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9:59 am, Nov 09, 2010

Alameda County Environmental Health

November 4, 2010

Ms. Barbara Jakub Alameda County Health Agency 1131 Harbor Bay Parkway Alameda, California 94502

Re: 76 Service Station No. 5367

500 Bancroft Avenue San Leandro, California

Site Closure Summary

Dear Ms. Jakub:

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please contact me at (916) 558-7612.

Sincerely,

Bill Bough

Bill Borgh Site Manager – Risk Management and Remediation

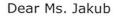
Attachment

November 4, 2010

Ms. Barbara Jakub Alameda County Health Care Services Department of Environmental Health 1131 Harbor Bay Parkway Alameda, California 94502-6577

RE: SITE CLOSURE SUMMARY

76 Service Station No. 5367 500 Bancroft Avenue San Leandro, California Delta Project No.: C105367817 ACEH Case No. RO# 0499



On behalf of ConocoPhillips (COP), Delta Consultants (Delta) has prepared this Site Closure Summary (attached) for above referenced site. Due to declining or non-detect concentrations, COP and Delta request case closure for this site.

If there are any questions regarding this submittal, please call James Barnard at (916) 503-1279.

Sincerely,

Delta Consultants

James B. Barnard, P.G.

alles B. Barrano

California Registered Professional Geologist No. 7478

Cc: Mr. Bill Borgh – ConocoPhillips (electronic copy only)



CASE CLOSURE SUMMARY LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM

I. AGENCY INFORMATION

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway, Suite 250
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 639-1287
Responsible Staff Person: Barbara Jakub	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: ConocoPhillips Service Station No. 5367				
Ave, San Leandro, CA				
RB Case No.: 01-1604 Local Case No.: LOP Case No.: RO #0499				
Geotracker ID: T0600101479 APN:				
Addresses		Phone Numbers		
76 Broadway, Sacramento 95818		916-558-7612		
	Ave, San Leandro, CA Local Case No.: Geotracker ID: T0600101479 Addresses	Ave, San Leandro, CA Local Case No.: Geotracker ID: T0600101479 Addresses		

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	unknown	Gasoline	Removed	1987
2	12,000	Gasoline	In Place	Active
3	12,000	Gasoline	In Place	Active
4	12,000	Gasoline	In Place	Active
Product Piping		Replaced	1987	
	Product Pipin	g	Replaced	1998

Date: November 4, 2010

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Hydrocarbon Release, cause unknown			
Site characterization complete? Yes	Date Approved By Oversight Agency:		
Monitoring wells installed? Yes	Number: 10	Proper screened interval? Yes	
Highest GW Depth Below Ground Surface: 16 ft below TOC	Lowest Depth: Flow Direction: Predominantly W, SW, NW		
Most Sensitive Current Use: Potential drinking water source.			

Summary of Production Wells in Vicinity:

A well search performed in 1990 by Applied GeoSystems identified at least 15 wells within ½ mile of the site. Five of the wells were down-gradient (southwest) and within approximately 600 feet of the site. One of these wells was used for irrigation, one was abandoned, and no records pertaining to the remaining three wells were available. No municipal wells were identified within ½ mile of the site. The nearest water-supply wells were located approximately 400 feet southwest of the site.

A sensitive receptor survey was performed by Delta in August 2006. The survey consisted of a review of Department of Water Resources (DWR) files to evaluate the presence of wells within 1 mile of the site. A list of property owners within 1,000 feet of the site was also generated to evaluate if any of the properties have potential receptors of the hydrocarbon impact from the project site.

A Public Health Assessment Questionnaire presenting specific queries regarding the presence of sensitive receptors was mailed to each of the identified property owners. A total of 341 questionnaires were mailed in April 2006, and 114 responses were received. Based on the data from the responding parties, sixteen wells were identified within 1,000 feet of the site. Seven of the properties had sumps used for irrigation, and basements were present on twenty seven of the properties.

Are drinking water wells affected? No	Aquifer Name: East Bay Plain	
Is surface water affected? No	Nearest SW Name: San Leandro Creek ~1900 ft SE	
Off-Site Beneficial Use Impacts (Addresses/Locations):		
Fundamental Gospel Baptist Church – 700 ft NW – 618 Victoria Ct, San Leandro		
All Saints Episcopal Church – 1250 ft SW - 911 Dowling Blvd, San Leandro		
Roosevelt Elementary School – 1450 ft W - 951 Dowling Blvd, San Leandro		
Washington Elementary School – 1650 ft SW - 250 Dutton Ave, San Leandro		
Reports on file? Yes Where are reports filed? Alameda County Environmental Health, GeoTracker and Livelink		

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
Material Amount (Include Units) Action (Treatment or Disposal w/Destination) Date			
Tank	Unknown	Disposed – Unknown Location	1987

Piping	Unknown	Disposed – Unknown Location	1987
Free Product			
Soil	250 cu yds	Disposed – Unknown Location	1987
Soil	30 cu yds	Disposed – Unknown Location	1998
Groundwater			

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP (Please see Attachments 1 through 6 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
Contaminant	Before	After	Before	After
TPH (Gas)	3,692 ¹	ND<1.0 ^{3*}	61,000 ¹	6600 ²
TPH (Diesel)	NA	NA	NA	NA
TPH (Motor Oil)	NA	NA	NA	NA
Oil and Grease	NA	NA	NA	NA
Benzene	22.1 ¹	ND<0.0050 ^{3*}	1,060 ¹	6.9 ²
Toluene	129 ¹	ND<0.0050 ^{3*}	3,380 ¹	ND<5.0 ²
Ethylbenzene	65 ¹	ND<0.0050 ^{3*}	1,520 ¹	510 ²
Xylenes	394 ¹	ND<0.0050 ^{3*}	8,720 ¹	38 ²
Heavy Metals (Cd, Cr, Pb, Ni, Zn)	^	^^	^^^	^^^
MTBE	*	**	***	***
Other (8240/8270)	NA	NA	NA	NA

NA = not analyzed

- ^ NA ppm Cd; NA ppm Cr; NA ppm Pb: NA ppm Ni; NA ppm Zn ^^ NA ppm Cd; NA ppm Cr; NA ppm Pb: NA ppm Ni; NA ppm Zn ^^ NA ppb Cd; NA ppb Cr; NA ppb Pb: NA ppb Ni; NA ppb Zn ^^ NA ppb Cd; NA ppb Cr; NA ppb Pb: NA ppb Ni; NA ppb Zn
- * NA ppm MTBE; NA ppm TBA,; NA ppm TAME,; NA ppm ETBE; NA ppm DIPE; NA ppm EtOH; NA ppm EDB; and NA ppm EDC
- ** **ND<0.025**³ ppm MTBE; NA ppm TBA,; NA ppm TAME,; NA ppm ETBE; NA ppm DIPE; NA ppm EtOH; NA ppm EDB; and NA ppm EDC
- *** NA ppb MTBE; NA ppb TBA,; NA ppb TAME,; NA ppb ETBE; NA ppb DIPE; NA ppb EtOH; NA ppb EDB; and NA ppb EDC
- **** NA ppb MTBE; NA ppb TBA,; NA ppb TAME,; NA ppb ETBE; NA ppb DIPE; NA ppb EtOH; $ND<5.0^2$ ppb EDB; and $ND<5.0^2$ ppb EDC

NOTES:

- 1. Max concentration during MW-1 installation (AGS 1988).
- 2. Max concentration from 3Q10 M&S event (TRC 2010).
- 3. Max concentration from soil samples collected during product piping replacement, *max depth of 5 ft bgs (PEG 1998).

Site History and Description of Corrective Actions:

The site is located on the northeast corner of the intersection of Bancroft Avenue and Dowling Boulevard and is an active 76 service station. Three 12,000-gallon underground storage tanks (USTs) and two dispenser islands are present at the site.

In 1987, the USTs and associated piping were replaced. During the work, approximately 250 cubic yards of impacted soil was excavated and removed from the site. A limited environmental investigation was performed by Applied GeoSystems in 1987 and consisted of advancing one boring and the installation of groundwater monitoring well MW-1 at the site. Free product (approximately ¼ inch) was present on the groundwater beneath the site. Approximately 120 pounds of free product was removed by hand bailing.

In September and October 1988, three additional monitoring wells (MW-2 through MW-4) were installed at the site by Applied GeoSystems. Based on the data from the investigation, the extent of impacted soil appeared limited to an area west and south of the tank pit between 30 and 36 feet below ground surface (bgs).

In February 1990, an additional on-site monitoring well (MW-5) and three off-site monitoring wells (MW-6 through MW-8) were installed by Applied GeoSystems. The data from this and the previous investigations indicated that impacted groundwater was present both beneath the site and off-site to the southwest. The extent of impacted soil and groundwater appeared to be assessed to the east of the USTs and to the west of the site.

A well search performed in 1990 by Applied GeoSystems identified at least 15 wells within ½ mile of the site. Five of the wells were down-gradient (southwest) and within approximately 600 feet of the site. One of these wells was used for irrigation, one was abandoned, and no records pertaining to the remaining three wells were available. No municipal wells were identified within ½ mile of the site. The nearest water-supply wells were located approximately 400 feet southwest of the site.

Between mid-1994 and mid-1995, two additional monitoring wells (MW-9 and MW-10) were installed to the west and south of the site, respectively.

Between March 1996 and March 1997, soil vapor extraction (SVE) and groundwater extraction (GWE) remediation systems operated at the site. During this time, approximately 637,151 gallons of impacted groundwater were removed by the GWE system. An estimated 180 pounds and 108 pounds of total petroleum hydrocarbons as gasoline (TPHg) were removed by the SVE and GWE systems, respectively.

In November 1998, the product piping was replaced and approximately 30 cubic yards of soil was removed from the site. Spill containment sumps and electronic leak detection were also installed.

A sensitive receptor survey was performed by Delta in August 2006. The survey consisted of a review of Department of Water Resources (DWR) files to evaluate the presence of wells within 1 mile of the site. A list of property owners within 1,000 feet of the site was also generated to evaluate if any of the properties have potential receptors of the hydrocarbon impact from the project site.

A Public Health Assessment Questionnaire presenting specific queries regarding the presence of sensitive receptors was mailed to each of the identified property owners. A total of 341 questionnaires were mailed in April 2006, and 114 responses were received. Based on the data from the responding parties, sixteen wells were identified within 1,000 feet of the site. Seven of the properties had sumps used for irrigation, and basements were present on twenty seven of the properties.

Delta also reviewed the DWR files to prepare a list of parcel numbers, property owner's names, and property addresses of potential receptors within a 1-mile radius of the site. Questionnaires were mailed to 43 addresses in June 2006, but only two responses were received. The two respondents had a well on their property; however, no sumps or basements were present.

Based on the U.S. Geological Survey (USGS) topographic map for the site area (San Leandro quadrangle, 1967), the nearest surface water body is San Leandro Creek located approximately 1,900 feet southeast of the site.

On April 23, 2007, an irrigation well was purged and sampled by Delta. The well was sampled at the request of a nearby resident, located at 589 Broadmoor Boulevard in San Leandro. Groundwater samples were collected and analyzed from the well for Total Purgeable Petroleum Hydrocarbons (TPPH); benzene, toluene, ethyl-benzene, and total xylenes (BTEX); methyl tertiary butyl ether (MTBE), diisopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), TBA, 1,2-dichloroethane (1,2-DCA), ethylene di-bromide (EDB), and ethanol - (8 oxygenates) by Environmental Protection Agency (EPA) Method 8260. All constituents tested were below the laboratory's indicated reporting limits.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes			
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes			
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.			
Site Management Requirements:			
Should corrective action be reviewed if land use	changes? Yes		
Was a deed restriction or deed notification filed?	? Yes No	Date Recorded:	
Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained: 10	
List Enforcement Actions Taken: None			
List Enforcement Actions Rescinded: None			

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:

• No soil samples have been collected from below 5 ft bgs since the last monitoring wells were installed in 1990.

