MW-7 continued until pH, temperature, and electrical conductivity stabilized.

The following parameters were noted during sampling activities:

- Monitoring well identification
- Static water level
- Well depth
- Condition of water before purging (e.g., amount of free product)
- Purge rate and volume
- pH, temperature, and conductivity during purging
- Time purged
- Time of sample collection
- Sampling method
- Name of field technician
- Climatic conditions

The groundwater samples were collected using a new disposable bailer. All other sampling equipment was thoroughly cleaned and decontaminated before coming into contact with the groundwater. Details of the groundwater sampling event are provided in the water sampling field survey form (Appendix A).

Groundwater samples were collected in such a manner as to minimize volatilization due to agitation and/or transfer from bailer to sample container. The samples were transferred into clean, laboratory-supplied sample containers that were closed, labeled, placed immediately into an ice chest, and transported to Curtis & Tompkins, Ltd., a state-certified laboratory, for analysis. To document and trace samples from the time of collection to final analysis, a signed chain-of-custody record was completed by SCI personnel. The chain-of-custody form accompanied the groundwater samples to the laboratory. The completed chain-of-custody form is included with the analytical report from Curtis & Tompkins (Appendix B).

4.0 ANALYTICAL RESULTS

The groundwater sample from well MW-7 was analyzed using the following Environmental Protection Agency Analytical Methods:

- Method 8015 (modified) for TPH-D and TPH-Motor Oil
- Method 8015 (modified) for TPH-G
- Method 8020 for BTEX

The analytical results for all quarterly monitoring events are summarized in Table 1. The laboratory analytical report for the current groundwater sampling event is included in Appendix B.

5.0 FINDINGS

Based on the laboratory analytical report and SCI's field observations, our findings for this sampling event are as follows:

- TPH-D was detected at a concentration similar to past events. TPH-D concentrations have ranged from 260 to 6,100 ug/L during the monitoring program.
- TPH-Motor Oil was not detected at a concentration above the reporting limit. TPH-Motor Oil concentrations have ranged from 310 to 750 ug/L for the previous two sampling events.
- TPH-G and BTEX concentrations have not been detected in any groundwater samples collected from monitoring well MW-7 during the monitoring program.

The next quarterly groundwater sampling event is scheduled for March 1997.

This report prepared by:

Jerome de Verrier
Staff Engineer

This report reviewed by:

Jeriann N. Alexander, PE, REA
Project Manager

January 9, 1997

TABLE 1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Keep on Trucking Facility (H-107)
Oakland, California
(SCI 133.005)

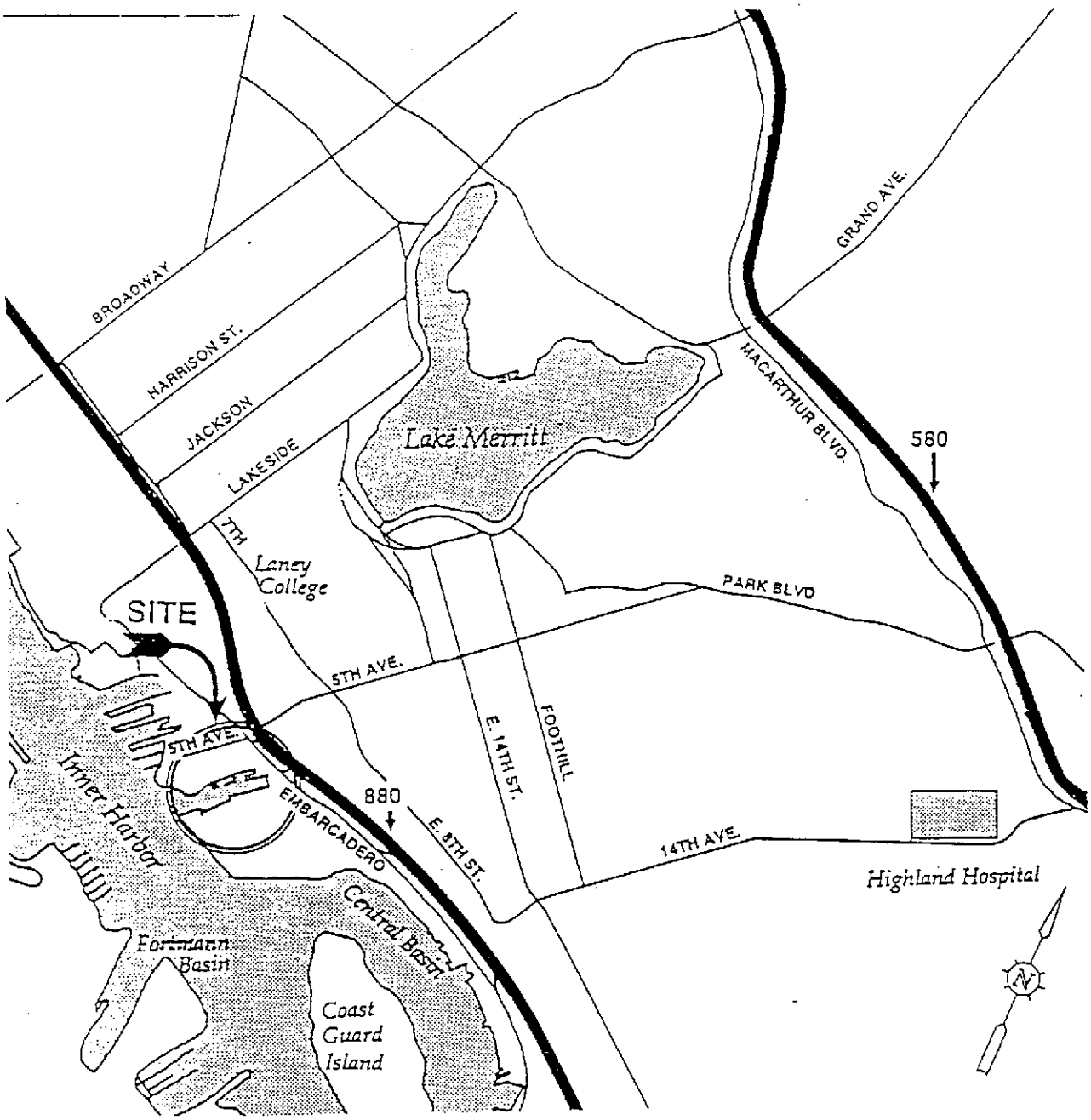
Monitoring Well	Sample Date	Depth to Water	Top of Casing Elevation (a)	Groundwater Elevation (a)	TPH as Diesel (ug/L)	TPH as Motor Oil (ug/L)	TPH as Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)
MW-7	4/10/95	4.41	10.13	5.72	**370**	--	<50	<0.4	<0.3	<0.3	<0.4
	7/24/95	3.72	10.13	6.41	**260**	--	<50	<0.4	<0.3	<0.3	<0.4
	11/10/95	4.78	10.13	5.35	**270**	--	<50	<0.4	<0.3	<0.3	<0.4
	2/20/96	4.13	10.13	6.00	**6,100**	--	<50	<0.5	<0.5	<0.5	<1
	5/24/96	4.69	10.13	5.44	**750yh**	**750y**	<50	<0.5	<0.5	<0.5	<0.5
	9/5/96	4.65	10.13	5.48	**480yh**	**310yl**	<50	<5.0	<5.0	<5.0	<5.0
	12/4/96	4.88	10.13	5.25	**340y**	<240	<50	<0.5	<0.5	<0.5	<0.5

TPH = Total petroleum hydrocarbons
ug/l = Micrograms per liter
-- = Not tested

y = Sample exhibits fuel pattern which does not resemble standard
l = lighter hydrocarbons than indicated standard
h = Heavier hydrocarbons than indicated standard

Notes:

a. Elevations are based on the Port of Oakland Datum. Elevations based on this special datum may be converted to the mean sea level datum by subtracting 3.20 feet.



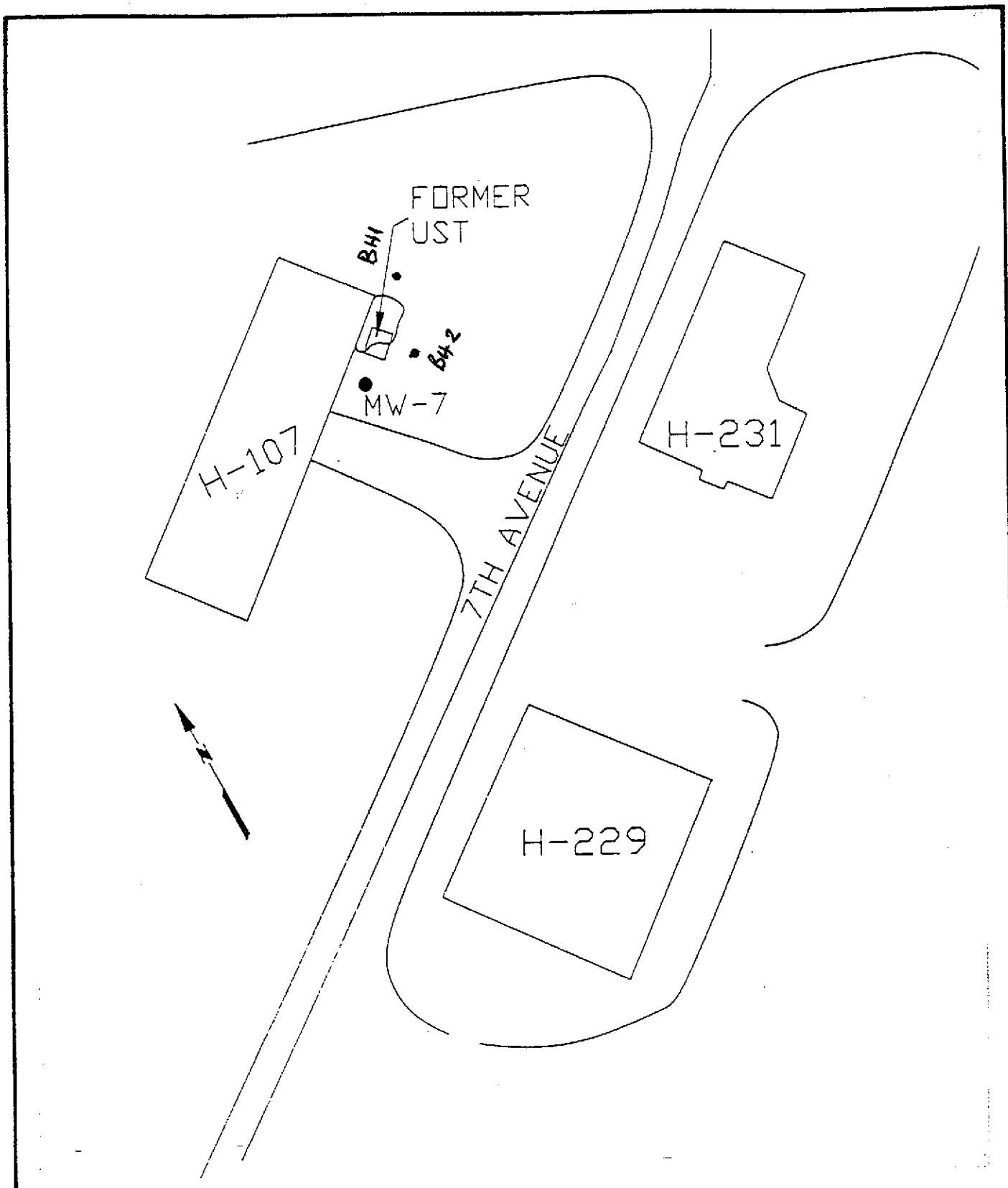
SITE VICINITY MAP

Subsurface Consultants

8TH AVENUE STUDY AREA–OAKLAND, CA

JOB NUMBER	DATE	APPROVED
133.005	6/21/96	SP

PLATE 1



MAP BASED ON FIGURE PREPARED BY
CLAYTON ENVIRONMENTAL CONSULTANTS

MONITORING WELL LOCATION

Subsurface Consultants

KEEP ON TRUCKING – OAKLAND, CA

JOB NUMBER	DATE	APPROVED	PLATE
133.005	7/25/96	BO	2

APPENDIX A

WATER SAMPLING FIELD SURVEY FORM

WELL SAMPLING FORM

Project Name: KoT

Well Number: MW-7

Job No.: 133.005

Well Casing Diameter: 2 inch

Sampled By: DWA

Date: 12/3/96

TOC Elevation: _____

Weather: clear, sunny

Depth to Casing Bottom (below TOC) 20.50 feet

Depth to Groundwater (below TOC) 4.88 feet

Feet of Water in Well 15.62 feet

Depth to Groundwater When 80% Recovered 8.00 feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 2.6 gallons

Depth Measurement Method Tape & Paste / Electronic Sounder / Other

Free Product none

Purge Method disposable bailer

slow recharge (overnight)

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°F)	Conductivity (micromhos/cm)	Salinity S%	Comments
2	7.85	57.3	2160		clear WITH LT. BROWN TINT & ORGANIC (BAY MUD) ODOR
4	6.06	61.1	2160		
6	6.00	60.0	2440		
8	6.10	59.6	2710		

Total Gallons Purged 8 gallons

Depth to Groundwater Before Sampling (below TOC) 4.18 on 12/4/96 @ 10:00 a.m. feet

Sampling Method disposable bailer

Containers Used 3 (40 ml) | 1 (liter) | _____ (pint)

Subsurface Consultants

JOB NUMBER | DATE | APPROVED | PLATE

GROUNDWATER DEPTHS

Project Name: KOT

Job No.: 133.005

Measured by: DWA

Well	Date	Time	Groundwater Depth (feet)	Comments
MW-1	12/2/96	12:40	4.80	
MW-2	↓	12:35	4.30	
MW-3		12:50	4.84	
MW-4		12:25	3.22'	2" product in skimmer - no measurable product in well ← 2 VOA's
MW-5		12:30	4.64	
MW-6		12:15	3.96	Top of Product = 3' 11 7/8"; 1" " " in skimmer; Product thickness = 1/64" ring; " ~~Bailed~~ = 1 VOA Collected
MW-7		1300	4.88	
SCIMW-1		10:55	5.52'	
SCIMW-2		1310	6.60	
SCIMW-3		11:35	5.78	
SCIMW-4		12:55	2.09	
SCIMW-5		1330	4.95	
SCIMW-6		1320	7.04	
SCIMW-7		1345	4.95	
SCIMW-8		11:15	5.39	
SCIMW-9		14:30	4.71	
SCIMW-10		11:50	5.15	
SCIMW-11		1400	6.03	
SCIMW-12		1410	7.31	
SCIMW-13		11:20	5.91	
SCIMW-14		14:20	8.56	
SCIMW-15		1415	8.91	
SCIMW-16		1105	3.64	
SCIMW-17		1100	2.86	
SCIMW-18		1155	4.06	
SCIMW-19		1355	3.54	
SCIMW-20	↓	1340	1.45	

