



Tollman-Hundley Hotels

ENVIRONMENTAL
PROTECTION

97 JAN 10 PM 2:43

Operations Services
5820 W. Irlo Bronson Highway
Kissimmee, Florida 34746
Telephone: (407) 396-6605
Fax: (407) 396-8060

January 9, 1997

Alameda County
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Attention: Ms. Susan L. Hugo

Reference: **Groundwater Monitoring Program for the
Days Inn Hotel
1603 Powell Street
Emeryville, California 94608**

Dear Ms. Hugo:

Attached for your information and use is a copy of the Quarterly Monitoring Report for the above referenced hotel. This report was prepared by Vonder Haar Hydrogeology per your letter dated December 12, 1996 approving the proposed groundwater monitoring work plan for this project.

Upon reviewing this report, if you have any questions about its contents, please feel free to call me at (407) 396-6605 or Stephen Vonder Haar directly at (510) 527-7652.

Sincerely,

Charles G. Goldman

cc: Brett Tollman
Sanford Freedman

Attachment

Vonder Haar Hydrogeology

1609 Jaynes
Berkeley, CA 94703
(510) 527-7652

January 4, 1997

Charles G. Goldman
5820 W. Irlo Bronson Highway
Kissimmee, Florida 34746
(407) 396-6605
fax (407) 396-8060
For: Emeryville Days Limited Partnership

STID #5826
VH #96-330

Quarterly Monitoring Report for the Days Inn Hotel 1603 Powell St., Emeryville, CA 94608

Dear Mr. Goldman,

PRIMARY FINDINGS

As verbally reported to you, the December 19, 1996 Quarterly Monitoring groundwater sampling results from monitoring wells MW-1 through MW-6 at your site were as follows:

- a) Not Detected (ND) for benzene, toluene, ethylbenzene, and total xylenes (BTEX).
- b) Diesel (C12-C22) analyses ranged from 130 to 1700 ug/L with a YH laboratory comment that the samples exhibited a fuel pattern that does not resemble the diesel standard, and that heavier hydrocarbons were present than in the diesel standard.
- c) Motor oil (C22-C50) analyses ranged from 360 to 1800 ug/L with a YL laboratory comment that the samples exhibited a fuel pattern that does not resemble the motor oil standard, and that lighter hydrocarbons were present than in the motor oil standard.

d) Semi-Volatile PAH analyses were ND for wells MW-2, MW-3, MW-4, MW-5, and MW-6. For well MW-1 the following were detected: acenaphthene = 93 ug/L, fluorene = 12 ug/L, fluoranthene = 12 ug/L, and pyrene = 12 ug/L. These concentrations are all less than the USEPA Region IX Preliminary Remediation Goals (PRGs) for tap water for these compounds. Phenanthrene = 41 ug/L was also detected in groundwater from well MW-1, but there are no PRGs for it. None of these five compounds have drinking water Maximum Contaminant Levels (MCLs).

e) Total Dissolved Solids (TDS) ranged from 1000 to 7210 mg/L. Since the California and Federal Secondary MCL for TDS is 500 ug/L, it is suggested that this groundwater too high in dissolved solids to be considered good drinking water.

f) The depth to water in the wells from the top of the casing ranged from 5.14 to 6.88 ft. This translates into water level elevations of from 1.51 to 4.35 ft above Mean Sea Level (MSL). The approximate groundwater flow direction, using this data (Figure 1), is to the north-northeast.

It is suggested that you send a copy of this entire report to Susan L. Hugo, Senior Hazardous Materials Specialist, Alameda County Health Care Services Agency, Department of Environmental Health, Alameda, California, and discuss your Site with her.

1.0. Purpose and Location

This Quarterly Monitoring report has been prepared by Vonder Haar Hydrogeology to help establish the type and degree of possible toxic contamination in groundwater at the Days Inn Hotel, 1603 Powell Street, Emeryville, CA (Figure 1) hereafter referred to as the Site. An area location map is included in Appendix A. The work is in response to a request from the Alameda County Department of Environmental Health (ACHD). This is the first of 3 quarterly monitoring reports planned.