Conclusion:

Additional soil sampling may be required prior to closure in order to verify impact in site soils.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by	Title: Hazardous Materials Specialist
Signature:	Date:
Approved by:	Title: Supervising Hazardous Materials Specialist
Signature:	Date:

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name:	Title:
Notification Date:	

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: N/A	Date of Well Decommissioning Report: N/A		
All Monitoring Wells Decommissioned: No	Number Decommissioned: 0 Number Retained: 10		
Reason Wells Retained: Wells will be abandoned once closure is granted.			
Additional requirements for submittal of groundwater data from retained wells:			
ACEH Concurrence - Signature:		Date:	

ATTACHMENTS:

Attachment 1 – Site Vicinity Map (1 pp)

Attachment 2 – Site Plans (1 pp)

Attachment 3 – AGS 1988 Soil Analyticals (11 pp)

Attachment 4 – 3Q10 M&S Analyticals (29 pp)

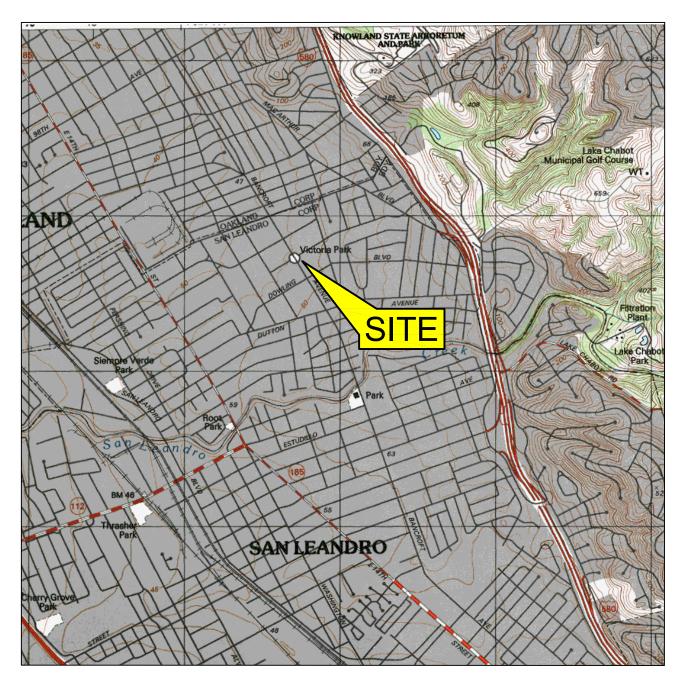
Attachment 5 – PEG 1998 Soil Analyticals (18 pp)

Attachment 6 - Historical Boring Logs (20 pp)

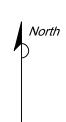
This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.

ATTACHMENT 1

Site Vicinity Map (1 pp)







0 1000 FT 2000 FT SCALE: 1 : 24,000

FIGURE 1 SITE LOCATION MAP

76 SERVICE STATION NO. 5367 500 BANCROFT AVENUE SAN LEANDRO, CA

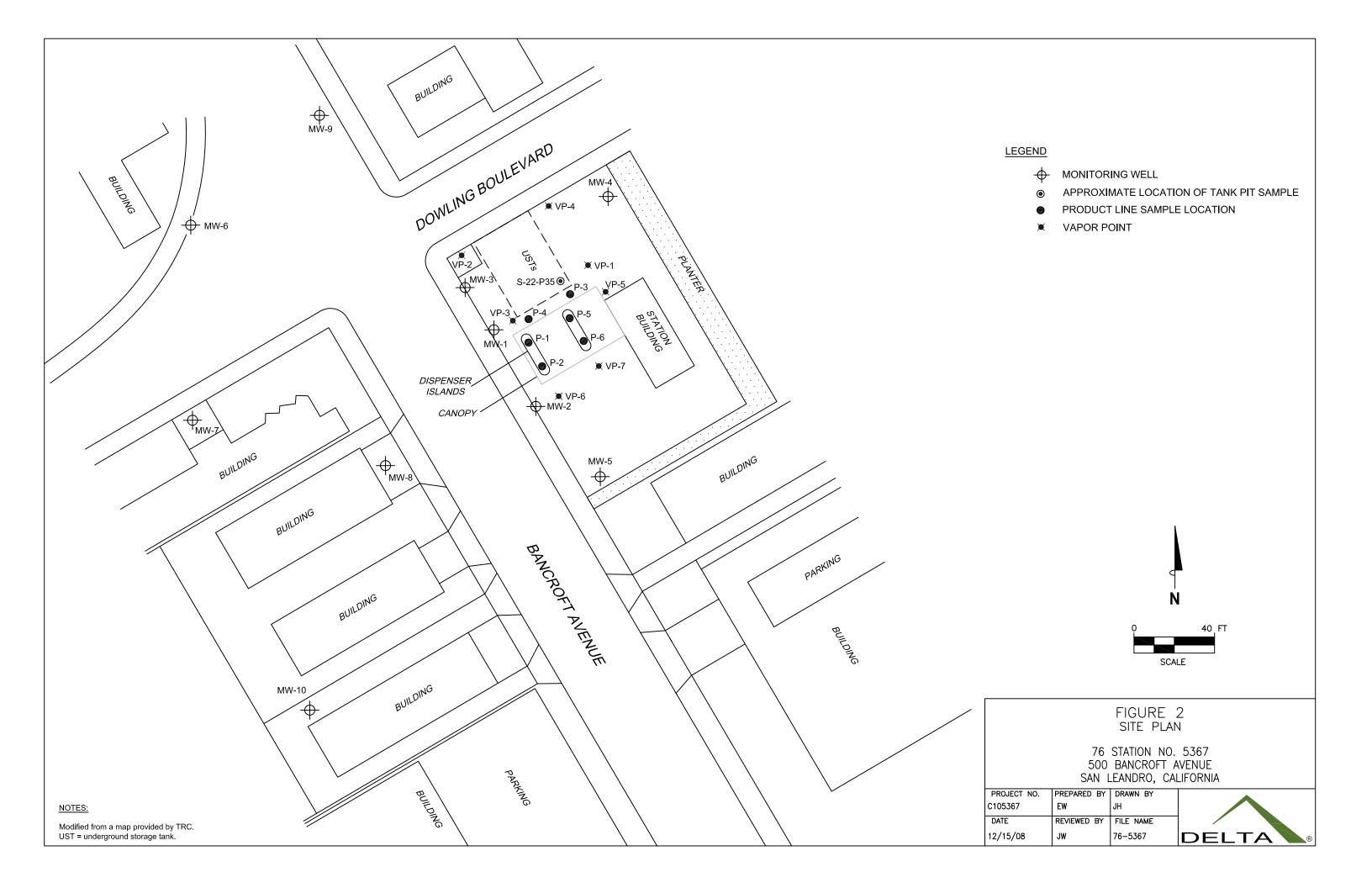
PROJECT NO. C105-367	DRAWN BY MC 5/25/06	
FILE NO. Site Locator 5367	PREPARED BY	
REVISION NO.	REVIEWED BY	



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, SAN LEANDRO QUADRANGLE, 1967

ATTACHMENT 2

Site Plans (1 pp)



ATTACHMENT 3

AGS 1988 Soil Analyticals (11 pp)

Subsurface Environmental Investigation November 18, 1988 UNOCAL Station No. 5367, San Leandro, California AGS 87091-3

water samples are presented on Table 3.

TABLE 3 RESULTS OF SOIL AND WATER ANALYSES UNOCAL Service Station No. 5367 500 Bancroft Avenue San Leandro, California

Sample Number	TPH	Benzene	Ethyl- benzene	Toluene	Total Xylenes
S-10.5-B2	<2	<0.05	<0.05	<0.05	<0.05
S-30.5-B2	52	0.17	1.52	<0.05	5.11
S-26.0-B3	7	0.10	0.30	0.45	1.67
S-36.0-B3	3,692	8	65	129	394
S-11-B4	<2	<0.05	<0.05	<0.05	<0.05
S-30.5-B4	<2	<0.05	<0.05	<0.05	<0.05
W-37-MW2 W-37-MW3 W-37-MW4	1.76 61 <0.0005	0.0478 1.06 <0.0005	0.0209 1.52 <0.0005	0.0074 3.38 <0.0005	0.0816 8.72 <0.02

Results in parts per million (ppm).
TPH = Total petroleum hydrocarbons

< = Less than the detection limit for analysis used</pre>

NA = Not analyzed Sample designation:

W-11-MW3

Boring or monitoring well number

Depth of sample in feet

Sample matrix

(W = water, S = soil)



43255 Mission Boulevard, Fremont, CA 94539 (415) 651-1906

FREMONT

COSTA MESA

SACRAMENTO

HOUSTON

ANALYSIS REPORT

Report Prepared for: Applied GeoSystems

43255 Mission Boulevard

Fremont, CA 94539

Attention: John T. Lambert

Date Received:

10-03-88 Laboratory Number: 10003801 Project:

Sample: Matrix:

87091-3 S-10.5-B2

0212lab.frm

Soil

Parameter	Resi	•	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel Benzene Toluene Ethylbenzene Total Xylenes	ND ND ND ND ND		2 0.05 0.05 0.05 0.05		10-04-88 10-04-88 10-04-88 10-04-88 10-04-88	NR NR

mg/kg = milligrams per kilogram = parts per million (ppm).

mg/L = milligrams per liter = ppm.

= Not detected. Compound(s) may be present at ND

concentrations below the detection limit.

NR = Analysis not required.

PROCEDURES

TVH/BTEX--Total volatile hydrocarbons (TVH) and benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction according to EPA Method 5030 followed by analysis by a EPA Method 8020/602 (modified for TVH) which uses a gas chromatograph (GC) equipped with a photo-ionization detector (PID) and a flame-ionization detector (FID) in series. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TPH--Total petroleum hydrocarbons (low-to-medium boiling points) are measured by extraction according to EPA Method 5030 followed by analysis by a modified EPA Method 8015 which uses a GC equipped with an FID. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TEH--Total extractable hydrocarbons (high boiling points) are measured by extraction according to EPA Method 3550 for soils or EPA Method 3510 for water followed by a modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Tia Tran, Laboratory Supervisor

10-11-88



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ANALYSIS REPORT

0212lab.frm

Report Prepared for: Applied GeoSystems

Date Received: Laboratory Number: 10-03-88 10003S02 87091-3

43255 Mission Boulevard

Project: Sample:

S-30.5-B2

Fremont, CA 94539

Soil

Attention: John T. Lambert

Matrix:	
---------	--

Parameter	Result		Detection Limit			Notes
·	(mg/kg)	(mg/L)	(mg/kg)	(mg/L)	Analyzed	
TVH as Gasoline						NR
TPH as Gasoline	5 2		2		10-04-88	Ì
TEH as Diesel				<u> </u>	[NR
Benzene	0.17		0.05		10-04-88	ļ
Toluene	ND		0.05		10-04-88	İ
Ethylbenzene	1.52		0.05		10-04-88	
Total Xylenes	5.11		0.05		10-04-88	

mg/kg = milligrams per kilogram = parts per million (ppm).

= milligrams per liter = ppm.

= Not detected. Compound(s) may be present at ND

concentrations below the detection limit.

= Analysis not required. NR

PROCEDURES

TVH/BTEX--Total volatile hydrocarbons (TVH) and benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction according to EPA Method 5030 followed by analysis by a EPA Method 8020/602 (modified for TVH) which uses a gas chromatograph (GC) equipped with a photo-ionization detector (PID) and a flame-ionization detector (FID) in series. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TPH--Total petroleum hydrocarbons (low-to-medium boiling points) are measured by extraction according to EPA Method 5030 followed by analysis by a modified EPA Method 8015 which uses a GC equipped with an FID. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TEH -- Total extractable hydrocarbons (high boiling points) are measured by extraction according to EPA Method 3550 for soils or EPA Method 3510 for water followed by a modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Tia Tran, Laboratory Supervisor

10-11-88



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ANALYSIS REPORT

0212lab.frm

Report Prepared for: Applied GeoSystems

Date Received: Laboratory Number: 10-03-88 10003S03

43255 Mission Boulevard

Project: Sample:

87091-3 S-26.0-B3

Fremont, CA 94539

Attention: John T. Lambert

Matrix:

Soil

Parameter	Rest (mg/kg)	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel	7	2		10-04-88	NR NR
Benzene Toluene Ethylbenzene Total Xylenes	0.10 0.45 0.30 1.67	0.05 0.05 0.05 0.05		10-04-88 10-04-88 10-04-88 10-04-88	

mg/kg = milligrams per kilogram = parts per million (ppm).

mg/L = milligrams per liter = ppm.