APPENDIX B

GROUNDWATER SAMPLING ANALYTICAL REPORT FOR SAMPLES COLLECTED IN DECEMBER 1996

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Subsurface Consultants
3736 Mt. Diablo Blvd. Ste. 200
Layfayette, CA 94549

Date: 18-DEC-96
Lab Job Number: 127644
Project ID: 133.005
Location: KOT

Reviewed by: Damara Moore

Reviewed by: Teresa K Morris

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127644-001	MW-7	31271	12/04/96	12/05/96	12/05/96	

Matrix: Water

Analyte	Units	127644-001
Diln Fac:		1
Gasoline	ug/L	<50
Surrogate		
Trifluorotoluene	%REC	97
Bromobenzene	%REC	117

Lab #: 127644

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client:	Subsurface Consultants	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		

METHOD BLANK

Matrix:	Water	Prep Date:	12/05/96
Batch#:	31271	Analysis Date:	12/05/96
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC35897

Analyte	Result	
Gasoline	<50	
Surrogate	**%Rec**	**Recovery Limits**
Trifluorotoluene	94	69-120
Bromobenzene	108	70-122

Lab #: 127644

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Prep Date: 12/05/96
Analysis Date: 12/05/96

LCS Lab ID: QC35895

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2163	2000	108	80-120

Surrogate	%Rec	Limits
Trifluorotoluene	118	69-120
Bromobenzene	119	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 #: 127644

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 127615-001
Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Sample Date: 12/02/96
Received Date: 12/02/96
Prep Date: 12/05/96
Analysis Date: 12/05/96

MS Lab ID: QC35937

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	<50	2169	109	75-125
Surrogate	**%Rec**	**Limits**			
Trifluorotoluene	113	69-120			
Bromobenzene	122	70-122			

MSD Lab ID: QC35938

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	2137	107	75-125	2	20
Surrogate	**%Rec**	**Limits**				
Trifluorotoluene	112	69-120				
Bromobenzene	122	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

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127644-001	MW-7	31258	12/04/96	12/04/96	12/07/96	

Matrix: Water

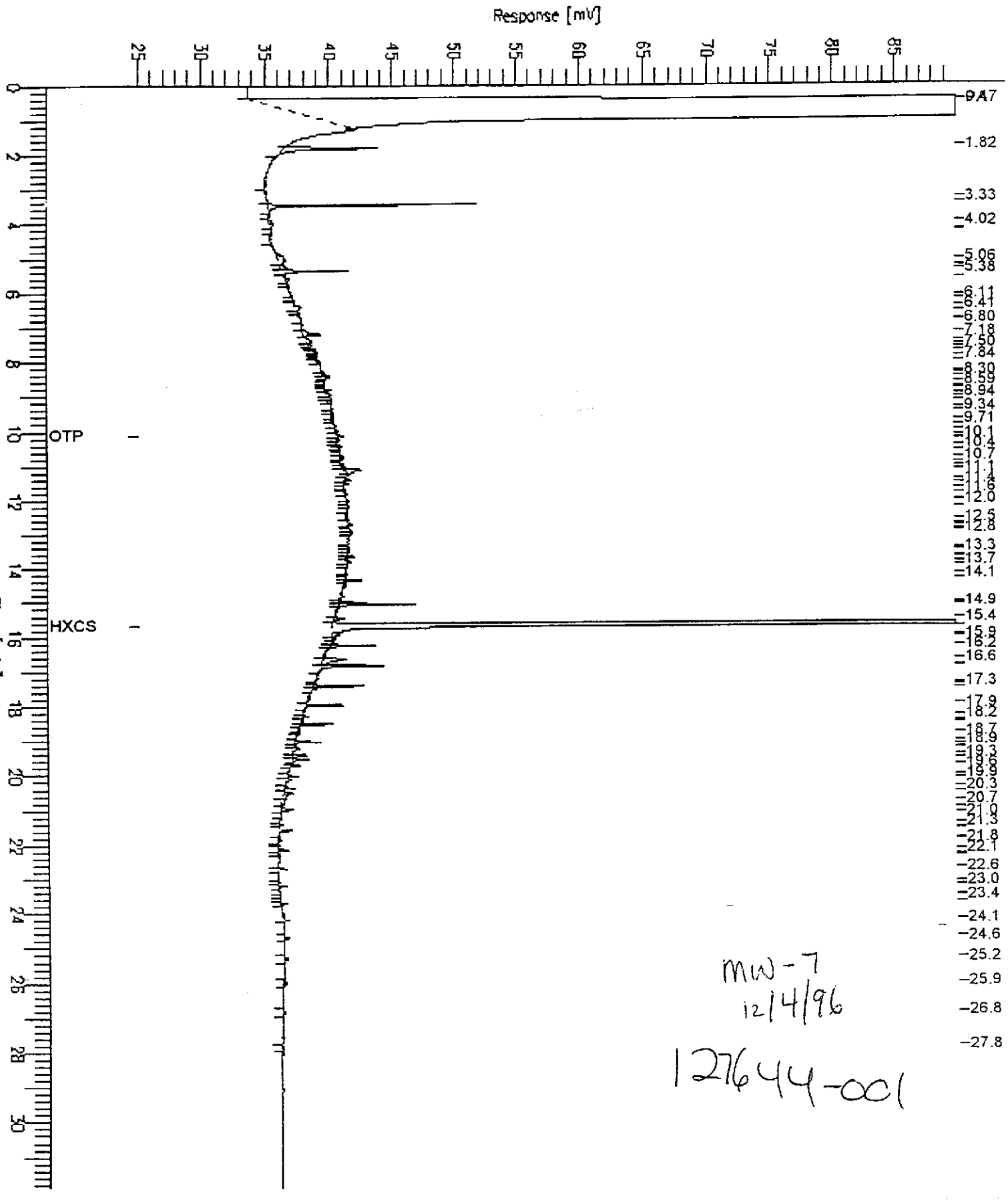
Analyte	Units	127644-001
Diln Fac:		1
Diesel C12-C22	ug/L	340 Y
Motor Oil C22-C50	ug/L	<240
Surrogate		
Hexacosane	%REC	99

Y: Sample exhibits fuel pattern which does not resemble standard

TEH Chromatogram

Sample Name : 127644-001,31258
FileName : G:\GC13\CHA\341A042.raw
Method : DUAL
Start Time : 0.00 min End Time : 31.90 min
Scale Factor: 0.0 Plot Offset: 25 mV

Sample #: 31258
Date : 12/7/96 11:07 PM
Time of Injection: 12/7/96 10:35 PM
Low Point : 25.00 mV High Point : 90.00 mV
Plot Scale: 65.0 mV



MW-7
12/4/96

127644-001

Lab #: 127644

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client:	Subsurface Consultants	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	133.005	Prep Method:	EPA 3520
Location:	KOT		

METHOD BLANK

Matrix:	Water	Prep Date:	12/04/96
Batch#:	31258	Analysis Date:	12/07/96
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC35850

Analyte	Result
Diesel C12-C22	<50
Motor Oil C22-C50	<250

Surrogate	%Rec	Recovery Limits
Hexacosane	94	60-140

Lab #: 127644

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 31258
Units: ug/L
Diln Fac: 1

Prep Date: 12/04/96
Analysis Date: 12/07/96

BS Lab ID: QC35851

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	2159	87	60-140
Surrogate	%Rec	Limits		
Hexacosane	93	60-140		

BSD Lab ID: QC35852

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	2220	90	60-140	3	35
Surrogate	%Rec	Limits				
Hexacosane	98	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

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127644-001	MW-7	31271	12/04/96	12/05/96	12/05/96	

Matrix: Water

Analyte	Units	127644-001
Diln Fac:		1
Benzene	ug/L	<0.5
Toluene	ug/L	<0.5
Ethylbenzene	ug/L	<0.5
m,p-Xylenes	ug/L	<0.5
o-Xylene	ug/L	<0.5
Surrogate		
Trifluorotoluene	%REC	92
Bromobenzene	%REC	95

Lab #: 127644

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Prep Date: 12/05/96
Analysis Date: 12/05/96

MB Lab ID: QC35897

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	91	43-114
Bromobenzene	88	47-112

Lab #: 127644

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Prep Date: 12/05/96
Analysis Date: 12/05/96

LCS Lab ID: QC35896

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	18.7	20	94	80-120
Toluene	18.6	20	93	80-120
Ethylbenzene	22.4	20	112	80-120
m,p-Xylenes	41.8	40	105	80-120
o-Xylene	21.3	20	107	80-120

Surrogate	%Rec	Limits
Trifluorotoluene	93	43-114
Bromobenzene	94	47-112

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

127644

CHAIN OF CUSTODY FORM

PAGE ____ OF ____

PROJECT NAME: KOT

JOB NUMBER: 133.005

PROJECT CONTACT: Jerome DeVerrier/Jeri Alexander

SAMPLED BY: Dennis Alexander

LAB: Curtis & Tompkins

TURNAROUND: Normal

REQUESTED BY: Jerome DeVerrier

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR	CONTAINERS: VOA	LITER	PINT	TUBE	METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME	NOTES	ANALYSIS REQUESTED: TVH/BTXE	TEH @ diesel + motor oil
	MW-7	X				3	1			X			X		12	04	96	1000		X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dennis Alexander	12/4/96 4:15 p.m.	Damara Moore	12/4 4:15pm
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME

COMMENTS & NOTES:

Subsurface Consultants, Inc.
171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607
(510) 268-0461 • FAX: 510-268-0137

DECEMBER 1996
QUARTERLY GROUNDWATER
SAMPLING REPORT AT
FORMER ABOVEGROUND STORAGE TANK
KEEP ON TRUCKING FACILITY (FORMER H-213)
370 8TH AVENUE
OAKLAND, CALIFORNIA

JANUARY 9, 1997

SCI 133.005

171 12th Street - Suite 205 - Oakland, California 94607 - (510) 268-0461
3736 Mt. Diablo Boulevard - Suite 200 - Lafayette, California 94549 - (510) 299-7960

CONTENTS

1.0 INTRODUCTION

Subsurface Consultants, Inc. (SCI) was retained to perform quarterly groundwater sampling and analyses at the Keep on Trucking Facility located at 370-8th Avenue in Oakland, California (Plate 1). On December 3, 4, 5, and 13, 1996, SCI collected groundwater samples from monitoring wells MW-1 through MW-6 located near the former location of Building H-213. The monitoring well locations are shown on Plate 2.

2.0 BACKGROUND

In October 1992, the United States Coast Guard (USCG) noted diesel fuel in Clinton Basin. A subsequent investigation by the Port of Oakland (Port) identified diesel fuel in storm drains at the Ninth Avenue Terminal. Further investigations by the Port indicated that the source of diesel was a leaking underground pipe connected to a diesel above ground storage tank (AST) at the subject site. The diesel AST was operated by the Keep on Trucking Company.

The diesel fuel system was disconnected in December 1992, and was removed by February 1993. In September 1993, Uribe and Associates conducted a subsurface investigation at the former location of the diesel fuel AST which consisted of installing and sampling four monitoring wells (MW-1 through MW-4).

While developing the four monitoring wells in September 1993, four to twelve inches of separate phase petroleum hydrocarbons (free product) was observed floating on the groundwater surface in monitoring well MW-4. Monitoring well MW-4 was purged once a week from September to November 1993. According to the Uribe and Associates report dated December 2, 1993, bailing activities ceased on November 1, 1993, after all the diesel had apparently been removed. However, during the quarterly groundwater monitoring and sampling event in June and September 1994, six to ten inches of free product were noted again in monitoring well MW-4. No bailing of the floating product was performed; however, a passive skimmer was installed in monitoring well MW-4 on April 10, 1995.

During a subsequent subsurface investigation performed by Clayton Environmental Consultants (Clayton) in March 1995, two additional monitoring wells (MW-5 and MW-6) were installed at the site (Plate 2). In April 1995, free product was identified in monitoring well MW-6 and dissolved petroleum hydrocarbons were present in monitoring well MW-5. A passive skimmer was installed by Clayton in well MW-6 on July 24, 1995. Free product has been skimmed or bailed from both wells MW-4 and MW-6 on a periodic basis. SCI is currently removing accumulate free product on a monthly basis. Free product thickness and measured groundwater levels are summarized in Table 1. A summary of skimmer operations and free product removal at monitoring wells MW-4 and MW-6 is presented in Appendix A.

3.0 FIELD ACTIVITIES

On December 2, 1996, monitoring wells MW-1 through MW-6 were purged using new disposable bailers. Well volumes were calculated using depth to groundwater and total well depth measurements which were recorded to the nearest 0.01 foot upon arrival at the site. Approximately three to four times the volume of each well was purged to ensure that water representative of the aquifer was present prior to sampling. Only twice the volume of water in well MW-3 was purged due to very slow recharge. As a general guide, a minimum of three well volumes should be purged prior to sampling unless well recovery rates prohibit it. Standard operating procedure does allow for fewer than three purged well volumes if the well does not recover within 24 hours and as long as groundwater samples are not collected until field indicator parameters such as pH, temperature, and electrical conductivity stabilize indicating that fresh groundwater from the aquifer has replaced the initial stagnant water. All monitoring wells were purged until pH, temperature, and electrical conductivity stabilized.

The following parameters were noted during the sampling activities:

- Monitoring well identification
- Static water level
- Well depth
- Condition of water before purging (e.g., amount of free product)
- Purge rate and volume
- pH, temperature, and conductivity during purging
- Time purged
- Time of sample collection
- Sampling method
- Name of sampler
- Climatic conditions

The groundwater samples were collected using new disposable bailers. All other sampling equipment was thoroughly cleaned and decontaminated before coming into contact with the groundwater at each well. Details of the groundwater sampling event are provided in the water sampling field survey forms (Appendix B).

Groundwater samples were collected in such a manner as to minimize volatilization due to agitation and/or transfer from bailer to sample container. The samples were transferred into clean laboratory-supplied containers that were closed, labeled, placed immediately into an ice chest, and transported to Curtis & Tompkins, Ltd., a state-certified laboratory, for analysis. To document and trace samples from time of collection to final analysis, signed chain-of-custody records were completed by SCI personnel. The chain-of-custody records accompanied the groundwater samples to the laboratory. The completed chain-of-custody records are included with the analytical report from the laboratory (Appendix C).

4.0 ANALYTICAL RESULTS

The groundwater samples from wells MW-1 through MW-6 were analyzed using the following Environmental Protection Agency Analytical Methods:

- Method 8015 (modified) for TPH-D and TPH-motor oil
- Method 8015 (modified) for TPH-G
- Method 8020 for BTEX

The analytical results are summarized in Table 1. The laboratory analytical reports for the current groundwater sampling event are included in Appendix C.

5.0 FINDINGS

Based on the laboratory analytical reports and SCI's field observations, our findings for this sampling event are as follows:

- Free product was observed in monitoring well MW-6 before purging.
- A sheen was observed in monitoring wells MW-4 and MW-5 during purging.
- TPH-D was detected in groundwater samples collected from all monitoring wells.
- TPH-motor oil was detected in all monitoring wells except well MW-3.
- TPH-G was detected in groundwater samples collected from wells MW-4, MW-5 and MW-6. TPH-G has never been detected in wells MW-1 and MW3.
- Concentrations of benzene, toluene, ethylbenzene, and total xylenes were detected in groundwater samples collected from well MW-4. Benzene and total xylenes were detected in well MW-5 and benzene and toluene were detected in well MW-6.

