

RO 2584



November 22, 2005  
RRM Project# IA220

Mr. Bob Schultz  
Hazardous Materials Specialist  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-5577

NOV 9 2005  
Alameda County

**Re: Groundwater Monitoring Results – Second Quarter 2005**  
649 Pacific Avenue  
Alameda, California

Dear Mr. Schultz

This report, prepared by RRM, Inc. (RRM) on behalf of Timber Del Properties, LLC, presents the results of the Second Quarter 2005 groundwater monitoring conducted at the referenced site (Figure 1) on June 30, 2005. A discussion of the groundwater monitoring results is presented below, followed by conclusions and recommendations.

**GROUNDWATER MONITORING RESULTS**

On June 30, 2005, the depth-to-groundwater was measured and groundwater samples were collected from on-site monitoring wells MW-1 through MW-5. All groundwater samples were analyzed for the presence of gasoline range total petroleum hydrocarbons (TPHg) and Stoddard solvent TPH (TPHss) by Environmental Protection Agency (EPA) Method 8015M and benzene, toluene, ethyl benzene, and xylenes (collectively BTEX), by EPA Method 8020. Field and analytical procedures are presented as Attachment A.

**Groundwater Elevation, Flow Direction and Gradient**

Groundwater elevations were calculated from depth-to-groundwater data; groundwater elevations ranged from 5.24 feet above mean sea level (msl) in Well MW-5 to 6.11 feet above msl in Well MW-3. Groundwater beneath the site was calculated to flow to the northeast at an approximate gradient of 0.005 foot per foot. Depth-to-groundwater and elevation data are summarized in Table 1, field data sheets are included in Attachment B, and the groundwater elevation contour prepared for the June 30, 2005 monitoring event is shown on Figure 2.

**Groundwater Analytical Data**

The laboratory only detected TPHss above the reporting limit in the groundwater sample collected from Well MW-1 at a concentration of 210 parts per billion (ppb); no other analyzed compounds were detected in any of the groundwater samples. This result is consistent with the previous

groundwater monitoring event in March 2005. Groundwater analytical data is summarized in Table 1 and shown on Figure 2; certified analytical reports and chain-of-custody documentation are included in Attachment B.

## CONCLUSIONS

Based on the information presented above and previous monitoring activities, RRM concludes the following:

- Consistent with historical data, depth-to-groundwater measurements ranged from 5.24 feet to 6.11 feet bgs and groundwater was determined to flow toward the northeast.
- TPHss was only detected in the groundwater sample from Well MW-1 at 210 ppb, and no other analyzed compounds were detected in any of the groundwater samples.
- The dissolved TPHss plume at the site appears stable at this time.

## RECOMMENDATIONS

- Conduct two additional groundwater monitoring events to further establish TPHss plume stability.

Should you have any questions regarding the contents of this document, please do not hesitate to call RRM at (831) 475-8141.