ND = Not detected. Compound(s) may be present at

concentrations below the detection limit.

NR = Analysis not required.

PROCEDURES

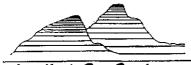
TVH/BTEX--Total volatile hydrocarbons (TVH) and benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction according to EPA Method 5030 followed by analysis by a EPA Method 8020/602 (modified for TVH) which uses a gas chromatograph (GC) equipped with a photo-ionization detector (PID) and a flame-ionization detector (FID) in series. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TPH--Total petroleum hydrocarbons (low-to-medium boiling points) are measured by extraction according to EPA Method 5030 followed by analysis by a modified EPA Method 8015 which uses a GC equipped with an FID. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TEH -- Total extractable hydrocarbons (high boiling points) are measured by extraction according to EPA Method 3550 for soils or EPA Method 3510 for water followed by a modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Tia Tran, Laboratory Supervisor

10-11-88



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ANALYSIS REPORT

02121ab.frm

Report Prepared for:

Date Received: Laboratory Number: 10-03-88 10003S04

Applied GeoSystems 43255 Mission Boulevard

Project:

87091-3 S-36.0-B3

Fremont, CA 94539

Sample:

Attention: John T. Lambert

Matrix:

Soil

Parameter	Rest	Detection (mg/kg)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel Benzene Toluene Ethylbenzene Total Xylenes		20 1 1 1	10-04-88 10-04-88 10-04-88 10-04-88	NR NR

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Tia Tran, Laboratory Supervisor

10-11-88



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FREMONT

COSTA MESA

• SACRAMENTO

HOUSTON

ANALYSIS REPORT

0212lab.frm

Report Prepared for:

Applied GeoSystems

43255 Mission Boulevard

Fremont, CA 94539

Attention: John T. Lambert

Date Received: Laboratory Number:

10-03-88 10003805

Project:

87091-3

Sample:

S-11-B4

Matrix:

Soil

Parameter	Resi (mg/kg)	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel Benzene Toluene Ethylbenzene Total Xylenes		2 0.05 0.05 0.05 0.05		10-04-88 10-04-88 10-04-88 10-04-88 10-04-88	

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10-11-88



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ANALYSIS REPORT

0212lab.frm

Date Received: Report Prepared for:

10-03-88

Applied GeoSystems 43255 Mission Boulevard Laboratory Number: 10003806

87091-3 Project:

Fremont, CA 94539

S-30.5-B4 Sample:

Attention: John T. Lambert

Matrix:

Soil

Parameter	Resu (mg/kg)	ılt (mg/L)	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel Benzene Toluene Ethylbenzene Total Xylenes	ND ND ND ND ND		2 0.05 0.05 0.05 0.05		10-04-88 10-04-88 10-04-88 10-04-88	

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= milligrams per liter = ppm.

= Not detected. Compound(s) may be present at ND

concentrations below the detection limit.

= Analysis not required. NR

PROCEDURES

TVH/BTEX--Total volatile hydrocarbons (TVH) and benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction according to EPA Method 5030 followed by analysis by a EPA Method 8020/602 (modified for TVH) which uses a gas chromatograph (GC) equipped with a photo-ionization detector (PID) and a flame-ionization detector (FID) in series. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TPH--Total petroleum hydrocarbons (low-to-medium boiling points) are measured by extraction according to EPA Method 5030 followed by analysis by a modified EPA Method 8015 which uses a GC equipped with an FID. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TEH -- Total extractable hydrocarbons (high boiling points) are measured by extraction according to EPA Method 3550 for soils or EPA Method 3510 for water followed by a modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Tia Tran, Laboratory Supervisor

10-11-88 Date Reported

APPLIED GEOSYSTEMS IS CERTIFIED BY THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY

CHAIN OF CUSTODY RECORD

SAMPLER (sign Saut: Phone: LABORATORY:	Applies (jeosysten.	43255 Mission Blvd.			5) 651-19
Attention: Phone No. 4	TIME: 2 John lamb 5.651-1906	erL.	Date Shipped Service Used Airbill No			
Relinquished by	: (signatures)		Received by: (Signatures)	1	Date 5 Sept 88	8:43
LABORATORY	SHOULD SIGN UP	ON RECEIPT	AND RETURN A COPY CATORY RESULTS		10-5-88 NTH THE	
Sample No.	Site Identification	Date Sampled	Analyses Requested		ie Conditi on Receip	
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43255 Mission Boulevard, Fremont, CA 94539 (415) 651-1906

FREMONT

COSTA MESA

SACRAMENTO

HOUSTON

ANALYSIS REPORT

02121ab.frm

Report Prepared for: Applied GeoSystems 43255 Mission Blvd.

Date Received: Laboratory Number:10008W01

10-05-88

Project: Sample:

87091-3 W-37-MW2

Fremont, CA 94539

ND

Matrix:

Water

Attention: John T. Lambert

Parameter	Resu (mg/kg)	•	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel Benzene Toluene Ethylbenzene Total Xylenes		1.76 0.0478 0.0074 0.0209 0.0816		0.02 0.0005 0.0005 0.0005 0.0005	10-06-88 10-06-88 10-06-88 10-06-88	NR NR

mg/kg = milligrams per kilogram = parts per million (ppm).

= milligrams per liter = ppm.

= Not detected. Compound(s) may be present at

concentrations below the detection limit.

NR = Analysis not required.

PROCEDURES

TVH/BTEX--Total volatile hydrocarbons (TVH) and benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction according to EPA Method 5030 followed by analysis by a EPA Method 8020/602 (modified for TVH) which uses a gas chromatograph (GC) equipped with a photo-ionization detector (PID) and a flame-ionization detector (FID) in series. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TPH--Total petroleum hydrocarbons (low-to-medium boiling points) are measured by extraction according to EPA Method 5030 followed by analysis by a modified EPA Method 8015 which uses a GC equipped with an FID. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TEH -- Total extractable hydrocarbons (high boiling points) are measured by extraction according to EPA Method 3550 for soils or EPA Method 3510 for water followed by a modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Tia Tran, Laboratory Supervisor

10-13-88



Attention: John T. Lambert

43255 Mission Boulevard, Fremont, CA 94539 (415) 651-1906

FREMONT

COSTA MESA

SACRAMENTO

HOUSTON

ANALYSIS REPORT

02121ab.frm

Report Prepared for: Applied GeoSystems 43255 Mission Blvd. Fremont, CA 94539

Date Received: Laboratory Number: 10008W02

10-05-88

Project: Sample:

87091-3 W-37-MW3

Matrix:

Water

Parameter	Resu (mg/kg)	ılt (mg/L)	Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel Benzene Toluene Ethylbenzene Total Xylenes		61 1.06 3.38 1.52 8.72		1 0.05 0.05 0.05 0.05	10-06-88 10-06-88 10-06-88 10-06-88 10-06-88	NR NR

mg/kg = milligrams per kilogram = parts per million (ppm).

= milligrams per liter = ppm. mq/L

= Not detected. Compound(s) may be present at ND

concentrations below the detection limit.

= Analysis not required. NR

PROCEDURES

TVH/BTEX--Total volatile hydrocarbons (TVH) and benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction according to EPA Method 5030 followed by analysis by a EPA Method 8020/602 (modified for TVH) which uses a gas chromatograph (GC) equipped with a photo-ionization detector (PID) and a flame-ionization detector (FID) in series. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TPH--Total petroleum hydrocarbons (low-to-medium boiling points) are measured by extraction according to EPA Method 5030 followed by analysis by a modified EPA Method 8015 which uses a GC equipped with an FID. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TEH -- Total extractable hydrocarbons (high boiling points) are measured by extraction according to EPA Method 3550 for soils or EPA Method 3510 for water followed by a modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Tia Tran, Laboratory Supervisor

10-13-88



43255 Mission Boulevard, Fremont, CA 94539 (415) 651-1906

FREMONT

COSTA MESA

SACRAMENTO

HOUSTON

ANALYSIS REPORT

0212lab.frm Date Received: 10-05-88

Report Prepared for: Applied GeoSystems 43255 Mission Blvd.

Laboratory Number: 10008W03 Project:

87091-3

Fremont, CA 94539

Sample:

W-37-MW4

Attention: John T. Lambert

Matrix:

Water

Parameter	Resu (mg/kg)		Detection (mg/kg)	on Limit (mg/L)	Date Analyzed	Notes
TVH as Gasoline TPH as Gasoline TEH as Diesel Benzene Toluene Ethylbenzene Total Xylenes		ND ND ND ND ND		0.0005 0.0005	10-06-88 10-06-88 10-06-88 10-06-88	NR NR

mg/kg = milligrams per kilogram = parts per million (ppm).

mg/L = milligrams per liter = ppm.

= Not detected. Compound(s) may be present at ND

concentrations below the detection limit.

= Analysis not required.

PROCEDURES

TVH/BTEX--Total volatile hydrocarbons (TVH) and benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction according to EPA Method 5030 followed by analysis by a EPA Method 8020/602 (modified for TVH) which uses a gas chromatograph (GC) equipped with a photo-ionization detector (PID) and a flame-ionization detector (FID) in series. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TPH--Total petroleum hydrocarbons (low-to-medium boiling points) are measured by extraction according to EPA Method 5030 followed by analysis by a modified EPA Method 8015 which uses a GC equipped with an FID. Soil extracts and water samples are subjected to purge-and-trap introduction into the GC.

TEH--Total extractable hydrocarbons (high boiling points) are measured by extraction according to EPA Method 3550 for soils or EPA Method 3510 for water followed by a modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Tia Tran, Laboratory Supervisor

10-13-88

ATTACHMENT 4

3Q10 M&S Analyticals (29 pp)

Table 1
CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
September 30, 2010
76 Station 5367

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness		Change in Elevation	TPH-G 8015	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	$(\mu g/l)$	(µg/l)	
MW-1 9/30/201	10 57.83	30.63	(Scree 0.00	en Interva 27.20	l in feet: 10. -1.95	0-35.0) 	6600	6.9	ND<5.0	510	38		ND<5.0	
MW-2 9/30/201	10 58.13	30.48	(Scree 0.00	en Interva 27.65	l in feet: 28. 0	0-48.0) 	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
MW-3 9/30/201	10 57.92	30.13	(Scree 0.00	en Interva 27.79	l in feet: 23.0 -1.95	0-48.0) 	99	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
MW-4 9/30/201	10 58.29	31.43	(Scree 0.00	en Interva 26.86	l in feet: 23. -2.29	0-48.0)	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
MW-5 9/30/201	10 58.50	31.10	(Scree 0.00	en Interva 27.40	l in feet: 25. 0 -1.97	0-45.0) 	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
MW-6 9/30/201	10 56.96	29.88	(Scree 0.00	en Interva 27.08	l in feet: 25. 0	0-45-0) 	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
MW-7 9/30/201	10 57.25	30.22	(Scree 0.00	en Interva 27.03	l in feet: 24. 0 -2.26	0-44.0) 	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
MW-8 9/30/201	10 57.71	30.52	(Scree 0.00	en Interva 27.19	l in feet: 24. 0 -2.17	0-44.0) 	130	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
MW-9 9/30/201	10 56.47	29.23	(Scree 0.00	en Interva 27.24	l in feet: 20. -1.94	0-45.0)	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
MW-10 9/30/201	10 58.94	31.90	(Scree 0.00	en Interva 27.04	l in feet: 20. 0	0-45.0) 	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	



Page 1 of 1



Date of Report: 10/13/2010

Anju Farfan

TRC 123 Technology Drive Irvine, CA 92618

RE: 5367

BC Work Order: 1013706 Invoice ID: B088291

Enclosed are the results of analyses for samples received by the laboratory on 9/30/2010. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Authorized Signature

Certifications: CA ELAP #1186; NV #CA00014



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Environmental Testing Laboratory Since 1949

Chain of Custody and Cooler Receipt Form for 1013706 Page 1 of 3

BC LABORATORIES, INC.