The next quarterly sampling event is scheduled for March 1997.

This report prepared by:

Jerome de Verrier
Staff Engineer

This report reviewed by:

Jeriann N. Alexander, PE, REA
Project Manager

January 9, 1997

TABLE 1
SUMMARY OF GROUNDWATER AND FREE PRODUCT MEASUREMENTS
AND GROUNDWATER ANALYTICAL RESULTS
Keep on Trucking Facility (H-213)
Oakland, California
(SCI 133.005)

Monitoring Well	Sample Date	Depth to Water (feet)	Top of Casing Elevation (a)	Ground-water Elevation (a)	Depth to FP (feet)	FP Thickness (feet)	TPH as Diesel (ug/L)	TPH as Motor Oil (ug/L)	TPH as Gasoline (b) (ug/L)	Benzene (b) (ug/L)	Toluene (b) (ug/L)	Ethyl-benzene (b) (ug/L)	Total Xylenes (b) (ug/L)
MW-1	9/21/93	5.20	10.28	5.08	NA	0.00	**1,600**	--	ND	<0.4	<0.3	<0.3	<0.4
	1/12/94	5.15	10.28	5.13	NA	0.00	**610**	--	ND	<0.4	<0.3	<0.3	<0.4
	4/4/94	4.09	10.28	6.19	NA	0.00	**510**	--	<50	<0.5	<0.5	<0.5	<0.5
	6/2/94	4.82	10.28	5.46	NA	0.00	**540**	--	ND	<0.5	<0.5	<0.5	<0.5
	10/3/94	5.63	10.28	4.65	NA	0.00	**390**	--	ND	<0.4	<0.3	<0.3	<0.4
	12/22/94	5.00	10.28	5.28	NA	0.00	**210**	--	ND	ND	ND	ND	ND
	4/10/95	4.94	10.28	5.34	NA	0.00	**330**	--	<50	<0.4	<0.3	<0.3	<0.4
	7/24/95	5.02	10.28	5.26	NA	0.00	**230**	--	<50	<0.4	<0.3	<0.3	<0.4
	11/10/95	5.52	10.28	4.76	NA	0.00	**430**	--	<50	<0.4	<0.3	<0.3	<0.4
	2/20/96	4.49	9.99	5.50	NA	0.00	**590yh**	--	<50	<0.5	<0.5	<0.5	<1
	5/24/96	5.04	9.99	4.95	NA	0.00	**870yh**	**630y**	<50	<0.5	<0.5	<0.5	<0.5
	9/6/96	5.37	9.99	4.62	NA	0.00	**850yh**	**490yl**	<50	<0.5	<0.5	<0.5	<0.5
	12/5/96	4.80	9.99	5.19	NA	0.00	**4,500ylh**	**2,100yl**	<50	<0.5	<0.5	<0.5	<0.5
MW-2	9/21/93	4.40	10.69	6.29	NA	0.00	**1,900**	--	ND	**0.5**	<0.3	<0.3	<0.4
	1/12/94	4.75	10.69	5.94	NA	0.00	**1,800**	--	ND	<0.4	<0.3	<0.3	<0.4
	4/4/94	5.01	10.69	5.68	NA	0.00	**1,800**	--	<50	<0.5	<0.5	<0.5	<0.5
	6/2/94	4.61	10.69	6.08	NA	0.00	**870**	--	ND	<0.5	<0.5	<0.5	<0.5
	10/5/94	4.93	10.69	5.76	NA	0.00	**1,200**	--	ND	<0.4	<0.3	<0.3	<0.4
	12/22/94	4.43	10.69	6.26	NA	0.00	**610**	--	ND	ND	ND	ND	ND
	4/10/95	4.03	10.69	6.66	NA	0.00	**550**	--	<50	<0.4	<0.3	<0.3	<0.4

TABLE 1
SUMMARY OF GROUNDWATER AND FREE PRODUCT MEASUREMENTS
AND GROUNDWATER ANALYTICAL RESULTS
Keep on Trucking Facility (H-213)
Oakland, California
(SCI 133.005)

Monitoring Well	Sample Date	Depth to Water (feet)	Top of Casing Elevation (a)	Ground-water Elevation (a)	Depth to FP (feet)	FP Thickness (feet)	TPH as Diesel (ug/L)	TPH as Motor Oil (ug/L)	TPH as Gasoline (b) (ug/L)	Benzene (b) (ug/L)	Toluene (b) (ug/L)	Ethyl-benzene (b) (ug/L)	Total Xylenes (b) (ug/L)
MW-2	7/24/95	4.41	10.69	6.28	NA	0.00	**960**	--	**70**	<0.4	<0.3	<0.3	<0.4
	11/10/95	4.59	10.69	6.10	NA	0.00	**920**	--	<50	<0.4	<0.3	<0.3	<0.4
	2/20/96	3.81	10.32	6.51	NA	0.00	**1,700h**	--	<50	<0.5	<0.5	<0.5	<1
	5/24/96	4.41	10.32	5.91	NA	0.00	**2,800yh**	**1,200y**	<50	<0.5	<0.5	<0.5	<0.5
	9/5/96	3.98	10.32	6.34	NA	0.00	**2,900**	**760yl**	**58z**	<0.5	<0.5	<0.5	<0.5
	12/4/96	4.30	10.32	6.02	NA	0.00	**1,600y**	**1,000yl**	<50	<0.5	<0.5	<0.5	<0.5
MW-3	9/21/93	15.20	10.54	-4.66	NA	0.00	**680**	--	ND	<0.4	**0.3**	<0.3	<0.4
	1/12/94	5.70	10.54	4.84	NA	0.00	**430**	--	ND	<0.4	<0.3	<0.3	<0.4
	4/4/94	4.23	10.54	6.31	NA	0.00	**690**	--	<50	<0.5	<0.5	<0.5	<0.5
	6/2/94	3.86	10.54	6.68	NA	0.00	**280**	--	ND	<0.5	<0.5	<0.5	<0.5
	10/4/94	5.44	10.54	5.10	NA	0.00	**480**	--	ND	<0.4	<0.3	<0.3	<0.4
	12/22/94	4.87	10.54	5.67	NA	0.00	**630**	--	ND	ND	ND	ND	ND
	4/10/95	7.64	10.54	2.90	NA	0.00	**830**	--	<50	<0.4	<0.3	<0.3	<0.4
	7/24/95	3.62	10.54	6.92	NA	0.00	**460**	--	<50	<0.4	<0.3	<0.3	<0.4
	11/10/95	5.11	10.54	5.43	NA	0.00	**2,100**	--	<50	<0.4	**0.7**	<0.3	<0.4
	2/20/96	4.14	10.18	6.04	NA	0.00	**620h**	--	<50	<0.5	<0.5	<0.5	<1
	5/24/96	4.49	10.18	5.69	NA	0.00	**1,100yh**	**550y**	<50	<0.5	<0.5	<0.5	<0.5
	9/18/96	4.48	10.18	5.70	NA	0.00	**1,500**	**890yl**	<50	<0.5	<0.5	<0.5	<0.5
	12/13/96	4.84	10.18	5.34	NA	0.00	**580**	<250	<50	<0.5	<0.5	<0.5	<0.5

TABLE 1
SUMMARY OF GROUNDWATER AND FREE PRODUCT MEASUREMENTS
AND GROUNDWATER ANALYTICAL RESULTS
Keep on Trucking Facility (H-213)
Oakland, California
(SCI 133.005)

Monitoring Well	Sample Date	Depth to Water (feet)	Top of Casing Elevation (a)	Ground-water Elevation (a)	Depth to FP (feet)	FP Thickness (feet)	TPH as Diesel (ug/L)	TPH as Motor Oil (ug/L)	TPH as Gasoline (b) (ug/L)	Benzene (b) (ug/L)	Toluene (b) (ug/L)	Ethyl-benzene (b) (ug/L)	Total Xylenes (b) (ug/L)
MW-4	9/21/93	5.80	12.33	6.53	5.13	0.67	**1,300**	--	ND	**140**	**110**	**40**	**235**
	1/12/94	4.10	12.33	8.23	sheen	sheen	**32,000**	--	ND	**71**	**41**	**20**	**150**
	4/4/94	4.20	12.33	8.13	3.62	0.58	**410,000**	--	**6,200**	**140**	**20**	**47**	**310**
	6/2/94	3.88	12.33	8.45	3.38	0.50	NS	NS	NS	NS	NS	NS	NS
	10/3/94	4.80	12.33	7.53	4.80	1.00	NS	NS	NS	NS	NS	NS	NS
	12/22/94	3.47	12.33	8.86	2.63	0.84	NS	NS	NS	NS	NS	NS	NS
	4/10/95	3.80	12.33	8.53	NA	0.00	NS	NS	NS	NS	NS	NS	NS
	5/16/95	3.07	12.33	9.26	NA	NA	NS	NS	NS	NS	NS	NS	NS
	7/24/95	3.65	12.33	8.68	NA	0.00	**21,000**	--	**2,400**	**140**	**74**	**34**	**40**
	11/10/95	NM	12.33	NA	NA	0.00	NS	NS	NS	NS	NS	NS	NS
	2/20/96	NM	11.98	NA	NA	0.40	NS	NS	NS	NS	NS	NS	NS
	5/24/96	2.96	11.98	9.02	NA	0.02	**37,000**	**2,800yl**	**690y**	**44**	<2.5	**18**	**7.7**
	9/4/96	4.65	11.98	7.33	NA	0.00	**240,000**	**26,000yl**	**1,000h**	**100**	<0.5	**5.2**	**7.2**
	12/3/96	3.22	11.98	8.76	NA	0.00	**13,000**	**2,000yl**	**1,500yh**	**120**	**0.9**	**33**	**22**
MW-5	4/10/95	4.64	11.84	7.20	NA	0.00	**6,200**	--	**1,100**	**3.1**	<0.3	**2.9**	**11.3**
	7/24/95	5.24	11.84	6.60	NA	0.00	**4,800**	--	**720**	**3.1**	**0.7**	**0.6**	**0.7**
	11/10/95	5.38	11.84	6.46	NA	0.00	**3,700**	--	**260**	**0.8**	**0.5**	**0.6**	**1.9**
	2/20/96	2.69	11.84	9.15	NA	0.00	**440h**	--	**150y**	<0.5	<0.5	<0.5	<1
	5/24/96	2.67	11.84	9.17	NA	0.00	**4,600yh**	**1,900y**	**82y**	<0.5	<0.5	<0.5	<0.5
	9/4/96	5.44	11.84	6.40	NA	0.00	**7,700yh**	**1,900yl**	<50	<0.5	<0.5	<0.5	<0.5
	12/3/96	4.64	11.84	7.20	NA	0.00	**13,000**	**1,900yl**	**140yh**	**1.5**	<0.5	<0.5	**2.6**

TABLE 1
SUMMARY OF GROUNDWATER AND FREE PRODUCT MEASUREMENTS
AND GROUNDWATER ANALYTICAL RESULTS
Keep on Trucking Facility (H-213)
Oakland, California
(SCI 133.005)

Monitoring Well	Sample Date	Depth to Water (feet)	Top of Casing Elevation (a)	Ground-water Elevation (a)	Depth to FP (feet)	FP Thickness (feet)	TPH as Diesel (ug/L)	TPH as Motor Oil (ug/L)	TPH as Gasoline (b) (ug/L)	Benzene (b) (ug/L)	Toluene (b) (ug/L)	Ethyl-benzene (b) (ug/L)	Total Xylenes (b) (ug/L)
MW-6	4/10/95	4.12	11.86	7.74	4.12	0.00	**10,000**	--	**1,300**	**4.4**	<0.3	**0.7**	**0.8**
	7/24/95	5.19	11.86	6.67	4.09	1.10	NS	NS	NS	NS	NS	NS	NS
	11/10/95	NM	11.86	NA	NA	NA	NS	NS	NS	NS	NS	NS	NS
	2/20/96	NM	11.86	NA	NA	0.50	NS	NS	NS	NS	NS	NS	NS
	5/24/96	4.15	11.86	7.71	4.15	0.42	**240,000**	**5,500yl**	**280,000yh**	<250	<250	<250	<250
	9/5/96	5.19	11.86	6.67	5.15	0.04	**50,000**	**3,200yl**	**200h**	**5.3**	<5.0	<5.0	<5.0
	12/4/96	3.96	11.86	7.90	3.95	0.01	**140,000**	**7,300yl**	**4,700yh**	**19**	**11**	<10	<10

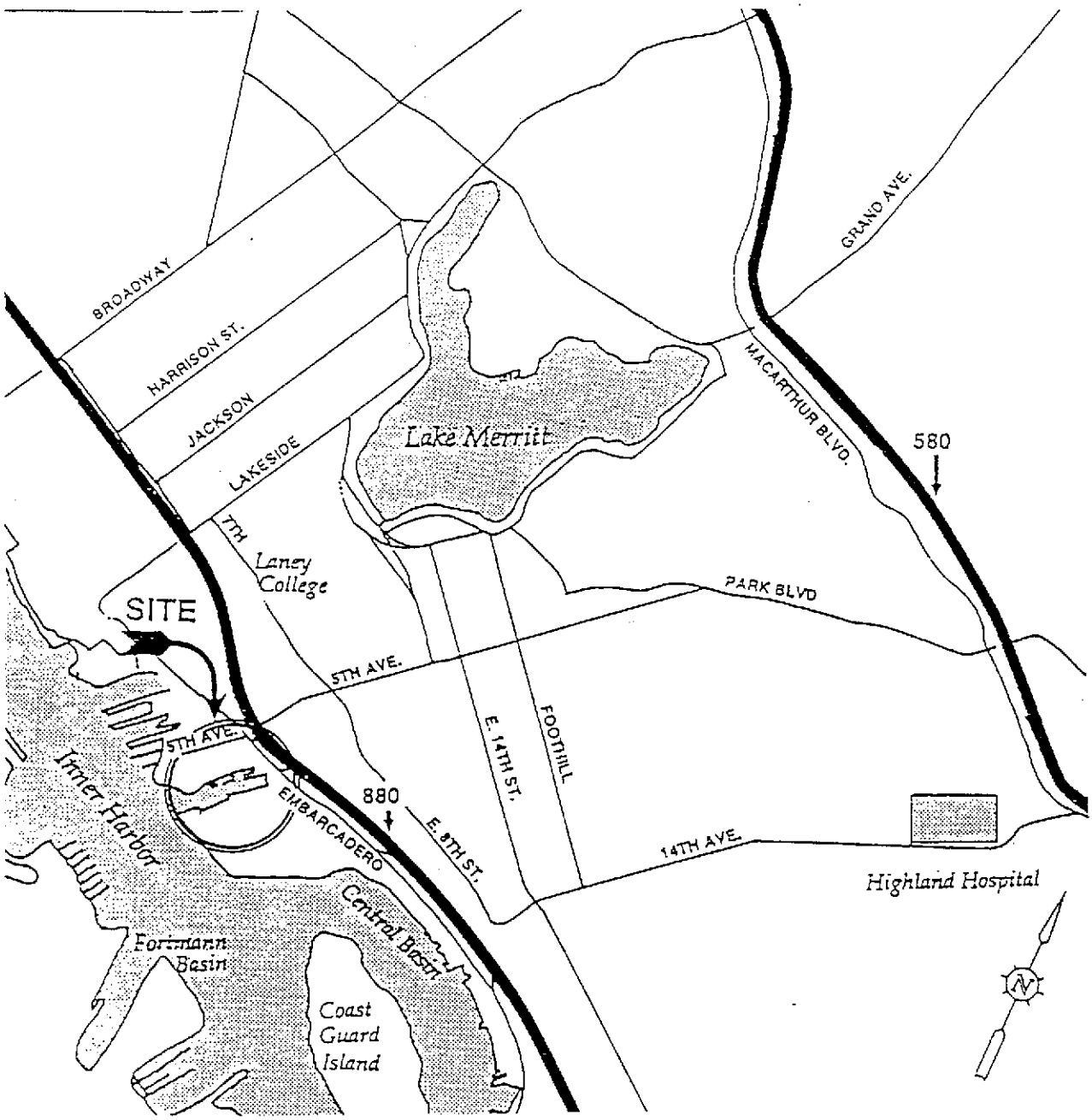
FP = Free product
TPH = Total petroleum hydrocarbons
NA = Not applicable
NM = Not measured
NS = Not sampled

ug/L = Micrograms per liter
y = Sample exhibits fuel pattern which does not resemble standard
l = lighter hydrocarbons than indicated standard
h = Heavier hydrocarbons than indicated standard
z = Sample exhibits unknown single peak or peaks

Notes:

a. Elevations are based on the Port of Oakland Datum. Elevations based on this special datum may be converted to the mean sea level datum by subtracting 3.20 feet. The top of casing elevation was resurveyed in May 1996. Groundwater elevations recorded during 1996 are calculated using the new top of casing elevation.

b. Laboratory analysis reporting limits are listed above if the reporting limits were previously reported in data provided to Subsurface Consultants, Inc.