2.0. Background and History

A comprehensive analysis of the Site history was not part of the scope of work for this quarterly monitoring report. A letter by Susan Hugo (ACHD, June 27, 1996) cites the following for groundwater from the 6 monitoring wells on the Site:

- a) ND for TPHgasoline.
- b) ND for BTEX.

- c) ND for MTBE.
- d) ND for chlorinated solvents.
- e) TPH as motor oil in one well, MW-2, at 300 ug/L.
- f) Semi-volatile PAHs in MW-1 of: acenaphthene = 85 ug/L,
fluorene = 15 ug/L, and phenanthrene = 34 ug/L.
- g) A groundwater flow direction to the north.

3.0. Technical Approach

Following discussions with the Alameda County environmental regulator, and a review of the data for this Site, it was decided to conduct a sampling of the 6 on-site wells for BTEX, diesel, motor oil PAHs, and TDS. It was also important to clarify the previous Site study of groundwater flow direction that reported a flow to the north.

4.0. Scope of Work and Results

4.1. Quarterly Groundwater Sampling of Monitoring Wells MW-1 through MW-6; December 19, 1996

1. Well construction details are discussed in Law/Crandall (1996).
2. The wells were sampled on December 19, 1996. Before sampling, the water depth was measured with the results as shown in Table 1 and Figure 1. About four well volumes of water were removed just prior to sampling. The well was checked for floating free product, but none was found, and there was no sheen or gasoline type odor. Wells MW-1 and MW-2 had an odor something like motor oil or perhaps water in bay mud.
3. The well purge water was contained on Site in DOT approved 55 gallon drums.
4. A clean bailer was used to collect the water sample, and the sample was poured into laboratory supplied containers with minimum agitation. The water sample was labeled, logged onto a chain-of-custody form, and placed in a chilled ice chest. In addition to the primary water sample collected for analysis, an additional water sample was collected to be used if needed for QA/QC. A water travel-blank was included with the ice chest.

Table 1. GROUNDWATER ELEVATIONS, DECEMBER 19, 1996

Well	Depth to Water From Top of Casing (ft)	Groundwater Elevation (ft)*
MW-1	6.88	1.51
MW-2	5.73	3.07
MW-3	5.14	4.35
MW-4	6.35	1.61
MW-5	6.47	3.57
MW-6	6.08	2.97

Note: * = relative to mean sea level (MSL); casing elevation data from Law/Crandall (1996).

4.2. Chemical Analyses

The groundwater sample was analyzed at Curtis & Thompkins, a State certified analytical laboratory, for the following:

Diesel Range Extractable Petroleum Hydrocarbons (TPHd = TEHd) by California Luft Method (EPA 8015M).

Motor Oil Range Extractable Petroleum Hydrocarbons (TPHmo = TEHmo) by California Luft Method (EPA 8015M).

Benzene, toluene, ethylbenzene, and total xylenes (BTEX); by EPA Method 8020.

Semi-volatiles, PAH by EPA Method 8270.

Total Dissolved Solids (TDS) by EPA 160.1



Table 2. ANALYTICAL RESULTS
GROUNDWATER FROM WELLS MW-1 through MW-6
December 19, 1996

Sample	TPHd in ug/L	TPHmo in ug/L	BTEX** in ug/L	PAH in ug/L	TDS` in mg/L
MW-1	1700 YH	1100 YL	ND <0.5	see ***	7210
MW-2	1600 YH	1800 YL	ND <0.5	ND <9.4	1000
MW-3	1000 YH	1300 YL	ND <0.5	ND <9.4	1870
MW-4	130 YH	360 YL	ND <0.5	ND <9.4	3960
MW-5	770 YH	1800 YL	ND <0.5	ND <9.4	1100
MW-6	490 YH	650 YL	ND <0.5	ND <9.4	2080

Note: ** Each of the BTEX compounds was individually ND (not detected) at less than 0.5 ug/L for groundwater.

*** The following were detected: acenaphthene = 93 ug/L, fluorene = 12 ug/L, phenanthrene = 41 ug/L, fluoranthene = 12 ug/L, and pyrene = 12 ug/L.