4100 Atlas Court (661) 327-4911

Bakersfield, CA 93308 FAX (661) 327-1918

CHAIN OF CUSTODY

		10-13	10	Ý			An	aly	/sis	Re	que	este	ed			
Bill to: C	Conoco Phillips/ TRC	Consultant Firm: TR	С		MATRIX (GW)	2						8	1			
Address	::500 Bancroff Ave.	21 Technology Drive Irvine, CA 92618-230 Attn: Anju Farfan			Ground water (S) Soil	, Gas by 8015			nates	BY 8260B		FOR LEDY by 8260R				nested
City:	San Leandro	4-digit site#: 536 Workorder # 0/400		12941504	(WW) Waste- water	by 8021B,	TPH GAS by 8015M	by 8015	8260 full list w/ oxygenates		ETHANOL by 8260B	GC/MS, E	١.			Turnaround Time Requested
State: C	A Zip:	Project #: 173845			(SL)	BE b	by 8	Ë	istv	BEA	yd -	by GC	504			nd T
Сопосо	Phillips Mgr: Bill Borgh	Sampler Name: ∮	Yidi	ers	Sludge	LW5	GAS	DIES	1	CMT	No.	ရှ	.2	-		aron
Lab#	Sample Description	Field Point Name		Date & Time Sampled		BTEX/MTBE	TPH	TPH DIESEL	8260	BTEX/MTBE/S	ETH/	TPH	638			Turn
-1		Mw-9	09	30/10 0729	3					X		X				ST))
-2		Mw-g		1 0819	6					1	_	1	X			
-3 -4		MW-P		6755	Ь						_	Ш	X			
4		Mw-10		0842	3							Ц				
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Chain of Custody and Cooler Receipt Form for 1013706 Laboratories, CHAIN OF CUSTODY Inc.

(661) 327-4911 FAX (661) 327-1918 **Analysis Requested** 10-13300 MATRIX Bill to: Conoco Phillips/ TRC Consultant Firm: TRC 8015 (GW) Address: 500 21 Technology Drive Ground EDIB/GDC by ğ Irvine, CA 92618-2302 water BY 8260B **Turnaround Time Requested** Gas 8260 full list w/ oxygenates Attn: Anju Farfan (S) Soil BTEX/MTBE by 8021B, 4-digit site#: 5367 TPH DIESEL by 8015 City: (WW) San Leandini ETHANOL by 8260B TPH GAS by 8015M GC/MS Waste-Workorder # 01400 -4512941504 water BTEX/MTBE/ 173945 State: CA Zip: Project #: (SL) -G by Sludge Viduers Conoco Phillips Mgr: Ki Sampler Name: Ŧ Sample Description Date & Time Lab# Field Point Name Sampled SID 043010 NW-1110 X 6 \times 048 NW-DISTRIBUTION WE WY SUB-OUT Relinguished by: (Signature) Date, & Time Comments: Date & Time 1-30 10 1820 Relinquished by: (Signature) GLOBAL ID: T0600101479 Relinquished by: (Signature) Date & Time Received by

Bakersfield, CA 93308

4100 Atlas Court

BC LABORATORIES, INC.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interprety and the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interprety and the submitted party interprety and submitted party interprety and submitted party interprety.





Chain of Custody and Cooler Receipt Form for 1013706 Page 3 of 3

SHIPPING INFOR Federal Express □ UPS □ F BC Lab Field Service 5 Other □	land Deliv	very 🗆		ı	ce Chest) Box (p⊊.	NG CONT Non Othe		ify)	
Refrigerant: Ice-Ø Blue Ice □	None	□ Otl	ner□ (Comment	s:					
	Containe	-	None p	Comme	nts:				00	,
All samples received? Yes € No □ A	All samples	containers	intact? Y	es@DNot	J .	Descripti	ion(s) mate	th COC? Y	es 8 No	
COC Received Em	nissivity: _(<u>0,98</u> 0	ontainer: _	J001 1	hermomet 43	er ID: <u>\\</u>		Date/Time	08-P Wull tin	~l0
SAMPLE CONTAINERS	<u> </u>				SAMPLE	UMBERS				
OT GENERAL MINERAL GENERAL PHYSICAL	1	2	3	4	5	6	7	8		10
PT PE UNPRESERVED	,								-	
QT INORGANIC CHEMICAL METALS					-					
PT INORGANIC CHEMICAL METALS										<u> </u>
PT CYANIDE										
PT NITROGEN FORMS						·				-
PT TOTAL SULFIDE										
2oz, NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
РТ ТОХ						,				
PT CHEMICAL OXYGEN DEMAND			,							
PIA PHENOLICS										
40mi VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A 13	AW	Me.	N-3	_A 3.	A-3	A 3.	A.3	A3	170
QT EPA 413.1, 413.2, 418.1										
PT OBOR										
RADIOLOGICAL.										
BACTERIOLOGICAL				-1						
40 ml VOA VIA1- 504									-	
QT EPA SQB/608/8080										-
QT EPA.515.1/8150						,			-	
QT EPA 525										
OT EPA \$25 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1			-		· ·	<u> </u>				
OT EPA 548										
Q1 E1 X 34)										
QT EPA 632 QT EPA 8015M					-					
QT AMBER										
8 OZ. JAR										
32 OZ, JAR									-	
SOIL SLEEVE				-						
PCB VIAL										-
PLASTIC BAG	mer i serveri da a di					,		_ 7		_
FERROUS IRON								-	-	1
ENCORE										



TRC

123 Technology Drive Irvine, CA 92618 Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Informati	on		
1013706-01	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 5367 MW-9 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix: Delivery Work Ord: Global ID: T06001 Location ID (FieldF Matrix: W Sample QC Type (Cooler ID:	01479 Point): MW-9
1013706-02	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 5367 MW-8 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix: Delivery Work Ord Global ID: T06001 Location ID (FieldF Matrix: W Sample QC Type (Cooler ID:	01479 Point): MW-8
1013706-03	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 5367 MW-6 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix: Delivery Work Ord Global ID: T06001 Location ID (FieldF Matrix: W Sample QC Type (Cooler ID:	01479 Point): MW-6
1013706-04	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 5367 MW-10 TRCI	Receive Date: Sampling Date: Sample Depth: Sample Matrix: Delivery Work Ord: Global ID: T06001 Location ID (FieldF Matrix: W Sample QC Type (Cooler ID:	01479 Point): MW-10



TRC Reported: 10/13/2010 14:46

123 Technology Drive Project: 5367
Irvine, CA 92618 Project Number: 4512941504
Project Manager: Anju Farfan

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information** 1013706-05 09/30/2010 21:30 COC Number: Receive Date: 5367 09/30/2010 09:21 **Project Number:** Sampling Date: Sampling Location: Sample Depth: Sampling Point: MW-4 Water Sample Matrix: Sampled By: **TRCI** Delivery Work Order: Global ID: T0600101479 Location ID (FieldPoint): MW-4 Matrix: W Sample QC Type (SACode): CS Cooler ID: 1013706-06 **COC Number:** Receive Date: 09/30/2010 21:30 **Project Number:** Sampling Date: 09/30/2010 09:48 5367 Sampling Location: Sample Depth: MW-3 Water Sampling Point: Sample Matrix: TRCI Delivery Work Order: Sampled By: Global ID: T0600101479 Location ID (FieldPoint): MW-3 Matrix: W Sample QC Type (SACode): CS Cooler ID: 1013706-07 **COC Number:** 09/30/2010 21:30 Receive Date: 09/30/2010 10:33 **Project Number:** 5367 Sampling Date: Sampling Location: Sample Depth: MW-2 Water Sampling Point: Sample Matrix: Sampled By: TRCI Delivery Work Order: Global ID: T0600101479 Location ID (FieldPoint): MW-2 Matrix: W Sample QC Type (SACode): CS Cooler ID: 1013706-08 **COC Number:** Receive Date: 09/30/2010 21:30 **Project Number:** 5367 Sampling Date: 09/30/2010 10:06 Sampling Location: Sample Depth: MW-5 Water Sampling Point: Sample Matrix: **TRCI** Delivery Work Order: Sampled By: Global ID: T0600101479 Location ID (FieldPoint): MW-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:



TRC

123 Technology Drive Irvine, CA 92618 Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1013706-09 COC Number: --

Project Number: 5367
Sampling Location: --Sampling Point: MW-7
Sampled By: TRCI

Receive Date: 09/30/2010 21:30 **Sampling Date:** 09/30/2010 11:10

Sample Depth: --Sample Matrix: Water
Delivery Work Order:

Global ID: T0600101479 Location ID (FieldPoint): MW-7

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1013706-10 COC Number: --

Project Number: 5367
Sampling Location: --Sampling Point: MW-1
Sampled By: TRCI

Receive Date: 09/30/2010 21:30 **Sampling Date:** 09/30/2010 10:48

Sample Depth: --Sample Matrix: Water
Delivery Work Order:
Global ID: T0600101479

Matrix: W

Sample QC Type (SACode): CS

Location ID (FieldPoint): MW-1

Cooler ID:

123 Technology Drive Irvine, CA 92618 **Reported:** 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

BCL Sample ID: 1	013706-01	Client Sample	e Name:	5367, MW-9, 9/30/2	010 7:29:00AM			
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene		ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether		ND	ug/L	0.50	EPA-8260	ND		1
Toluene		ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes		ND	ug/L	1.0	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons		ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surr	ogate)	106	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)		85.4	%	88 - 110 (LCL - UCL)	EPA-8260		A20,S09	1
4-Bromofluorobenzene (Suri	ogate)	94.9	%	86 - 115 (LCL - UCL)	EPA-8260			1

				Run			QC			
Rur	n #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	1	EPA-8260	10/05/10	10/05/10 21:02	KEA	MS-V10	1	BTJ0204		

123 Technology Drive Irvine, CA 92618 Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

EDB/DBCP Analysis (EPA Method 504.1)

BCL Sample ID:	1013706-02	Client Sample	e Name:	5367, MW-8,	9/30/2010 8:19:00AM			
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run#
Ethylene dibromide		ND	ug/L	0.010	EPA-504.1	ND		1

			Run			QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-504.1	10/12/10	10/12/10 15:59	VH1	GC-4	0.945	BTJ0729		

123 Technology Drive Irvine, CA 92618 Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

BCL Sample ID: 101	3706-02	Client Samp	le Name:	5367, MW-8, 9/30/2	2010 8:19:00AM			
Constituent	-	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene		ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether		ND	ug/L	0.50	EPA-8260	ND		1
Toluene		ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes		ND	ug/L	1.0	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons		130	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrog	ate)	103	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)		94.4	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrog	gate)	100	%	86 - 115 (LCL - UCL)	EPA-8260			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260	10/05/10	10/05/10 20:44	KEA	MS-V10	1	BTJ0204	

123 Technology Drive Irvine, CA 92618 Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

EDB/DBCP Analysis (EPA Method 504.1)

BCL Sample ID:	1013706-03	Client Sampl	e Name:	5367, MW-6,	9/30/2010 7:55:00AM			
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Ethylene dibromide		ND	ug/L	0.010	EPA-504.1	ND		1

			Run			QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-504.1	10/12/10	10/12/10 16:13	VH1	GC-4	0.942	BTJ0729		

123 Technology Drive Irvine, CA 92618 Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

BCL Sample ID: 10	13706-03	Client Sampl	e Name:	5367, MW-6, 9/30/2	010 7:55:00AM			
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run#
Benzene		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene		ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether		ND	ug/L	0.50	EPA-8260	ND		1
Toluene		ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes		ND	ug/L	1.0	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons		ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surro	gate)	102	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)		88.9	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surro	gate)	95.3	%	86 - 115 (LCL - UCL)	EPA-8260			1