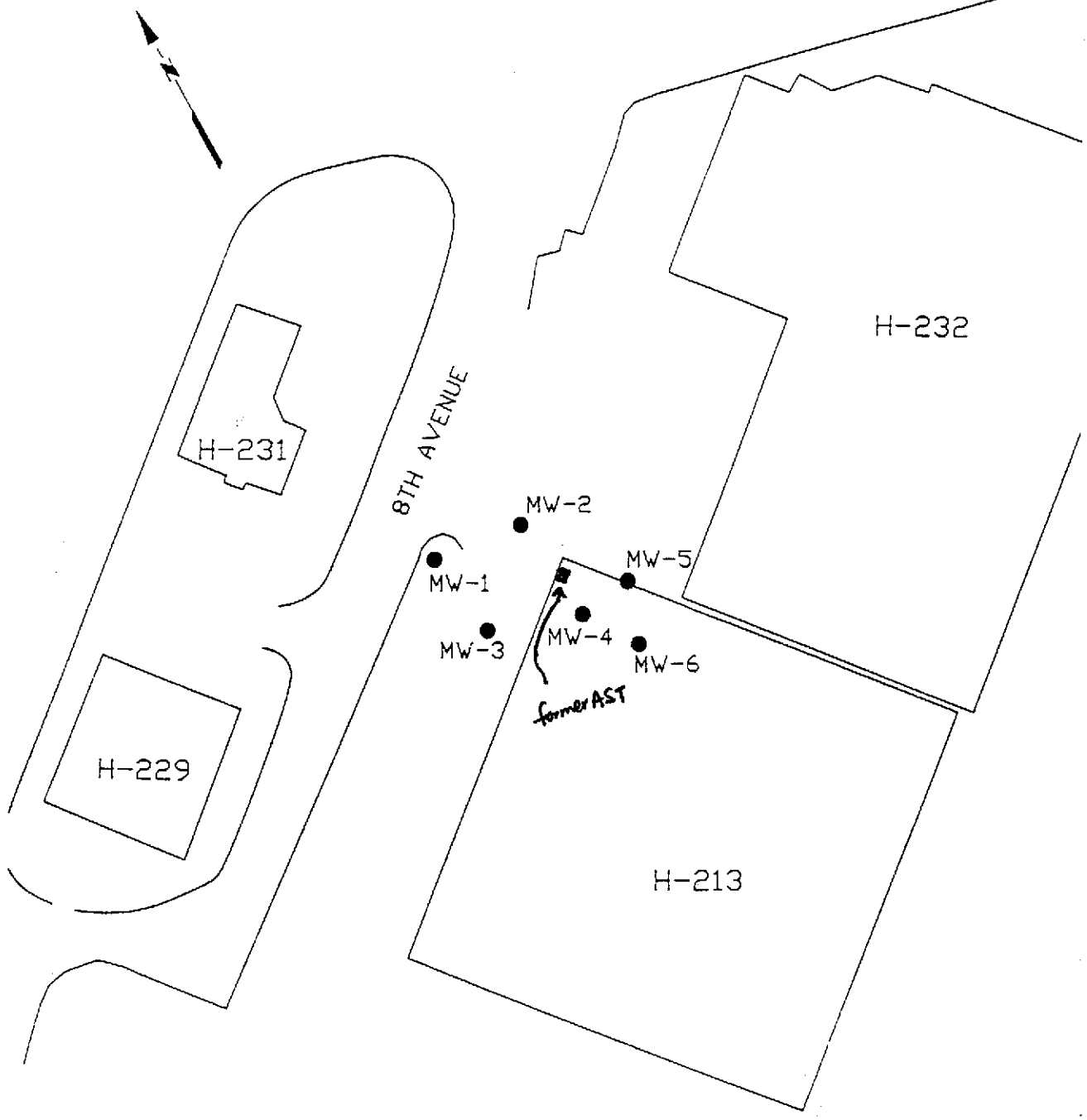
SITE VICINITY MAP

Subsurface Consultants

8TH AVENUE STUDY AREA–OAKLAND, CA

JOB NUMBER	DATE	APPROVED
133.005	6/21/96	BP

PLATE 1



MAP BASED ON FIGURE PREPARED BY
CLAYTON ENVIRONMENTAL CONSULTANTS

MONITORING WELL LOCATION

Subsurface Consultants

KEEP ON TRUCKING – OAKLAND, CA

JOB NUMBER	DATE	APPROVED
133.005	7/25/96	BD

PLATE 2

APPENDIX A

FREE PRODUCT REMOVAL AND SKIMMER OPERATIONS

APPENDIX A
FREE PRODUCT REMOVAL AND SKIMMER OPERATIONS
Keep on Trucking Facility (H-213)
Oakland, California
SCI 133.005

	Date	Free Product Thickness (in)	Free Product Removed (gal)	Comments
Well MW-4	4/17/95	--	0.20	Skimmer in place
	4/18/95	--	0.10	Skimmer in place
	4/26/95	--	0.30	Skimmer in place
	5/12/95	--	0.01	Skimmer in place
	5/16/95	None	0.00	Skimmer in place
	6/12/95	None	0.00	Skimmer in place
	6/22/95	None	0.00	Skimmer in place
	7/14/95	None	0.00	Skimmer in place
	7/19/95	None	0.00	Passive skimmer removed
	7/28/95	0.48	0.01	Measured with Interface Probe
	8/17/95	1.0	0.00	Measured with Interface Probe
	8/23/95	0.84	0.00	Measured with Interface Probe
	9/6/95	1.0	0.00	Measured with Interface Probe
	9/28/95	0.84	0.00	Measured with Interface Probe
	11/10/95	2.8	0.03	Measured with Interface Probe
	12/18/95	1.8	0.02	Passive skimmer installed
	1/10/96	--	0.03	Skimmer in place
	2/20/96	3.3	0.07	Skimmer in place
	5/23/96	0.00	0.01	Skimmer in place;Up to 1/4" of FP measured after bailing
	6/28/96	0.00	0.02	Skimmer in place
	7/29/96	0.00	0.00	Skimmer in place
	9/3/96	Immeasurable amount	0.00	Skimmer in place
	9/9/96	0.25	0.01	Skimmer in place
	9/18/96	0.13	0.00	Skimmer in place
	9/23/96	0.38	0.01	Skimmer in place
	9/30/96	Immeasurable amount	0.00	Skimmer in place
	10/28/96	0.13	0.01	Skimmer in place
	12/2/96	Immeasurable amount	0.04	Skimmer in place
		Total Product Recovered:	0.87	
Well MW-6	7/24/95	--	0.00	
	7/28/95	--	0.10	Passive skimmer installed
	8/17/95	7.2	0.10	Skimmer in place
	8/23/95	10.0	0.10	Skimmer in place
	9/6/95	4.8	0.05	Skimmer in place
	9/28/95	4.8	0.07	Removed skimmer vol. only
	11/10/95	0.7	0.02	Skimmer in place
	12/18/95	4.0	0.10	Skimmer in place
	1/10/96	2.5	0.03	Skimmer in place
	2/20/96	4.0	0.08	Skimmer in place
	5/23/96	5.0	0.10	Skimmer in place
	6/28/96	0.5	0.03	Skimmer in place
	7/29/96	0.5	0.01	Skimmer in place
	9/3/96	0.5	0.01	Skimmer in place
	9/9/96	Immeasurable amount	0.00	Skimmer in place
	9/18/96	Immeasurable amount	0.00	Skimmer in place
	9/23/96	0.13	0.00	Skimmer in place
	9/30/96	0.00	0.00	Skimmer in place
	10/28/96	0.13	0.00	Skimmer in place
	12/2/96	Immeasurable amount	0.02	Skimmer in place
		Total Product Recovered:	0.82	

APPENDIX B

WATER SAMPLING FIELD SURVEY FORMS

APPENDIX C

GROUNDWATER SAMPLING ANALYTICAL REPORTS FOR SAMPLES COLLECTED IN DECEMBER 1996

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Subsurface Consultants
3736 Mt. Diablo Blvd.
Suite 200
Lafayette, CA 94549

Date: 13-DEC-96
Lab Job Number: 127648
Project ID: 133.005
Location: KOT

Reviewed by: Teresa E Morrison

Reviewed by: Tracy Babb

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127648-001	MW-1	31259	12/05/96	12/05/96	12/05/96	

Matrix: Water

Analyte Diln Fac:	Units	127648-001 1
Gasoline	ug/L	<50
Surrogate		
Trifluorotoluene	%REC	99
Bromobenzene	%REC	77

Curtis & Tompkins, Ltd.

Lab #: 127648

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

METHOD BLANK

Matrix: Water
Batch#: 31259
Units: ug/L
Diln Fac: 1

Prep Date: 12/04/96
Analysis Date: 12/04/96

MB Lab ID: QC35855

Analyte	Result	
Gasoline	<50	
Surrogate	**%Rec**	**Recovery Limits**
Trifluorotoluene	104	69-120
Bromobenzene	80	70-122

Curtis & Tompkins, Ltd.

Lab #: 127648

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 31259
Units: ug/L
Diln Fac: 1

Prep Date: 12/04/96
Analysis Date: 12/04/96

LCS Lab ID: QC35853

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2149	2000	107	80-120
Surrogate	**%Rec**	**Limits**		
Trifluorotoluene	100	69-120		
Bromobenzene	100	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

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127648-001	MW-1	31334	12/05/96	12/09/96	12/11/96	

Matrix: Water

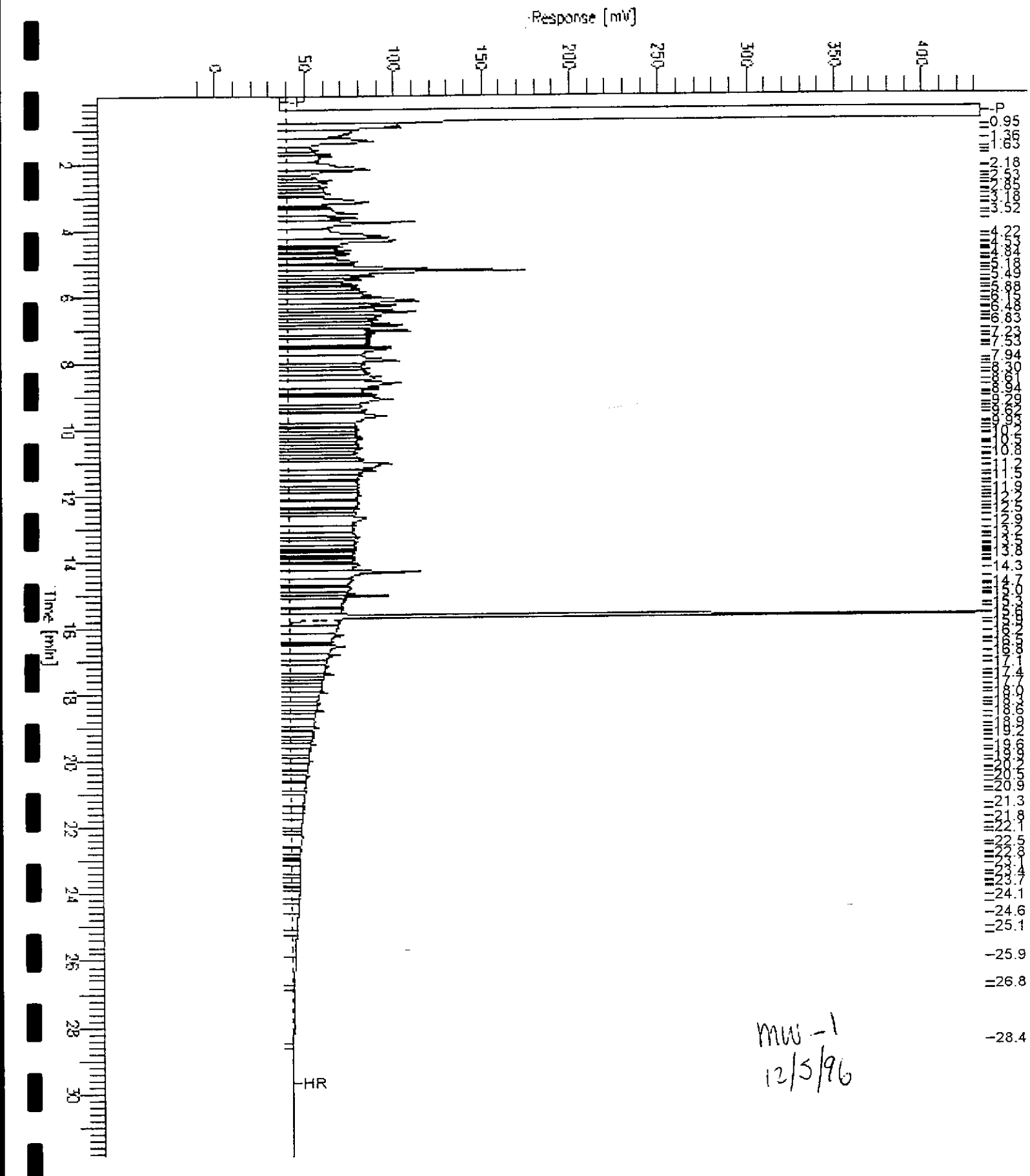
Analyte	Units	127648-001	
Diln Fac:		1	
Diesel C12-C22	ug/L	4500	YLH
Motor Oil C22-C50	ug/L	2100	YL
Surrogate			
Hexacosane	%REC	83	