YH = laboratory comment that the samples exhibited a fuel pattern that does not resemble the diesel standard, and that heavier hydrocarbons were present than in the diesel standard.

YL = laboratory comment that the samples exhibited a fuel pattern that does not resemble the motor oil standard, and that lighter hydrocarbons were present than in the motor oil standard.

ug/L = micrograms per liter
mg/L = milligrams per liter

Samples were analyzed on rush turnaround.
Analytical Data Sheets and Chain of Custody Forms are attached as Appendix B.

5.0 Conclusions

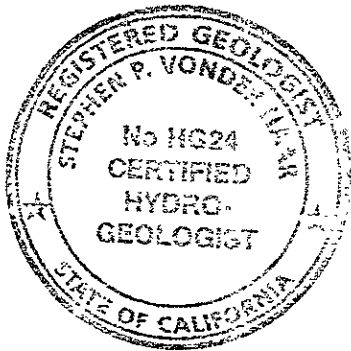
1. Chemical data for the water sampled from the six monitoring wells was:
 - * ND (not detected) for BTEX,
 - * but did show some heavier petroleum hydrocarbons in the weathered diesel/light motor oil range of from 130 to 1800 ug/L (parts per billion)
 - * ND for semi-volatiles in five wells, but had 5 detected compounds up to a maximum of 93 ug/L (parts per billion) acenaphthene in well MW-1.
 - * in the TDS (total dissolved solids) range 1000 to 2080 mg/L (parts per million).
2. The depth to water at the Site is about 5 to 7 feet, and the groundwater elevation contours indicate a groundwater flow to the north-northeast.
3. It is recommended that you discuss this report with the County as soon as possible.

6.0 LIMITATIONS

The professional opinions, data, findings, specifications and conclusions presented in this report are made in accordance with generally accepted hydrogeologic principles and practice. We make no other warranty, either expressed or implied, and are not responsible for the interpretation of others of this report and data. It is possible that future studies might modify the conclusions and findings in this report, however we believe the conclusions and findings are reasonable based on the information. These data and report are specific to this Site at this time and are not to be used on other projects or other areas.

If you have any questions or comments please contact us.

Yours truly,
for Vonder Haar Hydrogeology



A handwritten signature in black ink that reads "Stephen Vonder Haar".

Stephen Vonder Haar, Ph.D.
Principal Hydrogeologist
CA Certified Hydrogeologist #24
CA Registered Geologist #3817

Attachments: Figure 1, plus Appendix A, a location map, and Appendix B -- Analytical Data Sheets, and Chain of Custody Forms.

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REFERENCES

Alameda County Health Care Services Agency, 1996, June 27, Letter from Susan L. Hugo to Charles G. Goldman of Emeryville Days Limited Partnership re: follow-up to the Phase III environmental site assessment at the Days Inn Hotel, Emeryville CA, STID #5826; 2 p.

Law/Crandall, 1996, May 29, Report of phase III environmental site assessment, Days Inn Hotel, 1603 Powell Street, Emeryville, CA; for Emeryville Days Limited Partnership; 11 pages plus figures and appendices.