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8260	10/05/10	10/05/10 20:26	KEA	MS-V10	1	BTJ0204		

123 Technology Drive Irvine, CA 92618 Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

BCL Sample ID: 1013706-04	Client Sample	e Name:	5367, MW-10, 9/30/	2010 8:42:00AM			
Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	102	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	79.1	%	88 - 110 (LCL - UCL)	EPA-8260		A20,S09	1
4-Bromofluorobenzene (Surrogate)	94.4	%	86 - 115 (LCL - UCL)	EPA-8260			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260	10/05/10	10/05/10 20:09	KEA	MS-V10	1	BTJ0204	

TRC Reported: 10/13/2010 14:46

123 Technology DriveProject: 5367Irvine, CA 92618Project Number: 4512941504Project Manager: Anju Farfan

BCL Sample ID: 1013706-05	Client Sample	e Name:	5367, MW-4, 9/30/2	010 9:21:00AM			
Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run#
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	101	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	95.8	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	101	%	86 - 115 (LCL - UCL)	EPA-8260			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260	10/05/10	10/05/10 19:51	KEA	MS-V10	1	BTJ0204	

TRC 123 Technology Drive Irvine, CA 92618 Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

BCL Sample ID: 1013706-06	Client Sample	e Name:	5367, MW-3, 9/30/2	010 9:48:00AM			
Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	99	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	96.0	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	98.0	%	86 - 115 (LCL - UCL)	EPA-8260			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260	10/05/10	10/05/10 19:33	KEA	MS-V10	1	BTJ0204	

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 123 Technology Drive
 Project:
 5367

Irvine, CA 92618 Project Number: 4512941504
Project Manager: Anju Farfan

BCL Sample ID: 10137	706-07	Client Sampl	e Name:	5367, MW-2, 9/30/2	2010 10:33:00AM			
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run#
Benzene		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene		ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether		ND	ug/L	0.50	EPA-8260	ND		1
Toluene		ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes		ND	ug/L	1.0	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons		ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate	e)	102	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)		97.7	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate	e)	99.2	%	86 - 115 (LCL - UCL)	EPA-8260			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260	10/05/10	10/05/10 19:15	KEA	MS-V10	1	BTJ0204	

 TRC
 Reported:
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 123 Technology Drive
 Project:
 5367

123 Technology DriveProject:5367Irvine, CA 92618Project Number:4512941504Project Manager:Anju Farfan

BCL Sample ID: 1013706-08	Client Sample	Name:	5367, MW-5, 9/30/2	010 10:06:00AM			
Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	100	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	88.9	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	101	%	86 - 115 (LCL - UCL)	EPA-8260			1

			Run				QC	_
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260	10/05/10	10/05/10 18:57	KEA	MS-V10	1	BTJ0204	

 TRC
 Reported:
 10/13/2010
 14:46

 123 Technology Drive
 Project:
 5367

Irvine, CA 92618 Project Number: 4512941504
Project Manager: Anju Farfan

BCL Sample ID: 1013	706-09 Client Sar	mple Name:	5367, MW-7, 9/30	/2010 11:10:00AM			
Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate	e) 102	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	88.6	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogat	te) 98.4	%	86 - 115 (LCL - UCL)	EPA-8260			1

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260	10/05/10	10/05/10 18:39	KEA	MS-V10	1	BTJ0204	

123 Technology Drive Irvine, CA 92618 Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

EDB/DBCP Analysis (EPA Method 504.1)

BCL Sample ID:	1013706-10	Client Sample	e Name:	5367, MW-1,	9/30/2010 10:48:00AM			
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run#
Ethylene dibromide		ND	ug/L	0.010	EPA-504.1	ND		1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-504.1	10/12/10	10/12/10 16:28	VH1	GC-4	0.946	BTJ0729	

123 Technology Drive Irvine, CA 92618 Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

BCL Sample ID: 1013706-10	Client Sample	e Name:	5367, MW-1, 9/30/2	010 10:48:00AM			
Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run#
Benzene	6.9	ug/L	5.0	EPA-8260	ND	A01	1
1,2-Dibromoethane	ND	ug/L	5.0	EPA-8260	ND	A01	1
1,2-Dichloroethane	ND	ug/L	5.0	EPA-8260	ND	A01	1
Ethylbenzene	510	ug/L	5.0	EPA-8260	ND	A01	1
Methyl t-butyl ether	ND	ug/L	5.0	EPA-8260	ND	A01	1
Toluene	ND	ug/L	5.0	EPA-8260	ND	A01	1
Total Xylenes	38	ug/L	10	EPA-8260	ND	A01	1
Total Purgeable Petroleum Hydrocarbons	6600	ug/L	500	Luft-GC/MS	ND	A01	1
1,2-Dichloroethane-d4 (Surrogate)	102	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	92.2	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	100	%	86 - 115 (LCL - UCL)	EPA-8260			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260	10/05/10	10/05/10 18:21	KEA	MS-V10	10	BTJ0204	



123 Technology Drive Irvine, CA 92618 **Reported:** 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

EDB/DBCP Analysis (EPA Method 504.1)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BTJ0729						
Ethylene dibromide	BTJ0729-BLK1	ND	ug/L	0.010		



123 Technology Drive Irvine, CA 92618 Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

EDB/DBCP Analysis (EPA Method 504.1)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control I Percent Recovery	Lab Quals	
QC Batch ID: BTJ0729										
Ethylene dibromide	BTJ0729-BS1	LCS	0.34953	0.35714	ug/L	97.9		59 - 140		



Reported: 10/13/2010 14:46

123 Technology Drive Project: 5367
Irvine, CA 92618 Project Number: 4512941504
Project Manager: Anju Farfan

EDB/DBCP Analysis (EPA Method 504.1)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: BTJ0729	Use	d client samp	ole: N								
Ethylene dibromide	MS	1013191-46	ND	0.32239	0.35714	ug/L		90.3		51 - 141	
	MSD	1013191-46	ND	0.35430	0.35714	ug/L	9.4	99.2	30	51 - 141	



Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

TRC 123 Technology Drive Irvine, CA 92618

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BTJ0204						
Benzene	BTJ0204-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BTJ0204-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BTJ0204-BLK1	ND	ug/L	0.50		
Ethylbenzene	BTJ0204-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BTJ0204-BLK1	ND	ug/L	0.50		
Toluene	BTJ0204-BLK1	ND	ug/L	0.50		
Total Xylenes	BTJ0204-BLK1	ND	ug/L	1.0		
Total Purgeable Petroleum Hydrocarbons	BTJ0204-BLK1	ND	ug/L	50		
1,2-Dichloroethane-d4 (Surrogate)	BTJ0204-BLK1	103	%	76 - 114	(LCL - UCL)	
Toluene-d8 (Surrogate)	BTJ0204-BLK1	98.8	%	88 - 110	(LCL - UCL)	
4-Bromofluorobenzene (Surrogate)	BTJ0204-BLK1	98.3	%	86 - 115	(LCL - UCL)	



123 Technology Drive Irvine, CA 92618 Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

								Control I	imits	
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
QC Batch ID: BTJ0204										
Benzene	BTJ0204-BS1	LCS	25.550	25.000	ug/L	102		70 - 130		
Toluene	BTJ0204-BS1	LCS	27.460	25.000	ug/L	110		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BTJ0204-BS1	LCS	10.100	10.000	ug/L	101		76 - 114		
Toluene-d8 (Surrogate)	BTJ0204-BS1	LCS	10.140	10.000	ug/L	101		88 - 110		
4-Bromofluorobenzene (Surrogate)	BTJ0204-BS1	LCS	10.060	10.000	ug/L	101		86 - 115		



123 Technology Drive Irvine, CA 92618 Reported: 10/13/2010 14:46

Project: 5367

Project Number: 4512941504 Project Manager: Anju Farfan

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

		·		·		•		·	Cont	rol Limits	
ent	Туре	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	RPD	Percent Recovery	Lab Quals
Batch ID: BTJ0204	Used	d client samp	ole: N								
	MS	1013191-51	ND	26.930	25.000	ug/L		108		70 - 130	
	MSD	1013191-51	ND	22.590	25.000	ug/L	17.5	90.4	20	70 - 130	
	MS	1013191-51	ND	28.420	25.000	ug/L		114		70 - 130	
	MSD	1013191-51	ND	24.080	25.000	ug/L	16.5	96.3	20	70 - 130	
proethane-d4 (Surrogate)	MS	1013191-51	ND	10.140	10.000	ug/L		101		76 - 114	
	MSD	1013191-51	ND	10.370	10.000	ug/L		104		76 - 114	
l8 (Surrogate)	MS	1013191-51	ND	9.9100	10.000	ug/L		99.1		88 - 110	
	MSD	1013191-51	ND	10.020	10.000	ug/L		100		88 - 110	
uorobenzene (Surrogate)	MS	1013191-51	ND	10.080	10.000	ug/L		101		86 - 115	
	MSD	1013191-51	ND	9.7600	10.000	ug/L		97.6		86 - 115	
	MS MSD MS	1013191-51 1013191-51 1013191-51	ND ND	9.9100 10.020 10.080	10.000 10.000 10.000	ug/L ug/L ug/L		99.1 100 101		88 - 1 88 - 1 86 - 1	10 10 15



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123 Technology Drive Project: 5367
Irvine, CA 92618 Project Number: 4512941504
Project Manager: Anju Farfan

Notes And Definitions

MDL Method Detection Limit

ND Analyte Not Detected at or above the reporting limit

PQL Practical Quantitation Limit
RPD Relative Percent Difference

A01 PQL's and MDL's are raised due to sample dilution.

A20 Surrogate is low due to matrix interference. Interference verified through second extraction/analysis.

S09 The surrogate recovery on the sample for this compound was not within the control limits.

ATTACHMENT 5

PEG 1998 Soil Analyticals (18 pp)

Table 1
Soil Analytical Data

76 Service Station 5367 500 Bancroft Avenue at Dowling Boulevard San Leandro, California

	Sample		TPPH as			Ethyl-	Total	TEPH as		TTLC
Sample	Depth	Date	Gasoline	Benzene	Toluene	Benzene	Xylenes	Diesel	MtBE	Lead
D	(feet)	Sampled	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
				, =						
In-Situ Soil S	Samples:									
P-1	3	10/26/98	ND	ND	ND	ND	ND	3.1 ⁽¹⁾	ND	10
P-2	4	10/26/98	ND	ND	ND	ND	ND	ND	ND	10
P-3	5-1/2	10/26/98	ND	ND	ND	ND	ND	1.8 ⁽¹⁾	ND	8.8
P-4	5	10/26/98	ND	ND	ND	ND	ND	1.0 ⁽¹⁾	ND	8.6
P-5	4-1/2	10/26/98	ND	ND	ND	ND	NĎ	ND	ND	6.8
P-6	4	10/26/98	ND	ND	ND	ND	ND	ND	ND	9.2
	Soil Samples:									
SP(1-4)	NA	10/26/98	ND	ND	ND	ND	0.040	ND	ND	11
TPPH	= Total purge	eable petroleun	n hydrocarbon	s			_		<u> </u>	
MtBE	= Methyl tert	•	•							
TEPH	= Total extra	ctable petroleu	m hydrocarbo	ns						
TTLC	Total thres	hold limit conc	entration							
ppm	= Parts per r	nillion								
ND	 Not detected 	ed								
NA	= Not applica									
(1)		romatograph p			-					
	Detection lim	its are indicate	d in certified a	nalytical repor	ts.					