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

Chromatogram

Sample Name : 127648-001,31334
File-Name : G:\GC13\CHA\345A033.RAW
Method : ATEH353.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 1.0 Plot Offset: -16 mV

Sample #: 31334 Page 1 of 1
Date : 12/19/96 02:03 PM
Time of Injection: 12/11/96 04:07 AM
Low Point : -15.60 mV High Point : 433.35 mV
Plot Scale: 448.9 mV



MW-1
12/5/96

Lab #: 127648

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

METHOD BLANK

Matrix: Water
Batch#: 31334
Units: ug/L
Diln Fac: 1

Prep Date: 12/09/96
Analysis Date: 12/18/96

MB Lab ID: QC36154

Analyte	Result
Diesel C12-C22	<50
Motor Oil C22-C50	<250

Surrogate	%Rec	Recovery Limits
Hexacosane	106	60-140

Lab #: 127648

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons	
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	
BLANK SPIKE/BLANK SPIKE DUPLICATE	
Matrix: Water	Prep Date: 12/09/96
Batch#: 31334	Analysis Date: 12/18/96
Units: ug/L	
Diln Fac: 1	

BS Lab ID: QC36155

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	2362	95	60-140
Surrogate	**%Rec**	**Limits**		
Hexacosane	119	60-140		

BSD Lab ID: QC36156

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	2308	93	60-140	2	35
Surrogate	**%Rec**	**Limits**				
Hexacosane	120	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

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127648-001	MW-1	31259	12/05/96	12/05/96	12/05/96	

Matrix: Water

Analyte	Units	127648-001
Diln Fac:		1
Benzene	ug/L	<0.5
Toluene	ug/L	<0.5
Ethylbenzene	ug/L	<0.5
m,p-Xylenes	ug/L	<0.5
o-Xylene	ug/L	<0.5
Surrogate		
Trifluorotoluene	%REC	103
Bromobenzene	%REC	103

Lab #: 127648

BATCH QC REPORT

Curtis & Tompkins, Ltd.

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 31259
Units: ug/L
Diln Fac: 1

Prep Date: 12/04/96
Analysis Date: 12/04/96

MB Lab ID: QC35855

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	108	58-130
Bromobenzene	105	62-131

Lab #: 127648

BATCH QC REPORT

Curtis & Tompkins, Ltd.

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 31259
Units: ug/L
Diln Fac: 1

Prep Date: 12/04/96
Analysis Date: 12/04/96

LCS Lab ID: QC35854

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	17.1	20	86	80-120
Toluene	18.2	20	91	80-120
Ethylbenzene	17.4	20	87	80-120
m,p-Xylenes	35.7	40	89	80-120
o-Xylene	18.1	20	91	80-120

Surrogate	%Rec	Limits
Trifluorotoluene	114	58-130
Bromobenzene	116	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

CHAIN OF CUSTODY FORM

12764

PAGE ____ OF ____

PROJECT NAME: KOT

JOB NUMBER: 133.005 LAB: Curtis & Tompkins

PROJECT CONTACT: Jerome DeVerrier/Jeri Alexander TURNAROUND: Normal

SAMPLED BY: Dennis Alexander REQUESTED BY: Jerome DeVerrier

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR			CONTAINERS: VOA	LITER	PINT	TUBE			METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME	NOTES	ANALYSIS REQUESTED: TVH/BTXE	TEH@diesel+motor oil
-1	MW-1	X						3	1					X			X		120596	0845				X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dennis Alexander	12/5/96 0940	[signature]	12/5/96 0940
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME

COMMENTS & NOTES:

Subsurface Consultants, Inc.

171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607

(510) 268-0461 • FAX: 510-268-0137

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Subsurface Consultants
3736 Mt. Diablo Blvd. Ste. 200
Layfayette, CA 94549

Date: 19-DEC-96
Lab Job Number: 127645
Project ID: 133.005
Location: KOT

Reviewed by: [signature]

Reviewed by: [signature]

WELL SAMPLING FORM

Project Name: KOT
Well Number: MW-1
Job No.: 133.005
Well Casing Diameter: 2 inch
Sampled By: DWA
Date: 12/3/96
TOC Elevation:
Weather: partly cloudy

Depth to Casing Bottom (below TOC) 15.50 feet
Depth to Groundwater (below TOC) 4.80 feet
Feet of Water in Well 10.70 feet
Depth to Groundwater When 80% Recovered 6.94 feet
Casing Volume (feet of water x Casing DIA ² x 0.0408) 1.8 gallons
Depth Measurement Method Tape & Paste / Electronic Sounder / Other
Free Product none
Purge Method disposable bailer

slow recharge (overnight)

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°F)	Conductivity (micromhos/cm)	Salinity S%	Comments
0	7.78	62.8	1714		clear / WITH LT. BROWN TINT ORGANIC (BAY MUD) ODOR
2	7.04	65.6	2720		
4	7.23	66.4	3010		
6	7.96	64.7	2330		DRY @ 6 gals.

Total Gallons Purged 6 gallons
Depth to Groundwater Before Sampling (below TOC) 4.78 on 12/5/96 @ 0830 feet
Sampling Method disposable bailer
Containers Used 3 (40 ml) / 1 (liter) / (pint)

Subsurface Consultants

JOB NUMBER | DATE | APPROVED | PLATE

WELL SAMPLING FORM

Project Name: KOT
Well Number: MW-2
Job No.: 133.005
Well Casing Diameter: 2 inch
Sampled By: DWA
Date: 12/3/96
TOC Elevation:
Weather: partly cloudy

Depth to Casing Bottom (below TOC) 15.50 feet
Depth to Groundwater (below TOC) 4.30 feet
Feet of Water in Well 11.20 feet
Depth to Groundwater When 80% Recovered 6.54 feet
Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 1.8 gallons
Depth Measurement Method Tape & Paste / (Electronic Sounder) / Other
Free Product
Purge Method disposable bailer

slow recharge (overnight)

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°F)	Conductivity (micromhos/cm)	Salinity S%	Comments
0	7.14	58.9	1840		clear/WITH LT. BROWN TINT NO ODOR
2	6.67	64.1	1940		
4	6.52	63.9	2480		murky/ DRY @ 4.5 gals.
6	7.69	62.2	2210		clear

Total Gallons Purged 6 gallons
Depth to Groundwater Before Sampling (below TOC) 5.78 on 12/4/96 @ 10:30 a.m. feet
Sampling Method disposable bailer
Containers Used 3 (40 ml) / 1 (liter) / (pint)

Subsurface Consultants

JOB NUMBER | DATE | APPROVED | PLATE

WELL SAMPLING FORM

Project Name: KOT
Well Number: MW-3
Job No.: 133.005
Well Casing Diameter: 2 inch
Sampled By: DWA
Date: 12/3/96
TOC Elevation:
Weather: clear, sunny

Depth to Casing Bottom (below TOC) 20.00 feet
Depth to Groundwater (below TOC) 4.84 feet
Feet of Water in Well 15.16 feet
Depth to Groundwater When 80% Recovered 7.87 feet
Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 2.5 gallons
Depth Measurement Method Tape & Paste / (Electronic Sounder) / Other
Free Product none
Purge Method disposable bailer

very slow recharge (overnight)

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°F)	Conductivity (micromhos/cm)	Salinity S%	Comments
1	6.69	55.6	2060		clear/WITH BROWN TINT
3	6.39	58.8	2950		↓
5	6.44	57.7	2920		murky/DK. GRAY TINT
7					DRY @ 5 gals.

Total Gallons Purged 5 gallons
Depth to Groundwater Before Sampling (below TOC) 8.24 on 12/13/96 @ 1:00 p.m. feet
Sampling Method disposable bailer
Containers Used 3 (40 ml) 1 (liter) (pint)

Subsurface Consultants

JOB NUMBER DATE APPROVED PLATE

WELL SAMPLING FORM

Project Name: KOT
Well Number: MW-4
Job No.: 133.005
Well Casing Diameter: 2 inch
Sampled By: DWA
Date: 12/3/96
TOC Elevation:
Weather: partly cloudy

Depth to Casing Bottom (below TOC) 15.50 feet
Depth to Groundwater (below TOC) 3.22 feet
Feet of Water in Well 12.28 feet
Depth to Groundwater When 80% Recovered 5.68 feet
Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 2.0 gallons
Depth Measurement Method Tape & Paste / Electronic Sounder / Other
Free Product none
Purge Method disposable bailer

fast recharge

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°F)	Conductivity (micromhos/cm)	Salinity S%	Comments
0	8.04	62.2	878		clear / strong odor + sheen
2	7.59	64.6	784		
4	7.31	64.2	767		
6	7.23	65.1	895		
8	7.06	64.4	917		

Total Gallons Purged 8 gallons
Depth to Groundwater Before Sampling (below TOC) 5.30' feet
Sampling Method disposable bailer
Containers Used 3 (40 ml) / 1 (liter) / (pint)

Subsurface Consultants

JOB NUMBER | DATE | APPROVED | PLATE

WELL SAMPLING FORM

Project Name: KOT
Well Number: MW-5
Job No.: 133.005
Well Casing Diameter: 2 inch
Sampled By: DWA
Date: 12/3/96
TOC Elevation:
Weather: partly cloudy

Depth to Casing Bottom (below TOC) 19.50 feet
Depth to Groundwater (below TOC) 4.64 feet
Feet of Water in Well 14.86 feet
Depth to Groundwater When 80% Recovered 7.61 feet
Casing Volume (feet of water x Casing DIA ² x 0.0408) 2.5 gallons
Depth Measurement Method Tape & Paste / (Electronic Sounder) / Other
Free Product none
Purge Method disposable bailer

slow recharge

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°F)	Conductivity (micromhos/cm)	Salinity S%	Comments
1	7.73	58.9	853		clear w/sheen & strong odor
3	8.13	62.8	830		
5	7.41	63.3	1888		
7	7.24	63.2	2300		
9	7.18	61.9	2550		murky with decreasing odor

Total Gallons Purged 9 gallons
Depth to Groundwater Before Sampling (below TOC) feet
Sampling Method disposable bailer
Containers Used 3 (40 ml) | 1 (liter) | (pint)

Subsurface Consultants

JOB NUMBER | DATE | APPROVED | PLATE

WELL SAMPLING FORM

Project Name: KOT
Well Number: MW-6
Job No.: 133.005
Well Casing Diameter: 2 inch
Sampled By: DWA
Date: 12/3/96
TOC Elevation:
Weather: partly cloudy

Depth to Casing Bottom (below TOC) 20.50 feet
Depth to Groundwater (below TOC) 3.96 feet
Feet of Water in Well 16.54 feet
Depth to Groundwater When 80% Recovered 7.27 feet
Casing Volume (feet of water x Casing DIA ² x 0.0408) 2.7 gallons
Depth Measurement Method Tape & Paste / Electronic Sounder / Other
Free Product 1/64" thinning in bailer before purging - 1" collected in skimmer
Purge Method disposable bailer

slow recharge (overnight)

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°F)	Conductivity (micromhos/cm)	Salinity S%	Comments
1	7.32	63.0	1646		clear / WITH Brown GLOBS of product strong odor
3	6.58	63.2	1719		
5	6.31	64.1	1809		
7	6.26	63.3	2110		decreasing globs ↓
9	6.39	63.2	2200		

Total Gallons Purged 9 gallons
Depth to Groundwater Before Sampling (below TOC) 4.96 on 12/4/96 @ 11:00 a.m. feet
Sampling Method disposable bailer
Containers Used 3 (40 ml) 1 (liter) (pint)

Subsurface Consultants

JOB NUMBER | DATE | APPROVED | PLATE

GROUNDWATER DEPTHS

Project Name: KOT

Job No.: 133.005

Measured by: DWA

Well	Date	Time	Groundwater Depth (feet)	Comments
MW-1	12/2/96	12:40	4.80	
MW-2	↓	12:35	4.30	
MW-3		12:50	4.84	
MW-4		12:25	3.22'	2" product in skimmer – no measurable product in well ← 2 VOA's
MW-5		12:30	4.64	
MW-6		12:15	3.96	Top of Product = ~~[illegible]~~ 3' 11 3/8" 1" " " in skimmer; Product thickness = 1/64" ring; " ~~Bailed~~ Collected = 1 VOA
MW-7		1300	4.88	
SCIMW-1		10:55	5.52'	
SCIMW-2		1310	6.60	
SCIMW-3		11:35	5.78	
SCIMW-4		12:55	2.09	
SCIMW-5		1330	4.95	
SCIMW-6		1320	7.04	
SCIMW-7		1345	4.95	
SCIMW-8		11:15	5.39	
SCIMW-9		14:30	4.71	
SCIMW-10		11:50	5:15	
SCIMW-11		~~[illegible]~~ 1400	6.03	
SCIMW-12		1410	7.31	
SCIMW-13		11:20	5.91	
SCIMW-14		14:20	8.56	
SCIMW-15		1415	8.91	
SCIMW-16		1105	3.84	
SCIMW-17		1100	2.86	
SCIMW-18		1155	4.06	
SCIMW-19		~~[illegible]~~ 1355	3.54	
SCIMW-20	↓	1340	1.45	

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127645-001	MW-2	31271	12/04/96	12/05/96	12/05/96	
127645-002	MW-6	31271	12/04/96	12/06/96	12/06/96	