Sincerely,

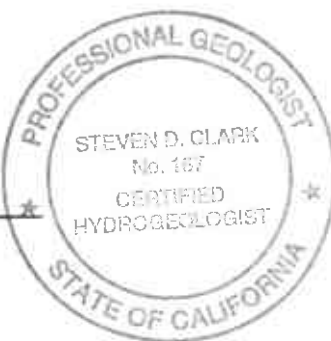
**RRM, Inc.,**

*Julie Avanto*

Julie Avanto  
Project Engineer

*Steven D. Clark*

Steven D. Clark  
Senior Hydrogeologist, CHG 167



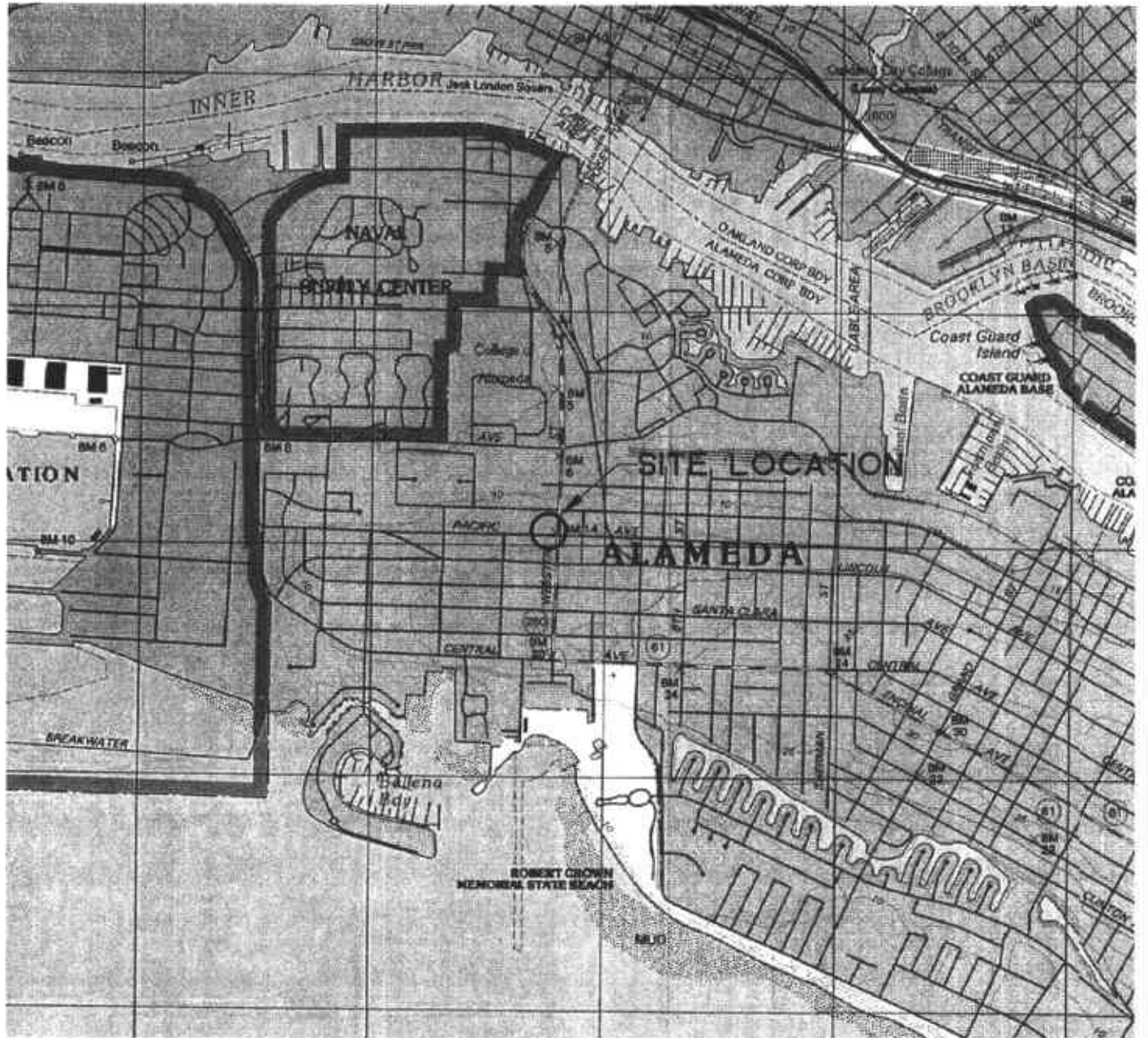
Mr. Bob Schultz  
November 22, 2005  
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Attachments:     Table 1 – Groundwater Elevation and Analytical Data  
                    Figure 1 – Site Location Map  
                    Figure 2 – Groundwater Elevation Contour and Analytical Results Map,  
                                    June 30, 2005  
                    Attachment A – Field and Analytical Procedures  
                    Attachment B – Certified Analytical Reports, Chain-of-Custody  
                                    Documentation, and Field Data Sheets

cc:   Mr, Don Lindsey  
      Timber Del Properties, LLC  
      2424 Central Avenue  
      Alameda, California 94501

      Mr. Mark Russel  
      The Mechanics Bank  
      343 Sansome Street, Suite 100  
      San Francisco, California 94101

      Mr. Carl Searway  
      3032 Dakota Street  
      Oakland, California 94602



QUADRANGLE LOCATION

Alameda County  
NOV 29 2005



SCALE IN FEET



Ref. 1420/1420-SALDWS  
Base Map from TSP011 HIGH

**SITE LOCATION MAP**

649 Pacific Avenue  
Alameda, California

FIGURE:  
**1**  
PROJECT:  
IA220

PREPARED BY





**ATTACHMENT A**

**FIELD AND ANALYTICAL PROCEDURES**

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**ATTACHMENT A**  
**FIELD AND ANALYTICAL PROCEDURES**

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**Field Procedures**

Groundwater sampling procedures consisted of initially measuring and documenting the water level in each well and checking each well for the presence of separate-phase hydrocarbon (SPH) using a oil/water interface probe or a clear Teflon bailer. The wells that did not contain SPH were then purged a minimum of three casing volumes or until dry. During purging, well stabilization parameters (temperature, pH, and electrical conductivity) were monitored. After purging and prior to sampling, groundwater in the wells was allowed to recharge to within 80% of the original groundwater level. Groundwater samples were then collected using clean Teflon bailers or disposable bailers and appropriate EPA-approved containers. The samples were then labeled, and transported on ice to the laboratory using appropriate chain-of-custody documentation. Sampling equipment was cleaned with an Alconox soap solution between uses. Purge water generated during groundwater sampling was temporarily stored on site in 55-gallon drums pending disposal. The drums were labeled and profiled prior to disposal.