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110

311-127.1B/5367, 500 Bancoft Client Proj. ID: Sample Descript: P-1

Sampled: 10/26/98 Received: 10/27/98 Extracted: 11/03/98

Matrix: SOLID Analysis Method: 8015Mod/8020

Analyzed: 11/04/98

Attention: Tina Berry

Lab Number: 9810177-01

Reported: 11/06/98

QC Batch Number: GC110398BTEXEXB

Instrument ID: GCHP7

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	1.0 0.025 0.0050 0.0050 0.0050 0.0050	N.D. N.D. N.D. N.D. N.D. N.D.
Surrogates Trifluorotoluene 4-Bromofluorobenzene	Control Limits % 70 130 60 140	% Recovery 100 78

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher Project Manager



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(650) 364-9600

FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 311-127.1B/5367, 500 Bancoft

Sampled: 10/26/98 Received: 10/27/98 Extracted: 10/29/98 Analyzed: 11/03/98 Reported: 11/06/98

Attention: Tina Berry

Client Proj. ID: 311-Sample Descript: P-1 Matrix: SOLID

Analysis Method: EPA 8015 Mod Lab Number: 9810177-01

QC Batch Number: GC1029980HBPEXC

Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	\$	Sample Results mg/Kg
TEPH as Diesel	1.0		. 3.1
Chromatogram Pattern: Unidentified HC		***************************************	. C9-C24
Surrogates	Control Limits %	%	Recovery
n-Pentacosane (C25)	50	150	8Õ

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher Project Manager



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110

Client Proj. ID: 311-Sample Descript: P-2 311-127.1B/5367, 500 Bancoft Matrix: SOLID

Sampled: 10/26/98 Received: 10/27/98 Extracted: 11/03/98

Analyzed: 11/04/98

Attention: Tina Berry

Analysis Method: 8015Mod/8020 Lab Number: 9810l77-02

Reported: 11/06/98

QC Batch Number: GC110398BTEXEXB

Instrument ID: GCHP7

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	1.0 0.025 0.0050 0.0050 0.0050 0.0050	N.D. N.D. N.D. N.D. N.D. N.D.
Surrogates Trifluorotoluene 4-Bromofluorobenzene	Control Limits % 70 130 60 140	% Recovery 107 90

Analytes reported as N.D. were not present above the stated limit of detection.

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Tod Granicher Project Manager



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FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Client Proj. ID: 311-Sample Descript: P-2 311-127.1B/5367, 500 Bancoft

Matrix: SOLID

Sampled: 10/26/98 Received: 10/27/98 Extracted: 10/29/98 Analyzed: 11/03/98 Reported: 11/06/98

Analysis Method: EPA 8015 Mod Lab Number: 9810177-02

QC Batch Number: GC1029980HBPEXC

Instrument ID: GCHP4B

Attention: Tina Berry

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte **Detection Limit** Sample Results mg/Kg mg/Kg **TEPH** as Diesel 1.0 N.D. Chromatogram Pattern: Control Limits % % Recovery 99 Surrogates 150 n-Pentacosane (C25)

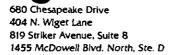
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher Project Manager

Page:





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Pacific Environmental Group 2025 Gateway Piace, Suite 440 San Jose, CA 95110

Client Proj. ID: 311-Sample Descript: P-3 Matrix: SOLID 311-127.1B/5367, 500 Bancoft Sampled: 10/26/98 Received: 10/27/98 Extracted: 11/03/98

Analysis Method: 8015Mod/8020 Lab Number: 9810177-03

Attention: Tina Berry

Analyzed: 11/04/98 Reported: 11/06/98

QC Batch Number: GC110398BTEXEXB Instrument ID: GCHP7

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	1.0 0.025 0.0050 0.0050 0.0050 0.0050	N.D. N.D. N.D. N.D. N.D.
Surrogates Trifluorotoluene 4-Bromofluorobenzene	Control Limits % 70 130 60 140	% Recovery 101 88

Analytes reported as N.D. were not present above the stated limit of detection.

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Tod Granicher Project Manager



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110

Client Proj. ID: 311-127.1B/5367, 500 Bancoft

Sample Descript: P-3
Matrix: SOLID
Analysis Method: EPA 8015 Mod
Lab Number: 9810177-03

Sampled: 10/26/98 Received: 10/27/98 Extracted: 10/29/98 Analyzed: 11/03/98 Reported: 11/06/98

Attention: Tina Berry

QC Batch Number: GC1029980HBPEXC Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	S	ample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	***************	1.8
Unidentified HC	***************************************	***************************************	C9-C24
Surrogates (Cost)	Control Limits %		Recovery
n-Pentacosane (C25)	50	150	9/

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher Project Manager



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Sample Descript: P-4
Matrix: SOLID
Analysis M-4

Sampled: 10/26/98 Received: 10/27/98 Extracted: 11/03/98

Analysis Method: 8015Mod/8020

Attention: Tina Berry Lab Number: 9810177-04 Analyzed: 11/04/98 Reported: 11/06/98

QC Batch Number: GC110398BTEXEXB Instrument ID: GCHP7

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	1.0 0.025 0.0050 0.0060 0.0050 0.0050	N.D. N.D. N.D. N.D. N.D. N.D.
Surrogates Trifluorotoluene 4-Bromofluorobenzene	Control Limits % 70 130 60 140	% Recovery 101 93

Analytes reported as N.D. were not present above the stated limit of detection.

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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Client Proj. ID: 311-127.1B/5367, 500 Bancoft Sample Descript: P-4 Matrix: SOLID

Analysis Method: EPA 8015 Mod

Sampled: 10/26/98 Received: 10/27/98 Extracted: 10/29/98 Analyzed: 11/03/98 Reported: 11/06/98

Lab Number: 9810177-04 Attention: Tina Berry

QC Batch Number: GC1029980HBPEXC

Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

£33

Analyte	Detection Limit mg/Kg	S	Sample Results mg/Kg
TEPH as Diesel	1.0		. 1.0
Chromatogram Pattern: Unidentified HC	***************************************	••••	. C9-C24
Surrogates (2.5)	Control Limits %		Recovery
n-Pentacosane (C25)	50	150	90

Analytes reported as N.D. were not present above the stated limit of detection.

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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110

311-127.1B/5367, 500 Bancoft Client Proj. ID:

Sampled: 10/26/98 Received: 10/27/98 Extracted: 11/03/98 Analyzed: 11/04/98 Reported: 11/06/98

Sample Descript: P-5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9810177-05

Attention: Tina Berry

QC Batch Number: GC110398BTEXEXB Instrument ID: GCHP7

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	1.0 0.025 0.0050 0.0050 0.0050 0.0050	N.D. N.D. N.D. N.D. N.D. N.D.
Surrogates Trifluorotoluene 4-Bromofluorobenzene	Control Limits % 70 130 60 140	% Recovery 97 80

Analytes reported as N.D. were not present above the stated limit of detection.

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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Client Proj. ID: 311-127.1B/5367, 500 Bancoft

Sample Descript: P-5 Matrix: SOLID

Analysis Method: EPA 8015 Mod Lab Number: 9810177-05

Sampled: 10/26/98 Received: 10/27/98 Extracted: 10/29/98 Analyzed: 11/03/98 Reported: 11/06/98

QC Batch Number: GC1029980HBPEXC

Instrument ID: GCHP4A

Attention: Tina Berry

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	N.D.
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 88

Analytes reported as N.D. were not present above the stated limit of detection.

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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110

311-127.1B/5367, 500 Bancoft Client Proj. ID: Sample Descript: P-6 Matrix: SOLID

Sampled: 10/26/98 Received: 10/27/98 Extracted: 11/03/98 Analyzed: 11/04/98 Reported: 11/06/98

Attention: Tina Berry

Analysis Method: 8015Mod/8020 Lab Number: 9810177-06

QC Batch Number: GC110398BTEXEXB

Instrument ID: GCHP7

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	1.0 0.025 0.0050 0.0050 0.0050 0.0050	N.D. N.D. N.D. N.D. N.D. N.D.
Surrogates Trifluorotoluene 4-Bromofluorobenzene	Control Limits % 70 130 60 140	% Recovery 102 98

Analytes reported as N.D. were not present above the stated limit of detection.

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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Client Proj. ID: 311-Sample Descript: P-6 Matrix: SOLID 311-127.1B/5367, 500 Bancoft

Sampled: 10/26/98 Received: 10/27/98 Extracted: 10/29/98

Attention: Tina Berry

Analysis Method: EPA 8015 Mod

Analyzed: 11/03/98 Reported: 11/06/98

Lab Number: 9810177-06

QC Batch Number: GC1029980HBPEXC

Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

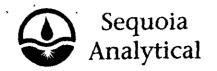
Analyte **Detection Limit** Sample Results mg/Kg mg/Kg TEPH as Diesel 1.0 N.D. Chromatogram Pattern: **Control Limits %** Surrogates % Recovery n-Pentacosane (C25) 150

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Client Proj. ID: 311-127.1B/5367, 500 Bancoft Sample Descript: SP(1-4) Comp

Sampled: 10/26/98 Received: 10/27/98

an Jose, CA 95110 Matrix: SOLID

Extracted: 11/03/98 Analyzed: 11/05/98 Reported: 11/06/98

Attention: Tina Berry

Analysis Method: 8015Mod/8020 Lab Number: 9810177-07

QC Batch Number: GC110398BTEXEXB

Instrument ID: GCHP31

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	1.0 0.025 0.0050 0.0050 0.0050 	N.D. N.D. N.D. N.D. N.D. 0.040

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	99
4-Bromofluorobenzene	60	140	90

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110

Client Proj. ID: 311-127.1B/5367, 500 Bancoft Sample Descript: SP(1-4) Comp

Sampled: 10/26/98 Received: 10/27/98 Extracted: 10/29/98

Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9810177-07

Analyzed: 11/03/98 Reported: 11/06/98

Attention: Tina Berry

QC Batch Number: GC1029980HBPEXC

Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Detection Limit Sample Results Analyte mg/Kg mg/Kg **TEPH** as Diesel 1.0 N.D. Chromatogram Pattern: Surrogates **Control Limits %** % Recovery n-Pentacosane (C25) 50 150

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher Project Manager

Page:



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Pacific Environmental Group 2025 Gateway Place, Ste. 440 San Jose, CA 95110 Client Project ID: 311-127.1B/5367, 500 Bancroft

Attention: Tina Berry

QC Sample Group: 9810I77

Reported: Nov 6, 1998

QUALITY CONTROL DATA REPORT

Matrix:	Solid										
Method:	EPA 8020										
Analyst:	G.P.										
ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes							
QC Batch #: GC110398BTEXEXB											
Sample No.:	9810177-3										
Date Prepared:	11/3/98	11/3/98	11/3/98	11/3/98							
Date Analyzed:	11/4/98	11/4/98	11/4/98	11/4/98							
instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22							
Sample Conc., mg/Kg:	N.D.	N.D.	N.D.	N.D.							
Conc. Spiked, mg/Kg:	0.20	0.20	0.20	0.60							
Matrix Spike, mg/Kg:	0.20	0.20	0.20	0.59							
% Recovery:	100	100	100	98							
Matríx											
Spike Duplicate, mg/Kg:	0.20	0.20	0,21	0.60							
% Recovery:	100	100	105	100							
Relative % Difference:	0.0	0.0	4.9	2.0							
RPD Control Limits:	0-25	0-25	0-25	0-25							
											
LCS Batch#:	GC110398BTEX	ŒXB									
Date Prepared:	11/3/98	11/3/98	11/3/98	11/3/98							
Date Analyzed:	11/4/98	11/4/98	11/4/98	11/4/98							
Instrument 1.D.#:	GCHP22	GCHP22	GCHP22	GCHP22							
Conc. Spiked, mg/Kg:	0.20	0.20	0.20	0.60							
Recovery, mg/Kg:	0.22	0.21	0.21	0.66							
LCS % Recovery:	110	105	105	110							
Percent Recovery Cont	rol Limits:										
											

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

60-140

70-130

Please Note:

60-140 70-130 60-140

70-130

SEQUOIA ANALYTICAL

MS/MSD

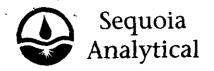
LCS

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

60-140

70-130

Tod Granicher Project Manager



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Pacific Environmental Group 2025 Gateway Place, Ste. 440 Client Project ID: 311-127.1B/5367, 500 Bancroft

San Jose, CA 95110 Attention: Tina Berry

QC Sample Group: 9810177

Reported: Nov 6, 1998

QUALITY CONTROL DATA REPORT

Matrix:

Solid

Method: EPA 8015M

Analyst: A. PORTER

ANALYTE

Diesel

QC Batch #: GC1029980HBPEXC

Sample No.: 9810183-5

Date Prepared: 10/28/98

Date Analyzed: Instrument 1.D.#: 10/30/98 GCHP5B

Sample Conc., mg/Kg:

10 mg/Kg

Conc. Spiked, mg/Kg:

THE MS AND MSD ARE REFERED FROM GC1028980HBPEXB.