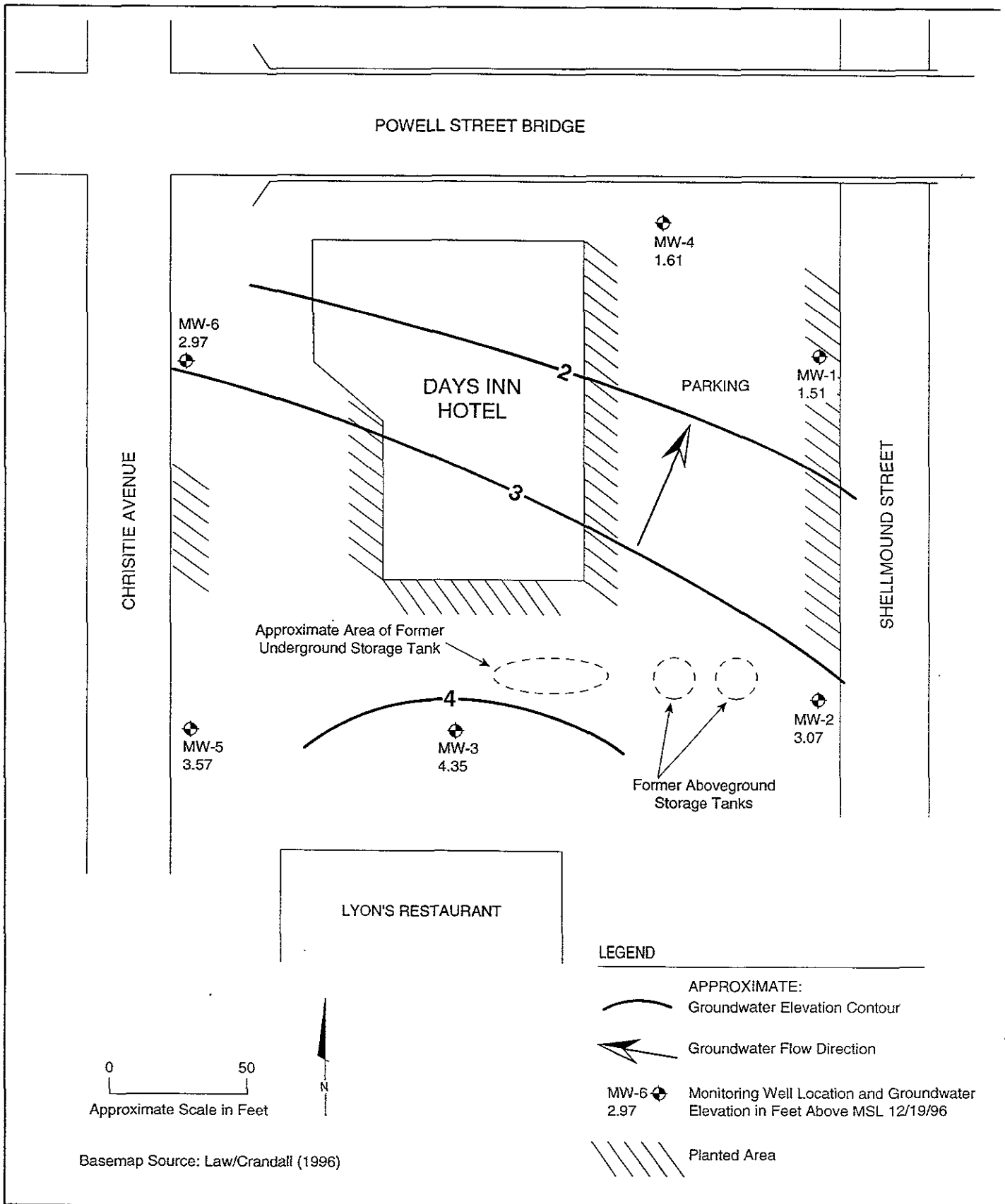


Figure 1. Site Map; Days Inn Hotel, 1603 Powell St., Emeryville, Ca

APPENDIX A
SITE LOCATION MAP



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP OF OAKLAND WEST, CALIFORNIA DATED 1959 (PHOTOREMSED 1980).

PREPARED/DATE: A.T.M. 2/7/96
 CHECKED/DATE: M.I.M. 2/7/96

EMERYVILLE DAYS
 LIMITED PARTNERSHIP
 KISSIMMEE, FLORIDA



SITE LOCATION MAP
 DAYS INN HOTEL
 EMERYVILLE, CALIFORNIA

PROJECT: 70424-6-0004 FIGURE 1

C:\DWGCS\1011MAN\0004\F1.MXD 2/7/96

APPENDIX B
ANALYTICAL DATA SHEETS, AND
CHAIN OF CUSTODY FORMS



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:

Vonder Haar Hydrogeology
1609 Jaynes
Berkeley, CA 94703

Date: 27-DEC-96
Lab Job Number: 127819
Project ID: N/A
Location: Days Inn

Reviewed by: *Teresa Morrison*

Reviewed by: *[Signature]*

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Curtis & Tompkins. Ltd

LABORATORY NUMBER: 127819
CLIENT: VON DER HAAR HYDROGEOLOGY

DATE SAMPLED: 12/19/96
DATE RECEIVED: 12/19/96
DATE ANALYZED: 12/20/96
BATCH#: 31525

=====
ANALYSIS: TOTAL DISSOLVED SOLIDS
ANALYSIS METHOD: EPA 160.1
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
127819-001	MW 1	7,210	mg/L	25
127819-002	MW 2	1,000	mg/L	10
127819-003	MW 3	1,870	mg/L	10
127819-004	MW 4	3,960	mg/L	10
127819-005	MW 5	1,100	mg/L	10
127819-006	MW 6	2,080	mg/L	10
127819-METHOD BLANK		ND	mg/L	10

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SPIKE/DUPLICATE OF 127817-002

RECOVERY, %	86
RPD, %	1

BTXE

Client: Vonder Haar Hydrogeology
Location: Days Inn

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127819-001	MW1	31542	12/19/96	12/23/96	12/23/96	
127819-002	MW2	31542	12/19/96	12/23/96	12/23/96	
127819-003	MW3	31542	12/19/96	12/23/96	12/23/96	
127819-004	MW4	31542	12/19/96	12/23/96	12/23/96	

Matrix: Water

Analyte	Units	127819-001	127819-002	127819-003	127819-004
Diln Fac:		1	1	1	1
Benzene	ug/L	<0.5	<0.5	<0.5	<0.5
Toluene	ug/L	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	ug/L	<0.5	<0.5	<0.5	<0.5
m,p-Xylenes	ug/L	<0.5	<0.5	<0.5	<0.5
o-Xylene	ug/L	<0.5	<0.5	<0.5	<0.5
Surrogate					
Trifluorotoluene	%REC	111	109	109	108
Bromobenzene	%REC	100	95	96	96



BTXE

Client: Vonder Haar Hydrogeology
Location: Days Inn

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127819-005	MW5	31542	12/19/96	12/23/96	12/23/96	
127819-006	MW6	31542	12/19/96	12/23/96	12/23/96	

Matrix: Water

Analyte	Units	127819-005	127819-006
Diln Fac:		1	1
Benzene	ug/L	<0.5	<0.5
Toluene	ug/L	<0.5	<0.5
Ethylbenzene	ug/L	<0.5	<0.5
m,p-Xylenes	ug/L	<0.5	<0.5
o-Xylene	ug/L	<0.5	<0.5
Surrogate			
Trifluorotoluene	%REC	108	109
Bromobenzene	%REC	94	95

Lab #: 127819

BATCH QC REPORT



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Page 1 of 1

BTXE			
Client: Vonder Haar Hydrogeology	Analysis Method: EPA 8020		
Location: Days Inn	Prep Method: EPA 5030		
METHOD BLANK			
Matrix: Water	Prep Date: 12/22/96		
Batch#: 31542	Analysis Date: 12/22/96		
Units: ug/L			
Diln Fac: 1			

MB Lab ID: QC36929

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	93	62-131	

Lab #: 127819

BATCH QC REPORT



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Page 1 of 1

BTXE			
Client: Vonder Haar Hydrogeology	Analysis Method: EPA 8020		
Location: Days Inn	Prep Method: EPA 5030		
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date:	12/22/96	
Batch#: 31542	Analysis Date:	12/22/96	
Units: ug/Kg			
Diln Fac: 1			

LCS Lab ID: QC36928

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	19	20	95	80-120
Toluene	19.1	20	96	80-120
Ethylbenzene	19.1	20	96	80-120
m,p-Xylenes	38.6	40	97	80-120
o-Xylene	19.1	20	96	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	109	58-130		
Bromobenzene	99	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 #: 127819

BATCH QC REPORT

BTXE	
Client: Vonder Haar Hydrogeology	Analysis Method: EPA 8020
Location: Days Inn	Prep Method: EPA 5030
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: MW4	Sample Date: 12/19/96
Lab ID: 127819-004	Received Date: 12/19/96
Matrix: Water	Prep Date: 12/23/96
Batch#: 31542	Analysis Date: 12/23/96
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC36930