Matrix: Water

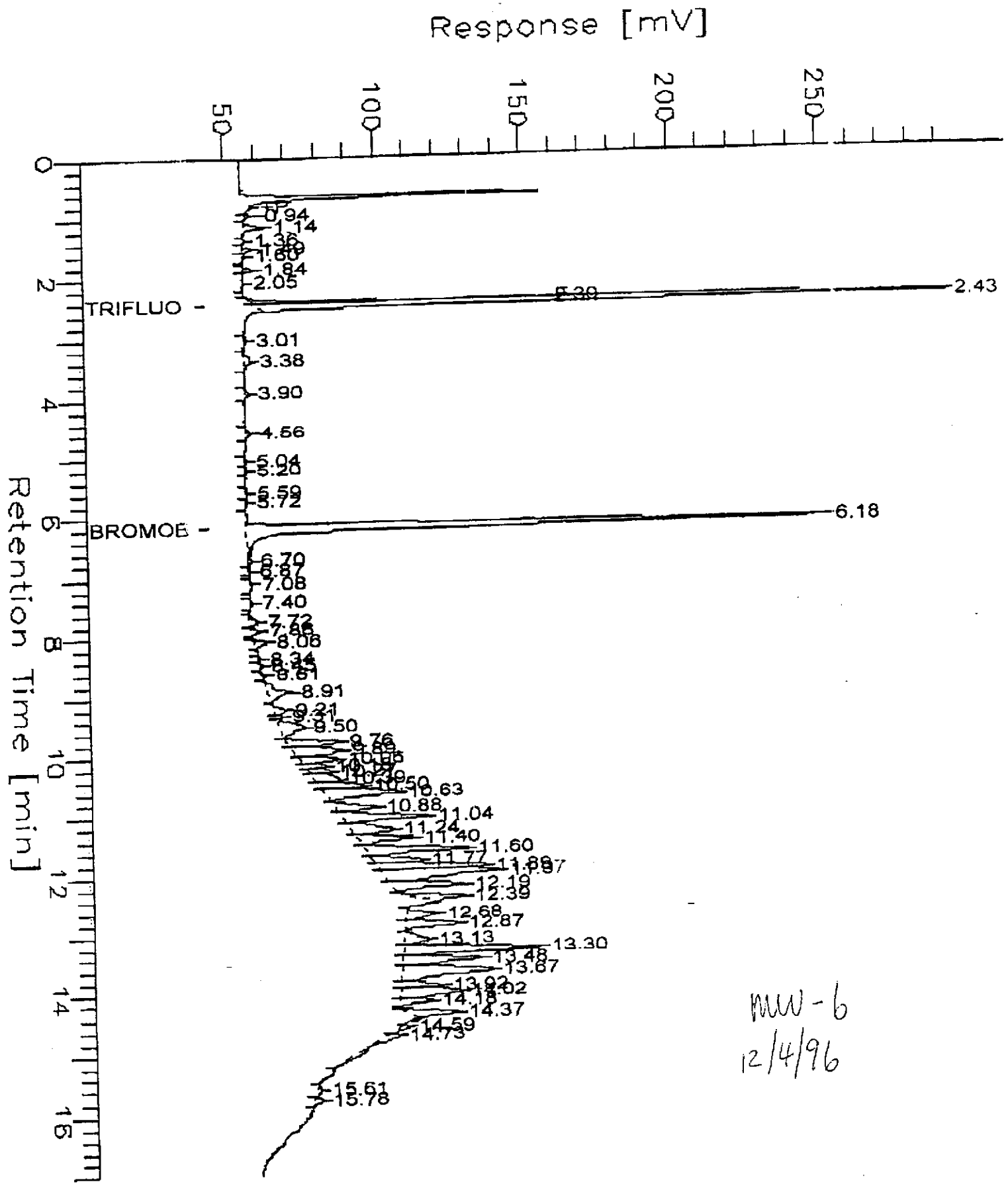
Analyte	Units	127645-001	127645-002
Diln Fac:		1	20
Gasoline	ug/L	<50	4700 YH
Surrogate			
Trifluorotoluene	%REC	97	96
Bromobenzene	%REC	118	113

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard

TVH2 - GC-04 RTX-1 FID

Sample Name : DL,12764S-002,31271,1:20,W
FileName : G:\GC04\3403025.raw
Method : TVHRTXE
Start Time : 0.00 min End Time : 17.00 min
Scale Factor: -1.0 Plot Offset: 43 mV

Sample #: 31271
Date : 12/6/96 03:46 AM
Time of Injection: 12/6/96 03:29 AM
Low Point : 43.06 mV High Point : 293.06 mV
Plot Scale: 250.0 mV



MW-6
12/4/96

Lab #: 127645

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

METHOD BLANK

Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Prep Date: 12/05/96
Analysis Date: 12/05/96

MB Lab ID: QC35897

Analyte	Result	
Gasoline	<50	
Surrogate	**%Rec**	**Recovery Limits**
Trifluorotoluene	94	69-120
Bromobenzene	108	70-122

Curtis & Tompkins, Ltd.

Lab #: 127645 BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Prep Date: 12/05/96
Analysis Date: 12/05/96

LCS Lab ID: QC35895

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2163	2000	108	80-120
Surrogate	**%Rec**	**Limits**		
Trifluorotoluene	118	69-120		
Bromobenzene	119	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 #: 127645

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 127615-001
Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Sample Date: 12/02/96
Received Date: 12/02/96
Prep Date: 12/05/96
Analysis Date: 12/05/96

MS Lab ID: QC35937

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	<50	2169	109	75-125
Surrogate	**%Rec**	**Limits**			
Trifluorotoluene	113	69-120			
Bromobenzene	122	70-122			

MSD Lab ID: QC35938

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	2137	107	75-125	2	20
Surrogate	**%Rec**	**Limits**				
Trifluorotoluene	112	69-120				
Bromobenzene	122	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

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127645-001	MW-2	31334	12/04/96	12/09/96	12/11/96	
127645-002	MW-6	31334	12/04/96	12/09/96	12/20/96	

Matrix: Water

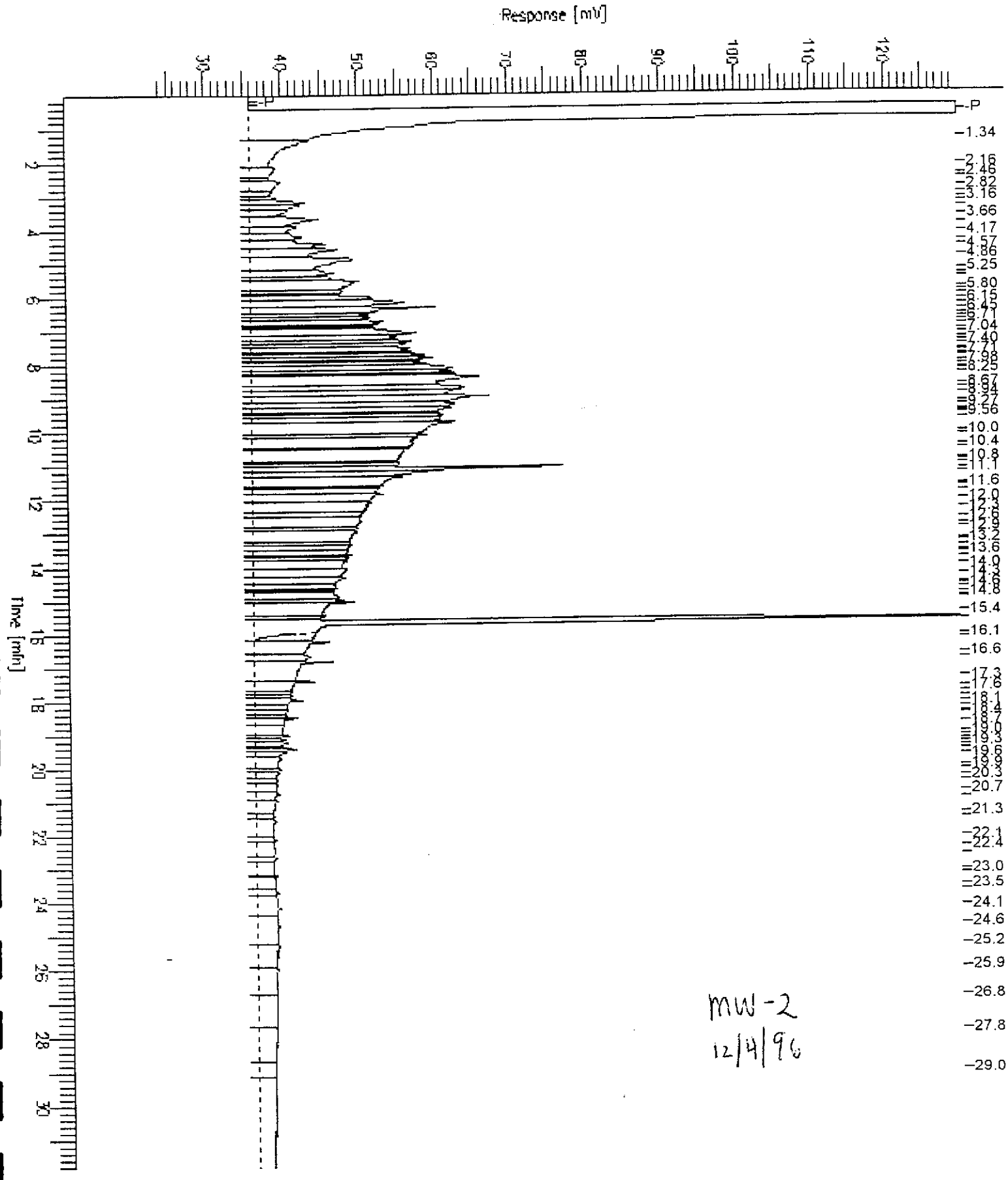
Analyte	Units	127645-001		127645-002	
Diln Fac:		1		10	
Diesel C12-C22	ug/L	1600	Y	140000	
Motor Oil C22-C50	ug/L	1000	YL	7300	YL
Surrogate					
Hexacosane	%REC	85		DO	

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

Chromatogram

Sample Name : 127645,001,31334
FileName : G:\GC13\CHA\345A031.RAW
Method : ATSH341.MTH
Start Time : 0.01 min End Time : 31.85 min
Scale Factor: 0.0 Plot Offset: 23 mV

Sample #: 31334 Page 1 of 1
Date : 12/20/96 04:25 PM
Time of Injection: 12/11/96 02:41 AM
Low Point : 23.45 mV High Point : 129.85 mV
Plot Scale: 106.4 mV

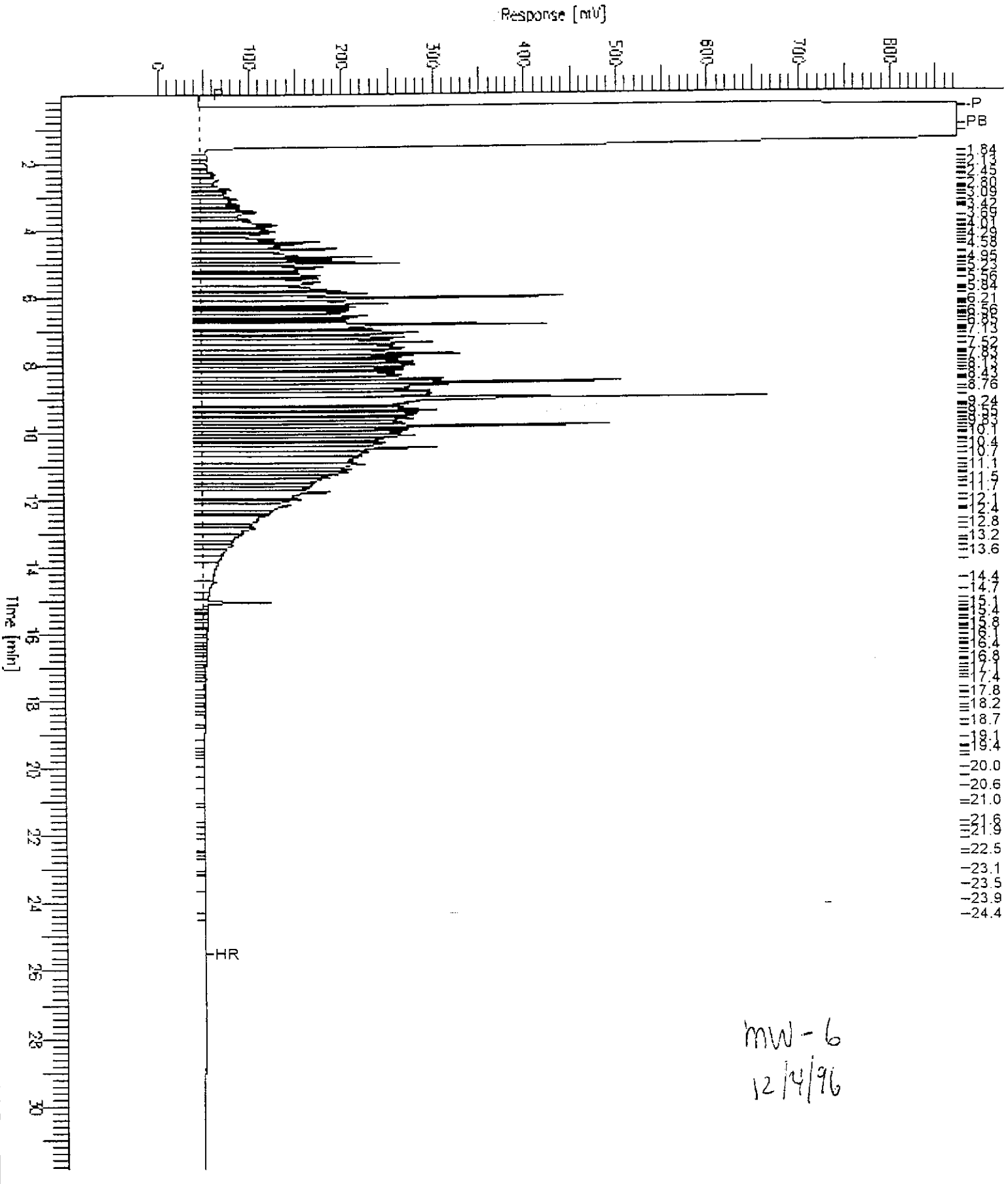


MW-2
12/4/96

GC15 Channel B TEH

Sample Name : 127645-002,31334
FileName : G:\GC15\CHB\3558007.RAW
Method : 8345TEH.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.2 Plot Offset: -7 mV

Sample #: 31334 Page 1 of 1
Date : 12/20/96 03:24 PM
Time of Injection: 12/20/96 01:07 PM
Low Point : -6.90 mV High Point : 873.49 mV
Plot Scale: 880.4 mV



MW-6
12/4/96

Lab #: 127645

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

METHOD BLANK

Matrix: Water
Batch#: 31334
Units: ug/L
Diln Fac: 1

Prep Date: 12/09/96
Analysis Date: 12/18/96

MB Lab ID: QC36154

Analyte	Result
Diesel C12-C22	<50
Motor Oil C22-C50	<250

Surrogate	%Rec	Recovery Limits
Hexacosane	106	60-140

Lab #: 127645

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 31334
Units: ug/L
Diln Fac: 1

Prep Date: 12/09/96
Analysis Date: 12/18/96

BS Lab ID: QC36155

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	2362	95	60-140
Surrogate	%Rec	Limits		
Hexacosane	119	60-140		

BSD Lab ID: QC36156

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	2308	93	60-140	2	35
Surrogate	%Rec	Limits				
Hexacosane	120	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

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127645-001	MW-2	31271	12/04/96	12/05/96	12/05/96	
127645-002	MW-6	31271	12/04/96	12/06/96	12/06/96	

Matrix: Water

Analyte	Units	127645-001	127645-002
Diln Fac:		1	20
Benzene	ug/L	<0.5	19
Toluene	ug/L	<0.5	11
Ethylbenzene	ug/L	<0.5	<10
m,p-Xylenes	ug/L	<0.5	<10
o-Xylene	ug/L	<0.5	<10
Surrogate			
Trifluorotoluene	%REC	94	93
Bromobenzene	%REC	100	101

Lab #: 127645

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Prep Date: 12/05/96
Analysis Date: 12/05/96

MB Lab ID: QC35897

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	91	43-114
Bromobenzene	88	47-112

Curtis & Tompkins, Ltd.