Matrix Spike, mg/Kg:

% Recovery:

20 59

Matrix

Spike Duplicate, mg/Kg:

23 76

% Recovery:

Relative % Difference:

25

RPD Control Limits:

0-50

LCS Batch#: BLK102998CS

Date Prepared:

10/29/98

Date Analyzed:

11/3/98

Instrument I.D.#:

GCHP4B

Conc. Spiked, mg/Kg:

17

Recovery, mg/Kg:

17

LCS % Recovery:

100

Percent Recovery Control Limits:

MS/MSD

50-150 60-140

LCS

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch

Tod Granicher Project Manager



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Attention: Tina Berry Client Proj. ID: 311-127.1B/5367, 500 Bancoft

Received: 10/27/98

Lab Proj. ID: 9810177

Reported: 11/06/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Tod Granicher Project Manager

Page: 1

ATTACHMENT 6

Historical Boring Logs (20 pp)

	Blows/ Ft.	Sample No.	uscs	DESCRIPTION	WELL CONST
0				Concrete (6 inches).	×T
2_	:		СН	Clay, black with fragments of red brick, no product odor.	
4_	27	S-5	CL	Silty clay, some silt, brown, damp, medium to high plasticity, stiff, no product odor.	
6_	_,				
8					
10-	22	s-10		With trace of fine-grained gravel.	
12			 -		
14 🗕	10	S-15	ML	Clayey silt, some clay, brown, very moist, low plasticity, stiff, no product odor.	
16 -			<u>_</u>		
18					
0-	11	S-20	CL	Silty clay with trace of coarse-grained sand, brown- green, wet, medium plasticity, stiff, strong product odor.	
22					
4 _	47	s-25		Some silt, brown with green mottling, moist, hard.	
26 🗕					
28-		1			
30 –		Ц		(Section continues downward)	



LOG OF BORING B-1/MW-1 PLATE

UNOCAL Station No. 5367 500 Bancroft Avenue San Leandro, California

P-4

PROJECT NO.

87091-1

,,	Blows/ Ft.	Sample No.	uscs	DESCRIPTION	WELL CONST
32 -	25	s-30	CL	Silty clay, some silt, brown with green mottling, moist, medium plasticity, very stiff, strong product odor.	
34 -	28	s-35		·	
6 - 8-				Total Depth = 36 feet. Boring terminated at sufficient depth to evaluate contamination above and below water table.	
0-	:				
_					
-				·	
_					
_					
••					
-					



LOG OF BORING B-1/MW-1 PLATE

UNOCAL Station No. 5367 500 Bancroft Avenue San Leandro, California

P-5

0 _	Blows/ Ft.	Sample No.	uscs	DESCRIPTION	WELL
۷-۱			+	Asphalt over sandy gravel.	
2 _			CL	Silty clay, dark brown-black, damp, medium plasticity.	
4 _			CI	Sandy clay, brown, damp, medium plasticity, hard.	
6 _	42	S-6		Some fine-grained gravel, OVM = Oppm.	388833
8 _	·				2332
10 _	16	S-10.5		Low plasticity, OVM = Oppm.	
12					
16	27	S-16	SP	Sand, fine- to coarse-grained and fine-grained gravel, brown, moist, medium dense, OVM = Oppm.	- 10 (1988) - 10 (1988)
18 _			- <u>-</u> -	Clayey silt, brown, moist, low plasticity, very stiff.	_88 88 88 88 88 88
20.	27	S-21			33
22	27	5-21	СН	Silty clay, gray-green, moist, medium to high plasticity, very stiff, OVM = Oppm.	
24 _					
26	44	*	<u> </u>	No sample recovered.	
28 _			CL	Silty clay, gray-green, moist, low to medium plasticity, very stiff.	
-					
30					



LOG OF BORING B-2/MW-2

PLATE

UNOCAL Station No. 5367 500 Bancroft Avenue San Leandro, California

P - 4

PROJECT NO.

87091-3

	Blows/ Ft.	Sample No.	uscs	DESCRIPTION	CONS
2 -	34	S-30.5	CL	Silty clay, gray-green, moist, low to medium plasticity, very stiff, OVM = 280ppm.	
4 -	45	S-35.5 T		Green-brown, very moist, OVM = 3ppm.	
0 _	36	S-40.5 I	<u></u>	Sandy clay, trace fine-grained gravel, brown, wet, low plasticity, OVM = Oppm.	
44 -	33	S-45.5		OVM = Oppm.	
° -				Total Depth = 48 feet.	
_					
_					
-					



LOG OF BORING B-2/MW-2

UNOCAL Station No. 5367 500 Bancroft Avenue San Leandro, California P - 5

PLATE

PROJECT NO. 87091-3 San L

	0	Blows/ Ft.	Sample No.	uscs	DESCRIPTION	WELL CONST
	٦ '			ML	Concrete.	
	2 –			CL	Clayey silt, dark gray, slightly damp. Silty clay, trace of fine-grained sand, brown, damp,	
	4				low plasticity, very stiff.	
	7				• •	
	6 -	28	S-6		Lenses of fine-grained silty sand, OVM = Oppm.	
	8 -					
}	0	16	.S~11	SP	Sand, coarse-grained and fine-grained gravel, moist,	
l	2 _				medium dense, OVM = Oppm.	
			-	ML	Clayey silt, trace fine-grained gravel, green-brown, moist, low plasticity, stiff.	
1	4 -					
1	6 -	13	S-16		OVM = Oppm.	
1	8					
1	°					
2	0	18	S-21	CL	Silty clay, some fine-grained sand, green, moist, medium plasticity, stiff.	
2	2	10	3 2 1		OVM = 5ppm.	
2	4 -					
2	6	48	S-26		Brown, low plasticity, OVM = 55ppm.	
^			ſ			-
_	8 -					<u> </u>
3	0 -			CL	Silty clay, brown, low plasticity.	
					(Section continues downward)	╽┋┼╶╣



LOG OF BORING B-3/MW-3

UNOCAL Station No. 5367 500 Bancroft Avenue

P-6

PLATE

San Leandro, California

PROJECT NO.

87091-3

	Blows/ Ft.	Sample No.	uscs	DESCRIPTION	WELL CONST
30 _		S-30.5	CL	Silty clay, brown, low plasticity, OVM = 20ppm.	
32 _		╽ ┟			F-
					1
34 _					11-1
36 🗕	33	s-36		Trace of gravel, OVM = 365ppm.	
38 _					
40 _	17	s-40	J₩	Wet, OVM = 10ppm.	
	1′	3-40		wet, Ovir - Hoppins	
42	1				
44			ML	Clayey silt, some fine-grained sand, gray-brown,	
44			U ME	moist, low plasticity, stiff.	
46.	27	S-46	1	OVM = 160ppm.	
48.	<u> </u>				
				Total Depth = 48 feet.	
50.	4				
]			·	
	4				
•	-	F 5.	1 .		
-					
	1				1



LOG OF BORING B-3/MW-3

UNOCAL Station No. 5367 500 Bancroft Avenue San Leandro, California PLATE

P - 7

	Blows/ Ft.	Sample No.	uscs	DESCRIPTION	CONS
†			МН	Clayey silt, dark brown, damp, high plasticity.	8.85
4			CL	Sandy clay, light brown, dry, low plasticity, hard.	
4					
$\frac{1}{2}$	7 3	S-6		OVM = Oppm.	
+	40	S-11		Brown-dark brown, moist, medium plasticity, OVM = Oppm.	
-					W.W.
_					
	23	S-16	SM	Clayey sand, trace of fine-grained gravel, brown,	
			CL	medium dense, OVM = Oppm. Silty clay, light brown, very moist, medium to high	
				plasticity, very stiff.	袋
' -	23	s-21	I	OVM = Oppm.	
_					_
-	<u> </u>				-
	43	S-26	I	Medium brown, hard, OVM = Oppm.	
3 -	1				
) -	1				-



LOG OF BORING B-4/MW-4

UNOCAL Station No. 5367

500 Bancroft Avenue San Leandro, California P-8

PLATE

	Blows/ Ft.	Sample No.	uscs	DESCRIPTION	WELL
· 		s=30.5 [[ii
: -		II.	_S <u>M</u> _	Silty sand, some fine-grained gravel, gray-brown, medium dense.	
-	:	-	CL	Sandy clay, fine-grained, some gravel, light brown, very moist, low to medium plasticity, very stiff.	
, –	23	s-36		OVM = Oppm.	
3 -					
) _	27	S-40		Trace fine-grained gravel, brown, wet, OVM = Oppm.	
2 _			1		
4 - 6 -					
6 _	33	S-45.5	4	Some sand, light brown, wet, low plasticity, OVM = Oppm.	
8 _				Total Depth = 48 feet.	
0					
_					
-	1				
	1				
-		4			
-					
		1			



LOG OF BORING B-4/MW-4

UNOCAL Station No. 5367 500 Bancroft Avenue

San Leandro, California

PLATE

P-9

Total depth of boring: 46-1/2 feetDiameter of boring: 8 inches Date drilled: 5-15-89

Casing diameter: 2 inches Length: 45 feet Slot size: 0.020-inch

Screen diameter: 2 inches Length: 20 feet Material type: Sch 40 PVC

Drilling Company: HEW Drilling, Inc. Driller:

Method Used: Hollow-Stem Auger Field Geologist: James Orr

Depth	Sample No.	Blows	OVM	USCS Code	Description	We Cor	
- 0 -				CL	Asphalt (6 inches).	V V	P W
2 -				CL	Silty clay, dark brown, damp, medium plasticity, loose.	\$ \$ \$	7
- 4 -				CL	Sandy clay, brown, damp, low plasticity, very stiff, remnant root holes.		200
- 6 -	S-6	6 14 16	1.0			∀ ∀ ∀ ∀	▼ ▼ ▼ ▼ ▼ ▼
- 8 -						∀ ∀ ∀ ∀	7 V V V V V
- 10-	S-11	4 7 5	1.0		levers of send and fine series a series	,	Δ Δ Δ Δ Δ Δ
- 12-	3-11	3	1.0		Layers of sand and fine—grained gravel.	, A	A A A A A
14 -				SP	Fine-grained sand, light brown, moist, loose, remnant	∀ ∀ ∀ ∀	^ ^ ^ ^ ^ ^
- 16 -	S-16	238	1.0		root holes.	A A A	^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^
18 -			**			∀ ∀ ∀	∇
20 -	H	2 4		ML	Clayey silt, brown, moist, medium plasticity, stiff.	V ∀ V ∀	\ \ \ \ \ \ \ \ \ \ \ \ \
	S-16	5	1.2		(Section continues downward)	V	▽ ∇



LOG OF BORING B-5/MW-5

Unocal Station No. 5367 500 Bancroft Avenue San Leandro, California PLATE

Depth	Sample No.	e Blows	OVM	USCS Code	Description	We Cons
-22-				ML	Clayey silt, brown, moist, medium plasticity, stiff.	
-24-				ML	Sandy silt, brown, moist, low plasticity, stiff.	
-26-	S-26	2 6 7	1.0			
-28				-CL	Silby olay light beausands	
-30 -	S-31	5 10 14	1.0		Silty clay, light brown, damp, medium plasticity, very stiff.	
-34 –		T 5				
-36-	S-36	5 10 17	0.8	<u>₹</u>	Layers of saturated fine—grained sand and damp silty clay.	
-38- -40-				sc	Clayey sand, trace gravel, brown, damp, medium	
-42 -	S-41	9 14 19	0.8		plasticity, hard.	
-44-						
-46-	S-46	T 7 7 7 12	0.9		Layers of saturated sand and damp sandy clay.	
-48-			N. K. J. J.		Total Depth = $46-1/2$ feet.	
-50 -						