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Benzene	20	<0.5	19.6	98	75-125
Toluene	20	<0.5	19.5	98	75-125
Ethylbenzene	20	<0.5	19.6	98	75-125
m,p-Xylenes	40	<0.5	39.2	98	75-125
o-Xylene	20	<0.5	19.5	98	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	111	58-130			
Bromobenzene	103	62-131			

MSD Lab ID: QC36931

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Benzene	20	19.6	98	75-125	0	20
Toluene	20	19.5	98	75-125	0	20
Ethylbenzene	20	19.6	98	75-125	0	20
m,p-Xylenes	40	39.1	98	75-125	0	20
o-Xylene	20	19.6	98	75-125	0	20
Surrogate	%Rec	Limits				
Trifluorotoluene	110	58-130				
Bromobenzene	103	62-131				

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits
 RPD: 0 out of 5 outside limits
 Spike Recovery: 0 out of 10 outside limits



TEH-Tot Ext Hydrocarbons

Client: Vonder Haar Hydrogeology
Location: Days Inn

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

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127819-001	MW1	31515	12/19/96	12/19/96	12/22/96	
127819-002	MW2	31515	12/19/96	12/19/96	12/22/96	
127819-003	MW3	31515	12/19/96	12/19/96	12/22/96	
127819-004	MW4	31515	12/19/96	12/19/96	12/22/96	

Matrix: Water

Analyte	Units	127819-001	127819-002	127819-003	127819-004
Diln Fac:		1	1	1	1
Diesel C12-C22	ug/L	1700 YH	1600 YH	1000 YH	130 YH
Motor Oil C22-C50	ug/L	1100 YL	1800 YL	1300 YL	360 YL
Surrogate					
Hexacosane	%REC	116	114	98	109

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



TEH-Tot Ext Hydrocarbons

Client: Vonder Haar Hydrogeology
Location: Days Inn

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

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
127819-005	MW5	31515	12/19/96	12/19/96	12/22/96	
127819-006	MW6	31515	12/19/96	12/19/96	12/22/96	

Matrix: Water

Analyte	Units	127819-005	127819-006
Diln Fac:		1	1
Diesel C12-C22	ug/L	770 YH	490 YH
Motor Oil C22-C50	ug/L	1800 YL	650 YL
Surrogate			
Hexacosane	%REC	108	111

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

Lab #: 127819

BATCH QC REPORT



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TEH-Tot Ext Hydrocarbons

Client: Vonder Haar Hydrogeology
Location: Days Inn

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

METHOD BLANK

Matrix: Water
Batch#: 31515
Units: ug/L
Diln Fac: 1

Prep Date: 12/19/96
Analysis Date: 12/21/96

MB Lab ID: QC36821

Analyte	Result		
Diesel C12-C22	<50		
Motor Oil C22-C50	<300		
Surrogate	%Rec		Recovery Limits
Hexacosane	98		60-140

Lab #: 127819

BATCH QC REPORT



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TEH-Tot Ext Hydrocarbons

Client: Vonder Haar Hydrogeology
Location: Days Inn

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

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 31515
Units: ug/L
Diln Fac: 1

Prep Date: 12/19/96
Analysis Date: 12/21/96

BS Lab ID: QC36822

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	2478	99	60-140
Surrogate	%Rec	Limits		
Hexacosane	103	60-140		

BSD Lab ID: QC36823

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	2520	101	60-140	2	35
Surrogate	%Rec	Limits				
Hexacosane	106	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



Polynuclear Aromatic Hydrocarbons by GC/MS

Client: Vonder Haar Hydrogeology
Location: Days Inn

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: MW1
Lab ID: 127819-001
Matrix: Water
Batch#: 31539
Units: ug/L
Diln Fac: 1

Sampled: 12/19/96
Received: 12/19/96
Extracted: 12/20/96
Analyzed: 12/23/96

Analyte	Result	Reporting Limit
Naphthalene	ND	9.4
Acenaphthylene	ND	9.4
Acenaphthene	93	9.4
Fluorene	12	9.4
Phenanthrene	41	9.4
Anthracene	ND	9.4
Fluoranthene	12	9.4
Pyrene	12	9.4
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
Nitrobenzene-d5	100	35-114
2-Fluorobiphenyl	69	43-116
Terphenyl-d14	21*	33-141