Lab #: 127645

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Prep Date: 12/05/96
Analysis Date: 12/05/96

LCS Lab ID: QC35896

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	18.7	20	94	80-120
Toluene	18.6	20	93	80-120
Ethylbenzene	22.4	20	112	80-120
m,p-Xylenes	41.8	40	105	80-120
o-Xylene	21.3	20	107	80-120

Surrogate	%Rec	Limits
Trifluorotoluene	93	43-114
Bromobenzene	94	47-112

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

127643

CHAIN OF CUSTODY FORM

PAGE ____ OF ____

PROJECT NAME: KOT

JOB NUMBER: 133.005 LAB: Curtis & Tompkins

PROJECT CONTACT: Jerome De Verries / Seri Alexander TURNAROUND: Normal

SAMPLED BY: Dennis Alexander REQUESTED BY: Jerome De Verries

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR	CONTAINERS: VOA	LITER	PINT	TUBE	METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME	NOTES	ANALYSIS REQUESTED: TVH/BTXE	TEH @ diesel (+note oil)
-1	MW-2	X				3				X			X		12/4/96			1030		X	X
-2	MW-6	X				3				X			X		12/4/96			1100	*	X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dennis Alexander	12/4/96 4:15 p.m.	Damara Moore	12/14 4:15pm

COMMENTS & NOTES: * This sample was taken from a well with product in it - BEWARE!!

Subsurface Consultants, Inc.
171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607
(510) 268-0461 • FAX: 510-268-0137

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Subsurface Consultants
3736 Mt. Diablo Blvd. Ste. 200
Layfayette, CA 94549

Date: 27-DEC-96
Lab Job Number: 127750
Project ID: 133.005
Location: KOT

Reviewed by: _____

Reviewed by: _____

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127750-001	MW-3	31433	12/13/96	12/16/96	12/16/96	

Matrix: Water

Analyte	Units	127750-001
Diln Fac:		1
Gasoline	ug/L	<50
Surrogate		
Trifluorotoluene	%REC	99
Bromobenzene	%REC	72

Lab #: 127750

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

METHOD BLANK

Matrix: Water
Batch#: 31433
Units: ug/L
Diln Fac: 1

Prep Date: 12/16/96
Analysis Date: 12/16/96

MB Lab ID: QC36514

Analyte	Result	
Gasoline	<50	
Surrogate	**%Rec**	**Recovery Limits**
Trifluorotoluene	106	65-135
Bromobenzene	79	65-135

Lab #: 127750

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 31433
Units: ug/L
Diln Fac: 1

Prep Date: 12/16/96
Analysis Date: 12/16/96

LCS Lab ID: QC36512

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	1879	2000	94	75-125
Surrogate	**%Rec**	**Limits**		
Trifluorotoluene	102	65-135		
Bromobenzene	98	65-135		

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

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127750-001	MW-3	31438	12/13/96	12/16/96	12/20/96	

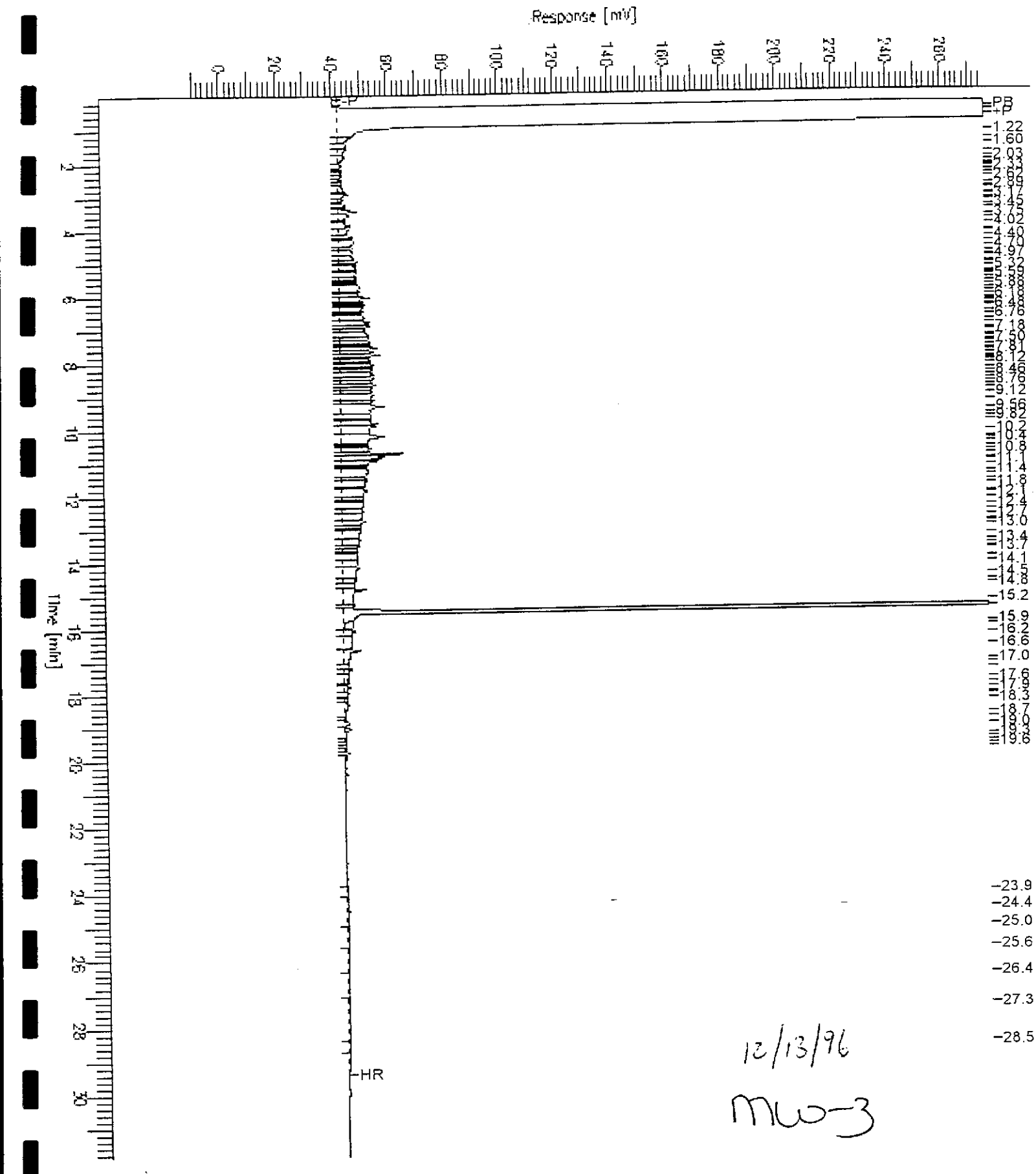
Matrix: Water

Analyte	Units	127750-001
Diln Fac:		1
Diesel C12-C22	ug/L	580
Motor Oil C22-C50	ug/L	<250
Surrogate		
Hexacosane	%REC	87

Chromatogram

Sample Name : 127750-001,31438
FileName : G:\GC11\CHB\353B018A.RAW
Method : BTEH342.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -11 mV

Sample #: 31438 Page 1 of 1
Date : 12/20/96 09:01 AM
Time of Injection: 12/20/96 08:31 AM
Low Point : -11.03 mV High Point : 277.17 mV
Plot Scale: 287.2 mV



12/13/96

MW-3

Curtis & Tompkins, Ltd.

Lab #: 127750

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

METHOD BLANK

Matrix: Water
Batch#: 31438
Units: ug/L
Diln Fac: 1

Prep Date: 12/16/96
Analysis Date: 12/20/96

MB Lab ID: QC36534

Analyte	Result
Diesel C12-C22	<50
Motor Oil C22-C50	<250

Surrogate	%Rec	Recovery Limits
Hexacosane	90	60-140

Lab #: 127750

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 31438
Units: ug/L
Diln Fac: 1

Prep Date: 12/16/96
Analysis Date: 12/20/96

BS Lab ID: QC36535

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	2295	93	60-140
Surrogate	**%Rec**	**Limits**		
Hexacosane	101	60-140		

BSD Lab ID: QC36536

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	1965	79	60-140	15	35
Surrogate	**%Rec**	**Limits**				
Hexacosane	83	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

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127750-001	MW-3	31433	12/13/96	12/16/96	12/16/96	

Matrix: Water

Analyte	Units	127750-001
Diln Fac:		1
Benzene	ug/L	<0.5
Toluene	ug/L	<0.5
Ethylbenzene	ug/L	<0.5
m,p-Xylenes	ug/L	<0.5
o-Xylene	ug/L	<0.5
Surrogate		
Trifluorotoluene	%REC	98
Bromobenzene	%REC	93

Lab #: 127750

BATCH QC REPORT

Curtis & Tompkins, Ltd.

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 31433
Units: ug/L
Diln Fac: 1

Prep Date: 12/16/96
Analysis Date: 12/16/96

MB Lab ID: QC36514

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	107	58-130
Bromobenzene	103	62-131

Lab #: 127750

BATCH QC REPORT

Curtis & Tompkins, Ltd.

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 31433
Units: ug/L
Diln Fac: 1

Prep Date: 12/16/96
Analysis Date: 12/16/96

LCS Lab ID: QC36513

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	17.7	20	89	80-120
Toluene	17.7	20	89	80-120
Ethylbenzene	17.9	20	90	80-120
m,p-Xylenes	36.1	40	90	80-120
o-Xylene	17.7	20	89	80-120

Surrogate	%Rec	Limits
Trifluorotoluene	105	58-130
Bromobenzene	101	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

CHAIN OF CUSTODY FORM

27750

PAGE ____ OF ____

PROJECT NAME: KOT

JOB NUMBER: 133.005 LAB: Curtis + Tompkins

PROJECT CONTACT: Jerome De Verteuil / ~~Dennis~~ Jeri Alexander TURNAROUND: Normal

SAMPLED BY: Dennis Alexander REQUESTED BY: Jerome De Verteuil

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR	CONTAINERS: VOA	LITER	PINT	TUBE	METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME	NOTES	ANALYSIS REQUESTED: TVH/BTXE	TEH as diesel + motor oil
	MW-3	X				3	1			X			X		12	13	96	1300		X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dennis Alexander	12/13/96 1:30 p.m.		12/13/96 1:30
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME

COMMENTS & NOTES:

Subsurface Consultants, Inc.

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ANALYTICAL REPORT

Prepared for:

Subsurface Consultants
3736 Mt. Diablo Blvd. Ste. 200
Layfayette, CA 94549

Date: 19-DEC-96
Lab Job Number: 127630
Project ID: 133.005
Location: KOT

Reviewed by: _____

Reviewed by: _____

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127630-001	MW-4	31271	12/03/96	12/06/96	12/06/96	
127630-002	MW-5	31271	12/03/96	12/05/96	12/05/96	

Matrix: Water

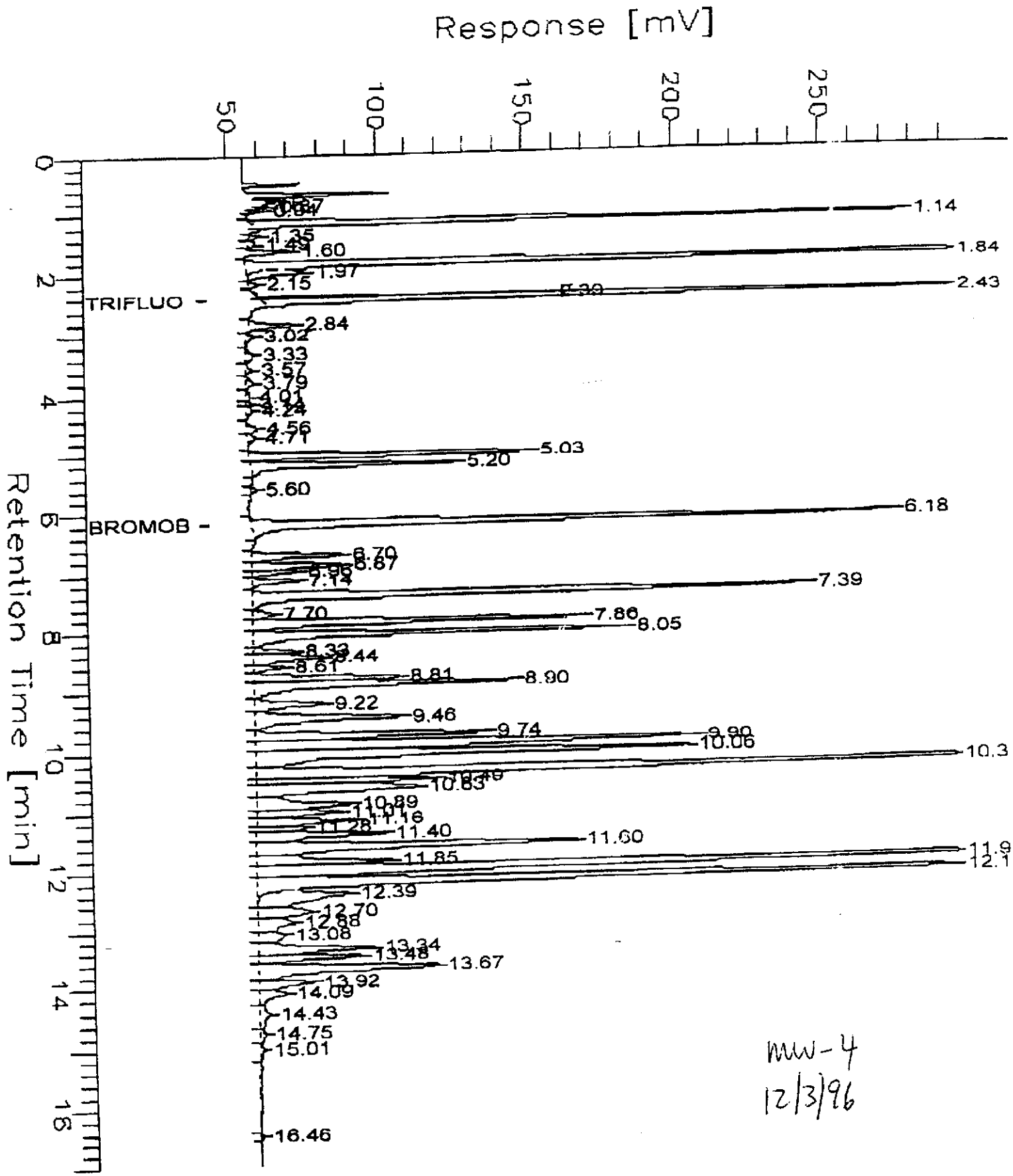
Analyte	Units	127630-001	127630-002
Diln Fac:		1	1
Gasoline	ug/L	1500 YH	140 YH
Surrogate			
Trifluorotoluene	%REC	98	97
Bromobenzene	%REC	119	117