LOG OF BORING B-5/MW-5

Unocal Station No. 5367 500 Bancroft Avenue San Leandro, California PLATE

Total depth of boring: 46-1/2 feetDiameter of boring: 8 inches Date drilled: 5-15-89

Casing diameter: 2 inches Length: 45 feet Slot size: 0.020-inch

Screen diameter: 2 inches Length: 20 feet Material type: Sch 40 PVC

Drilling Company: HEW Drilling, Inc. Driller: Anibal

Method Used: Hollow-Stem Auger Field Geologist: James Orr

Depth	Samp No.	le	Blows	OVM	USCS Code	Description	We Cor	eli nst.
- 0 -					CL	Silty clay, brown, damp, medium plasticity, very stiff, some organic material.	 	7 √4
- 2 -							8 8 9 9	70
4 -			5				V V V	A A A A
- 6 -	S-6		5 9 12	1.2			A A A A A A A A A A A A A A A A A A A	∇ ∇ ∇ ∇ ∇
- 8 -							7 ♥ 7 ♥ 7 ♥	74
10-	S-11	H	6 2 3	0.0	SC SP CL	Clayey sand, brown-black, damp, loose. Gravelly sand, brown, damp, loose. Silty clay, medium brown, moist, medium plasticity,		A A A A A A A A A A A A A A A A A A A
- 14 -					SP	medium stiff. Sand, brown, moist, medium plasticity, medium dense.	*	A A A A A A A A A A A A A A A A A A A
- 16 -	0.49	H	4 5 6				♥ 	∆
- 18 -	S -16			0.0			V	A A A A A A A A A A A A A A A A A A A
- 20 -			2 3		CL	Silty clay, brown, damp, medium plasticity, medium stiff,	7 ♥ ♥	△ △ △ △ △ △ △ △ △ △ △ △ △ △ △ △ △ △ △
	S-21		3 4	0.5		remnant root holes.	∀ ∀	∆ Δ Δ



LOG OF BORING B-6/MW-6

Unocal Station No. 5367 500 Bancroft Avenue San Leandro, California **PLATE**

Depth	Samp No.	"	Blows	OVM	USCS Code	Description	Well
-22-					CL	Silty clay, brown, damp, medium plasticity, medium stiff, remnant root holes.	
-24-							
-26-	S-26		5 20 20	0.5			
-28					ML	Clayey silt, brown, damp, low plasticity, stiff, remnant root holes.	
-30 - -32 -	S-31		4 5 5	0.3			
-32 - -34 -				0.0			
		Ш	6 11		<u></u>		
	S-35.5		11	0.3	SM	Silty sand, brown, wet, medium dense.	
-38-							
- 40 -	S-41		4 6 6	0.3	SC	Clayey sand, brown, damp, low plasticity, medium	
-42						dense.	
-44	0.40	T R	4 8	0.1			
-48-	S-46		3			Total Depth = $46-1/2$ feet.	
-50 -							



LOG OF BORING B-6/MW-6

Unocal Station No. 5367 500 Bancroft Avenue San Leandro, California

8

PLATE

Total depth of boring: 44 feet Diameter of boring: 8 inches Date drilled: 2-7-90

Casing diameter: 2 inches Length: 44 feet Slot size: 0.020-inch

Screen diameter: 2 inches Length: 20 feet Material type: Sch 40 PVC

Drilling Company: HEW Drilling, Inc. Driller: Tomas and Perfecto

Method Used: Hollow-Stem Auger Field Geologist: Russell Bak

Depth	th Sample No. OVM US														
- 0 -				·	CL	Silty clay, dark brown, damp, medium to high plasticity,	V-								
2 -						Layers of sand and fine—grained gravel.	9,00	\$							
4 -						系·囊		A A A A A							
- 6 -	S-5.5	1	8	0.2		· · · · · · · · · · · · · · · · · · ·	V V V	7 ♥							
- 8 -							\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	2 d Δ d							
- 10-	S-10.5	1	8 4	0.2		Sandy clay, trace gravel, brown, medium plasticity.	7 ♥ ♥ ♥ ♥	A A A A A A A A A A A A A A A A A A A							
- 12-							\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\[\rangle \] \[\rangle \] \[\rangle \] \[\rangle \]							
14-			۱				▼	^ ^ ^ ^ ^ ^							
- 16 -	S-16	† ;	3	0.2	** * **		Ž V	^ ^ ^ ^ ^ ^ ^ ^ ^ ^							
- 18 -				e de la companya de			> > > > > > > > > > > > > > > > > > >	₽ ₽ ₽							
- 20 -		П	5				>	∆ A A A							
	S-21	1	3	0		(Section continues downward)									



LOG OF BORING B-7/MW-7

Unocal Station No. 5367 500 Bancroft Avenue San Leandro, California PLATE

Depth	Samp No.	ءً ا	OVM	Code	Description	We Cons
				CL	Sandy clay, trace gravel, brown, damp, medium plasticity, stiff to hard.	
-22-	-					
24						
-24			6			
-26-	S-26	1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	6 0		Increase in sand.	
20						
-28						
-30 -		9 1!				
	S-31	11 15 16	5 0		Trace sand.	
-32		5 7				
-34 -	S-33.5	18	0			
		14	:			
-36-	S-36	30	0	<u>▼</u>	Some gray—green mottling.	
-38-	ļ	∄ 5 9		-		
	38.5	14	0			-
- 40 —	ŀ	∏18 ∐34				
42	S-41	55	0			
	į	1 20 44 45				
·44 - S	-43.5	45	0		Silty clay, trace sand and gravel. Total Depth = 44 feet.	
46				200	·	
48-						
50 -			1	7.0		
	ļ					



LOG OF BORING B-7/MW-7

Unocal Station No. 5367 500 Bancroft Avenue San Leandro, California 10

PLATE

Total depth of boring: 44 feet Diameter of boring: 8 inches Date drilled: 2-6-90

Casing diameter: 2 inches Length: 44 feet Slot size: 0.020-inch

Screen diameter: 2 inches Length: 20 feet Material type: Sch 40 PVC

Drilling Company: HEW Drilling, Inc. Driller: Tomas and Perfecto

Method Used: Hollow-Stem Auger Field Geologist: Russell Bak

Depth	Sample No.	Blows	OVM	USCS Code	Description									
- 0 -					Concrete (3 inches).	V								
- 2 -				CL	Silty clay, medium brown to tan, damp, medium plasticity, very stiff to hard.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2							
- 4 -		12				4444	7							
- 6 -	S-6	12 20 27	1.7		Layers of fine—grained sand and silt.	A A A A								
- 8 -						V	∆ ∆ ∆ ∆ ∆ ∆							
- 10- - 12-	S-11	10 13 20	0.8		Tan to brown, moist.	P P P P P	↑							
- 14 -						∀	Δ Δ Δ Δ Δ Δ							
- 16 -	S-16	5 19 13	1.1		Low plasticity.	7 V 7 V 7 V	▼							
- 18 -	3					▼ ▼ ▼ ▼	∇							
- 20 -	S-21	8 13 15	0.4		(Section continues downward)	▽ ' ▽ ' ▽	△ △ △							



LOG OF BORING B-8/MW-8

Unocal Station No. 5367 500 Bancroft Avenue San Leandro, California **PLATE**

Depth	Sample No.	Blows	OVM	USCS Code	Description	Well Cons
	·			CL	Silty clay, tan to brown, moist, low plasticity, very stiff to hard.	
-22-						
-24-						
-26-	S-26	8 28 32	1.1			
-28			,			
-30 –		8 13				
-32	S-31	18	6.3	ML	Silt, tan to brown, damp, low to medium plasticity, very dense, noticeable odor.	
-34 -						
-36-	S-36	12 28 50	10.1	CL	Silty clay, trace rock fragments, brown, damp, medium	
-38-	S-38.5	15 25 35	3.1		plasticity, hard, trace mottling. Sandy silt, trace sand and gravel, brown, moist, low	
- 40 -	3-36.3]	3.1	ML	plasticity, hard, trace mottling.	
-42	S-41	20 25 38	1.3	GC	Clayey gravel, some sand, gray-brown, wet, dense.	
-44	S-43.5	11 20	3	CL	Sandy clay, trace gravel, brown, damp, low to medium plasticity, very stiff.	
46-					Total Depth = 44 feet.	
48-						
.50 🗕						



LOG OF BORING B-8/MW-8 PLATE

Unocal Station No. 5367 500 Bancroft Avenue San Leandro, California

FIELD LOG OF BORING

BORING/WELL I.D. MW9
SHEET 1 OF 2

							1 11	<u> </u>	LOGO	F BURING SHEET _ T OF _					_ OF			
PROJEC	MAN T	E				PRO	PROJECT NUMBER				ELEVATION AND DATUM REFE				FERENCE			
UNOCAL	SAN L	EANDRO				948	0600	100		NA		NA						
DRILLIN	G COM	PANY				DRIL	LER			+	TIME STARTED		DATE	& TI	ME CO	MPLETED		
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NONE																		
SAMPLE	R							HYD	ROGEOLOG	SIST/DATE	=		CHE	CKE	D BY/D	ATE		
TYPECA	T. MOD	DRIVIN	G WT. 13	2.0	DBO	3 0"		MTGU	ADI OUN	10/16/0								
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	WE				S	AMPLE	S			ļ								
DEPTH	COI	IST	OVA			,	,		GRAPH.		DESCRIP	TION OF	MATER	RIALS	3	REMARK	(S	
(FEET)	csg	FILL	(PPM)		NO.	TYPE		SWC	LOG	CLASS								
							/	6"		(USCS)								
_		11111							5.L.KY	AF	ASPHALT							
_				-			<u> </u>			CL	SILTY CLAY, m	oderate	yello	wish	1-			
		177		\vdash			<u> </u>				brown, stiff, plasticity, m	moist,	TOM E	o me	dlum	İ		
_											sand.							
_											Becomes low p	lasticit	y at	4.5	ft.	İ		
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FIELD LOG OF BORING

BORING/WELL I.D. MW9 SHEET 2 OF 2

PROJECT NAME PROJECT NUMBER HYDROGEOLOGIST CHECKED BY/DATE
UNOCAL SAN LEANDRO 9480600100 MICHAEL GUY 12/16/94

DESTH CONST OVA (PEET) CSG FILL NO. TYPE BLOWS LOS CLASS (NO. CLASS CO. SLLTY CLAY, vellowish-brown, stiff, soist, los planticity, minor to correct sand. 10	UNUCAL	SAN LI	EANDRO			19480	600100		MICHAE	L GUY	12/16/94		
DEPTH CONST CSG FILL (PPM) NO. TYPE BLOWS LOG CLASS (USCS)		WE	LL			SAMPLES	3						
(FEET) CSG FILL (PPM) NO. TYPE BLOWS (PC) CLASS (USCS) CL SILTY CLAY, yellowish-brown, stiff, moist, low plasticity, minor to coarse sand. SILT, moderate yellowish-brown, stiff, moist, low plasticity, minor to coarse sand. SILT, moderate yellowish-brown, stiff, moist, low plasticity, minor to coarse sand. SILT, moderate yellowish-brown, stiff, moist, low plasticity, minor to coarse sand.	1.]											
GEET) CSG FILL (PPM) NO. TYPE BLOWS LOG CLASS (USCS) (1985)	DEPTH					···	· · · · · · · · · · · · · · · · · · ·	GRAPH.	SOIL		DESCRIPTION OF	MATERIALS	REMARKS
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FIELD LOG OF BORING

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SHEET 2 OF 2

PROJECT NAME PROJECT NUMBER **HYDROGEOLOGIST** CHECKED BY/DATE UNOCAL SAN LEANDRO MICHAEL GUY 4/6/95 9480600100 WARREN GROSS WELL **SAMPLES** CONST DEPTH OVA GRAPH. SOIL **DESCRIPTION OF MATERIALS** REMARKS (FEET) CSG FILL NO. CLASS (PPM) TYPE BLOWS LOG (USCS) 30 35 45 Boring terminated 45 ft bgs.