* Values outside of QC limits



Polynuclear Aromatic Hydrocarbons by GC/MS

Client: Vonder Haar Hydrogeology
Location: Days Inn

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: MW2
Lab ID: 127819-002
Matrix: Water
Batch#: 31539
Units: ug/L
Diln Fac: 1

Sampled: 12/19/96
Received: 12/19/96
Extracted: 12/20/96
Analyzed: 12/23/96

Analyte	Result	Reporting Limit
Naphthalene	ND	9.4
Acenaphthylene	ND	9.4
Acenaphthene	ND	9.4
Fluorene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
Nitrobenzene-d5	103	35-114
2-Fluorobiphenyl	75	43-116
Terphenyl-d14	33	33-141



Polynuclear Aromatic Hydrocarbons by GC/MS

Client: Vonder Haar Hydrogeology
Location: Days InnAnalysis Method: EPA 8270
Prep Method: EPA 3520Field ID: MW3
Lab ID: 127819-003
Matrix: Water
Batch#: 31539
Units: ug/L
Diln Fac: 1Sampled: 12/19/96
Received: 12/19/96
Extracted: 12/20/96
Analyzed: 12/23/96

Analyte	Result	Reporting Limit
Naphthalene	ND	9.4
Acenaphthylene	ND	9.4
Acenaphthene	ND	9.4
Fluorene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
Nitrobenzene-d5	109	35-114
2-Fluorobiphenyl	67	43-116
Terphenyl-d14	18*	33-141

* Values outside of QC limits



Polynuclear Aromatic Hydrocarbons by GC/MS

Client: Vonder Haar Hydrogeology
Location: Days Inn

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: MW4
Lab ID: 127819-004
Matrix: Water
Batch#: 31539
Units: ug/L
Diln Fac: 1

Sampled: 12/19/96
Received: 12/19/96
Extracted: 12/20/96
Analyzed: 12/23/96

Analyte	Result	Reporting Limit
Naphthalene	ND	9.4
Acenaphthylene	ND	9.4
Acenaphthene	ND	9.4
Fluorene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
Nitrobenzene-d5	97	35-114
2-Fluorobiphenyl	73	43-116
Terphenyl-d14	39	33-141

Polynuclear Aromatic Hydrocarbons by GC/MS

Client: Vonder Haar Hydrogeology
Location: Days Inn
Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: MW5
Lab ID: 127819-005
Matrix: Water
Batch#: 31539
Units: ug/L
Diln Fac: 1
Sampled: 12/19/96
Received: 12/19/96
Extracted: 12/20/96
Analyzed: 12/23/96

Analyte	Result	Reporting Limit
Naphthalene	ND	9.4
Acenaphthylene	ND	9.4
Acenaphthene	ND	9.4
Fluorene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
Nitrobenzene-d5	103	35-114
2-Fluorobiphenyl	68	43-116
Terphenyl-d14	21*	33-141

* Values outside of QC limits



Polynuclear Aromatic Hydrocarbons by GC/MS

Client: Vonder Haar Hydrogeology
Location: Days Inn

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: MW6
Lab ID: 127819-006
Matrix: Water
Batch#: 31539
Units: ug/L
Diln Fac: 1

Sampled: 12/19/96
Received: 12/19/96
Extracted: 12/20/96
Analyzed: 12/26/96

Analyte	Result	Reporting Limit
Naphthalene	ND	9.4
Acenaphthylene	ND	9.4
Acenaphthene	ND	9.4
Fluorene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
Nitrobenzene-d5	74	35-114
2-Fluorobiphenyl	77	43-116
Terphenyl-d14	28*	33-141

* Values outside of QC limits

Lab #: 127819

BATCH QC REPORT

Polynuclear Aromatic Hydrocarbons by GC/MS		
Client: Vonder Haar Hydrogeology	Analysis Method: EPA 8270	
Location: Days Inn	Prep Method: EPA 3520	
METHOD BLANK		
Matrix: Water	Prep Date:	12/20/96
Batch#: 31539	Analysis Date:	12/23/96
Units: ug/L		
Diln Fac: 1		