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard

TVH2 - GC-04 RTX-1 FID

Sample Name : S,127630-001,31271,1,W
FileName : G:\GC04\340J022.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 17.00 min
Scale Factor: 1.0 Plot Offset: 43 mV

Sample #: 31271
Date : 12/6/96 02:22 AM
Time of Injection: 12/6/96 02:05 AM
Low Point : 42.88 mV High Point : 292.88 mV
Plot Scale: 250.0 mV

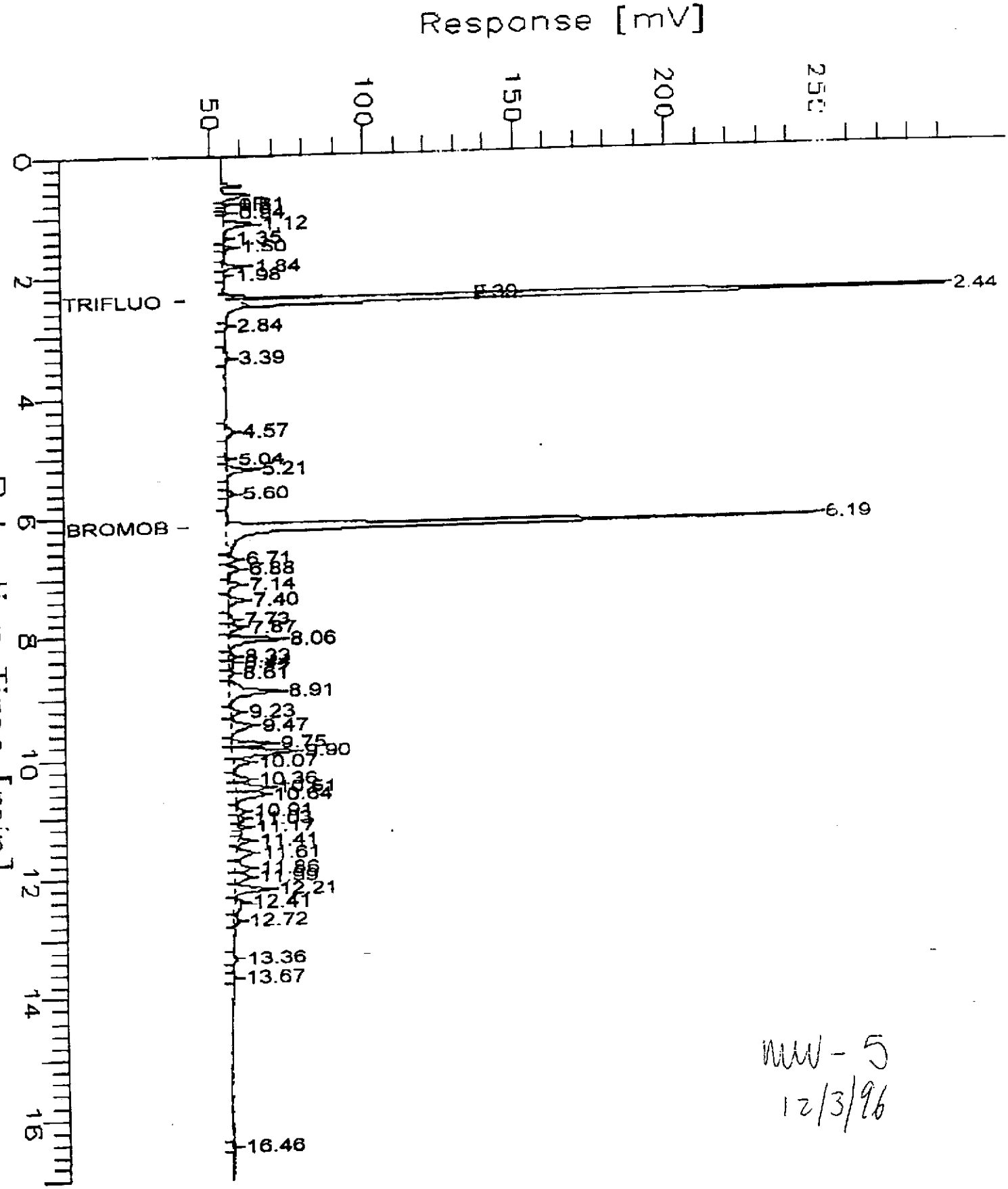


MW-4
12/3/96

TVH2 - GC-04 RTX-1 FID

Sample Name : S.127630-002.31271.1.W
FileName : G:\GC04\340J009.raw
Method : TVHBTXE
Start Time : 0.00 min
Scale Factor: -1.0
End Time : 17.00 min
Plot Offset: 42 mV

Sample #: 31271
Date : 12/5/96 08:18 PM
Time of Injection: 12/5/96 08:01 PM
Low Point : 41.51 mV
Plot Scale: 250.0 mV



NW - 5
12/3/96

Lab #: 127630

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

METHOD BLANK

Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Prep Date: 12/05/96
Analysis Date: 12/05/96

MB Lab ID: QC35897

Analyte	Result	
Gasoline	<50	
Surrogate	**%Rec**	**Recovery Limits**
Trifluorotoluene	94	69-120
Bromobenzene	108	70-122

Lab #: 127630

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Prep Date: 12/05/96
Analysis Date: 12/05/96

LCS Lab ID: QC35895

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2163	2000	108	80-120
Surrogate	**%Rec**	**Limits**		
Trifluorotoluene	118	69-120		
Bromobenzene	119	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 #: 127630

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 127615-001
Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Sample Date: 12/02/96
Received Date: 12/02/96
Prep Date: 12/05/96
Analysis Date: 12/05/96

MS Lab ID: QC35937

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	<50	2169	109	75-125
Surrogate	**%Rec**	**Limits**			
Trifluorotoluene	113	69-120			
Bromobenzene	122	70-122			

MSD Lab ID: QC35938

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	2137	107	75-125	2	20
Surrogate	**%Rec**	**Limits**				
Trifluorotoluene	112	69-120				
Bromobenzene	122	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

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127630-001	MW-4	31334	12/03/96	12/09/96	12/18/96	
127630-002	MW-5	31334	12/03/96	12/09/96	12/18/96	

Matrix: Water

Analyte	Units	127630-001		127630-002	
Diln Fac:		3		1	
Diesel C12-C22	ug/L	13000		13000	
Motor Oil C22-C50	ug/L	2000	YL	1900	YL
Surrogate					
Hexacosane	%REC	107		107	

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

Chromatogram

Sample Name : 127630-001,361334
File-Name : G:\GC11\CHB\353B016.RAW
Method : BTEH342.MTH
Start Time : 0.00 min End Time : 31.00 min
Scale Factor: 0.0 Plot Offset: -15 mV

Sample #: 31634 Page 1 of 1
Date : 12/19/96 [illegible] AM
Time of Injection: 12/19/96 [illegible]:45 PM
Low Point : -14.51 mV High Point : 1024.01 mV
Plot Scale: 1038.5 mV

Response [mV]

0 100 200 300 400 500 600 700 800 900 1000

Time [min]

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30

P

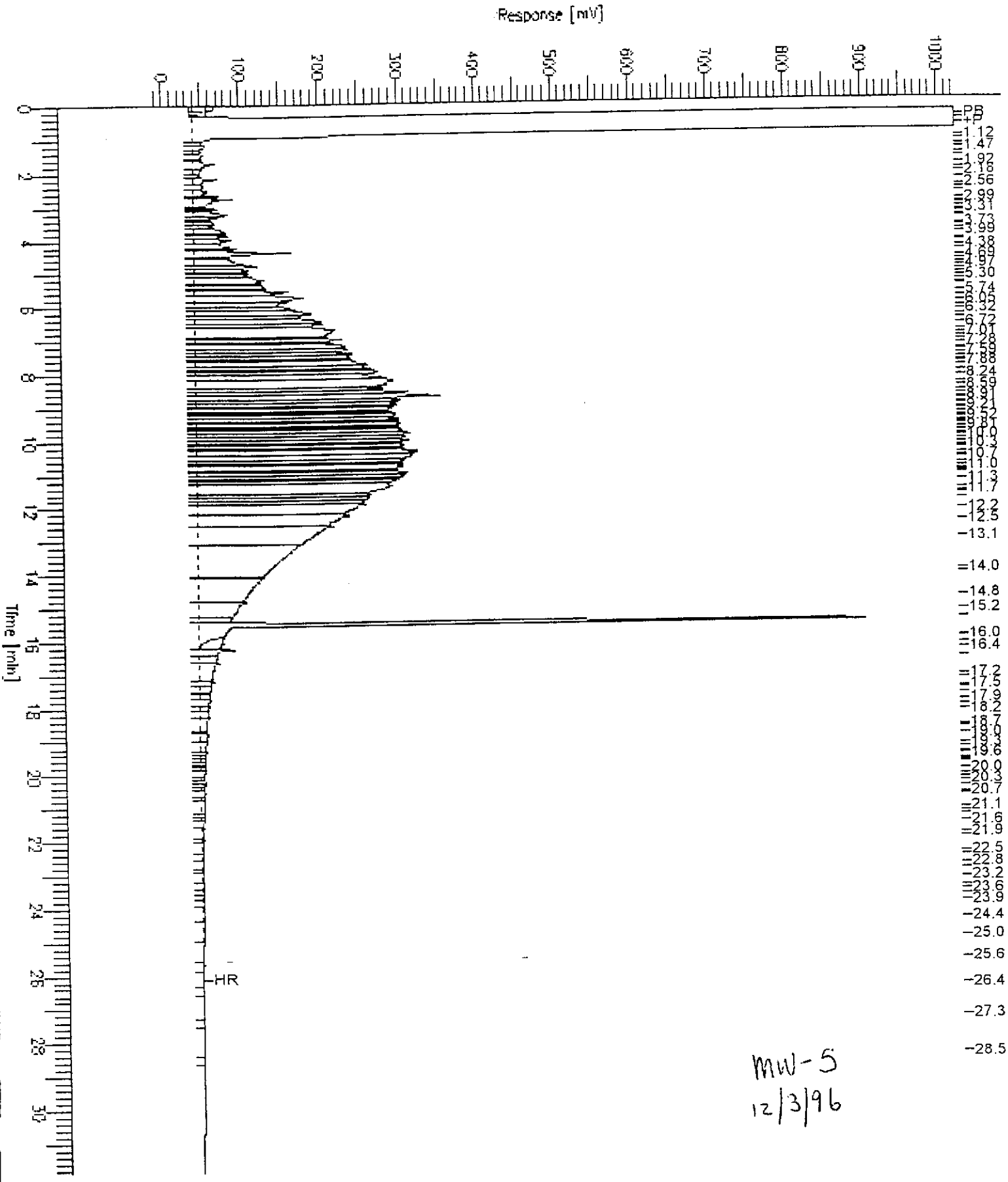
1.21 1.48 1.87 2.20 2.48 2.80 3.08 3.41 3.69 4.00 4.27 4.54 5.00 5.31 5.65 5.94 6.29 6.66 7.00 7.26 7.55 7.83 8.11 8.53 8.86 9.18 9.46 9.77 10.1 10.3 10.6 11.0 11.5 11.8 12.1 12.4 12.7 13.7 14.1 14.8 15.2 16.0 16.5 17.2 17.7 18.1 18.6 19.0 19.3 19.8 20.1 20.5 20.8 21.1 21.6 21.9 22.5 22.8 23.2 23.9 24.4 25.0 25.6 26.4 27.3 29.8

MW-4
12/3/96

Chromatogram

Sample Name : 127630-002,31334
FileName : G:\GC11\CHB\353B009.RAW
Method : BTEH342.MTH
Start Time : 0.00 min End Time : 31.90 min
Scale Factor: 0.0 Plot Offset: -16 mV

Sample #: 31334 Page 1 of 1
Date : 12/18/96 03:22 PM
Time of Injection: 12/18/96 02:17 PM
Low Point : -16.25 mV High Point : 1024.00 mV
Plot Scale: 1040.2 mV



MW-5
12/3/96

Lab #: 127630

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

METHOD BLANK

Matrix: Water
Batch#: 31334
Units: ug/L
Diln Fac: 1

Prep Date: 12/09/96
Analysis Date: 12/18/96

MB Lab ID: QC36154

Analyte	Result
Diesel C12-C22	<50
Motor Oil C22-C50	<250

Surrogate	%Rec	Recovery Limits
Hexacosane	106	60-140

Curtis & Tompkins, Ltd.

Lab #: 127630

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

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

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 31334
Units: ug/L
Diln Fac: 1

Prep Date: 12/09/96
Analysis Date: 12/18/96

BS Lab ID: QC36155

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	2362	95	60-140
Surrogate	%Rec	Limits		
Hexacosane	119	60-140		

BSD Lab ID: QC36156

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	2308	93	60-140	2	35
Surrogate	%Rec	Limits				
Hexacosane	120	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

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127630-001	MW-4	31271	12/03/96	12/06/96	12/06/96	
127630-002	MW-5	31271	12/03/96	12/05/96	12/05/96	

Matrix: Water

Analyte	Units	127630-001	127630-002
Diln Fac:		1	1
Benzene	ug/L	120	1.5
Toluene	ug/L	0.9	<0.5
Ethylbenzene	ug/L	33	<0.5
m,p-Xylenes	ug/L	22	2.6
o-Xylene	ug/L	<0.5	<0.5
Surrogate			
Trifluorotoluene	%REC	96	93
Bromobenzene	%REC	109	102

Lab #: 127630

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Prep Date: 12/05/96
Analysis Date: 12/05/96

MB Lab ID: QC35897

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	91	43-114
Bromobenzene	88	47-112

Lab #: 127630

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 31271
Units: ug/L
Diln Fac: 1

Prep Date: 12/05/96
Analysis Date: 12/05/96

LCS Lab ID: QC35896

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	18.7	20	94	80-120
Toluene	18.6	20	93	80-120
Ethylbenzene	22.4	20	112	80-120
m,p-Xylenes	41.8	40	105	80-120
o-Xylene	21.3	20	107	80-120

Surrogate	%Rec	Limits
Trifluorotoluene	93	43-114
Bromobenzene	94	47-112

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

CHAIN OF CUSTODY FORM

127630

PAGE OF

PROJECT NAME: KOT

JOB NUMBER: 133.005

PROJECT CONTACT: Jerome DeVerniex / Seri Alexander

SAMPLED BY: Dennis Alexander

LAB: Curtis & Tompkins

TURNAROUND: Normal

REQUESTED BY: Jerome DeVerniex

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR	CONTAINERS: VOA	LITER	PINT	TUBE	METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME	NOTES	ANALYSIS REQUESTED: TVH/BTXE	TEH@ diesel + motor oil
-1	MW-4	X				3	1			X			X		12/03/96			1230	*	X	X
-2	MW-5	X				3	1			X			X		12/03/96			1415		X	X

COMMENTS & NOTES: * This sample came from a well with product in it - BEWARE!!

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dennis Alexander	12/3/96 2:55 p.m.	Ramara Moore	12/3 3pm
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