MB Lab ID: QC36917

Analyte	Result	Reporting Limit
Naphthalene	ND	10
Acenaphthylene	ND	10
Acenaphthene	ND	10
Fluorene	ND	10
Phenanthrene	ND	10
Anthracene	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Benzo(a)anthracene	ND	10
Chrysene	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10
Surrogate	%Rec	Recovery Limits
Nitrobenzene-d5	113	35-114
2-Fluorobiphenyl	86	43-116
Terphenyl-d14	92	33-141

Lab #: 127819

BATCH QC REPORT

Polynuclear Aromatic Hydrocarbons by GC/MS			
Client: Vonder Haar Hydrogeology	Analysis Method: EPA 8270		
Location: Days Inn	Prep Method: EPA 3520		
BLANK SPIKE/BLANK SPIKE DUPLICATE			
Matrix: Water	Prep Date: 12/20/96		
Batch#: 31539	Analysis Date: 12/23/96		
Units: ug/L			
Diln Fac: 1			

BS Lab ID: QC36918

Analyte	Spike Added	BS	%Rec #	Limits
Acenaphthene	50	35.38	71	46-118
Pyrene	50	41.26	83	26-127
Surrogate	%Rec	Limits		
Nitrobenzene-d5	103	35-114		
2-Fluorobiphenyl	77	43-116		
Terphenyl-d14	85	33-141		

BSD Lab ID: QC36919

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Acenaphthene	50	38.09	76	46-118	7	31
Pyrene	50	42.05	84	26-127	1	31
Surrogate	%Rec	Limits				
Nitrobenzene-d5	109	35-114				
2-Fluorobiphenyl	82	43-116				
Terphenyl-d14	86	33-141				

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits
 RPD: 0 out of 2 outside limits
 Spike Recovery: 0 out of 4 outside limits

CHAIN OF CUSTODY FORM

Analyses

Curtis & Tompkins, Ltd.
 Analytical Laboratories, Since 1878

 2323 Fifth Street
 Berkeley, CA 94710
 (510) 486-0900 Phone
 (510) 486-0532 Fax

C&T
 LOGIN # 127819

Project No: DAYS INN
 Project Name: _____
 Project P.O.: _____
 Turnaround Time: 24 HR. - 4 PM

Sampler: STEPHEN VONDER HAAR
 Report To: " " "
 Company: VONDERHAAR HYDROGEOLOGY
 Telephone: (510) 527-7652
 Fax: same (510) 527-7652

Lab Number	Sample ID.	Sampling Date Time	Matrix			# of Containers	Preservative				Field Notes	
			Soil	Water	Waste		HCl	H ₂ SO ₄	HNO ₃	ICE		
1	MW1ABC	12/19/96				3 VOA	X					TPH - Diesel, MGO BTEX (PART) TPH oil and diesel + PAH TDS (Total Dissolved Solids)
	MW1DEF	"				3 L						
	MW1G	"				1						
2	MW2ABC	"				3 VOA	X					TPH diesel + oil + PAH TDS
	MW2DEF	"				3 L						
	MW2G	"				1						
3	MW3ABC	"				3 VOA	X					BTEX TPH Diesel, oil + PAH TDS
	MW3DEF	"				3 L						
	MW3G	"				1						
4	MW4ABC	"				3 VOA	X					BTEX TPH diesel + oil + PAH TDS
	MW4DEF	"				3 L						
	MW4G	"				1						

TPH - Diesel, MGO	BTEX (PART)	TPH oil and diesel + PAH	TDS (Total Dissolved Solids)	TPH diesel + oil + PAH	TDS	BTEX	TPH Diesel, oil + PAH	TDS	BTEX	TPH diesel + oil + PAH	TDS
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Notes:

RELINQUISHED BY:	RECEIVED BY:
<u>Stephen Vonder Haar</u> 12/19/96	
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	<u>Troy B. B...</u> 12/19/96
DATE/TIME	DATE/TIME

Signature on this form constitutes a firm Purchase Order for the services requested above.