**Laboratory Analytical Procedures**

Groundwater samples were analyzed for TPHg and TPHss by EPA Method 8015 (Modified), and BTEX compounds by EPA Method 8020. Entech Analytical Labs Inc. of Santa Clara, California, a California State-certified laboratory, performed all analyses.

**ATTACHMENT B**

**CERTIFIED ANALYTICAL REPORTS, CHAIN-OF-CUSTODY  
DOCUMENTATION, AND FIELD DATA SHEETS**

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# Field Data Sheet

## Groundwater Sampling Form

**Site Information**

649 Pacific Av. MW-1 IA220  
 Project Address Well/Sample Point ID Project Number

Alameda Alameda California  
 City County State

**Purge Information**

**Water Level Equipment**  
 Electronic Indicator  
 Oil Water Interface Probe  
 Other (specify) \_\_\_\_\_

**Purge Equipment**  
 Baller  Disposable  Teflon #: \_\_\_\_\_  
 Submersible Pump; type: \_\_\_\_\_  
 Other (specify) \_\_\_\_\_

**Purge Calculation**

total depth	20
depth to water	5.77
linear feet of water	= 14.23
gallons per linear foot X	.17
gallons per casing	= 2.42
number of casings X	3
calculated purge	= 7.26

casing diameter		gallons per linear foot
0.75 in.	<input type="checkbox"/>	0.023
1 in.	<input type="checkbox"/>	0.04
2 in.	<input checked="" type="checkbox"/>	0.17
4 in.	<input type="checkbox"/>	0.67
6 in.	<input type="checkbox"/>	1.5
other	<input type="checkbox"/>	calculate

1 cubic foot = 7.48 gallons

Purged By: WMB name  
 Purge Notes: \_\_\_\_\_  
 Purged Dry?: N circle Y      Sampling Delay?: N circle Y

	time (24:00)	gallons (purged)	pH (units)	EC (us @ 25° C)	temp (°F circle C)	color (see below)	turbidity (NTU or see below)	odor (see below)
start	1000	0						
volume 1	1008	2.50	6.74	368	19.5	brown	mod.	none
volume 2	1013	5.00	6.89	3.64	19.0	"	"	"
volume 3	1017	7.50	6.96	4.10	19.0	"	"	"
volume 4								
complete								

brown, yellow cloudy, clear      heavy, moderate light, trace      strong, moderate slight, none

**Groundwater Sampling Information**

**Sample Type**  
 Monitoring Well  
 Extraction Well  
 Domestic Well  
 Other (specify) \_\_\_\_\_

**Sampling Equipment**  
 Baller  Disposable  Teflon #: \_\_\_\_\_  
 Submersible Pump; type: \_\_\_\_\_  
 Sampling Port  
 Other (specify) \_\_\_\_\_

Sample ID MW-1      Date 63005      Time (24:00) 1025  
 Dupe # \_\_\_\_\_      12:00

Sampled By: WMB name

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
4	<input type="checkbox"/> TPH gas (8015M) <input type="checkbox"/> BTEX (8020 or 8260B) <input type="checkbox"/> MIBE (8020 or 8260B) <input type="checkbox"/> Fuel Oxy (8260B) <input type="checkbox"/> Other (specify) _____	40 ml VOA	HCl
2	<input type="checkbox"/> VOCs (8010 or 8240 or 8260B) <input type="checkbox"/> TPH as Stoddard Solvent (8015M) <input type="checkbox"/> Metals (8010) <input type="checkbox"/> Other (specify) _____	40 ml VOA 1 liter amber 500 ml plastic	HCl none HNO <sub>3</sub>

Sampling Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Signature: WMB

# Field Data Sheet

## Groundwater Sampling Form

**Site Information**

649 Pacific Av. MW-2 IA220  
 Project Address Well/Sample Point ID Project Number

Alameda Alameda California  
 City County State

**Purge Information**

**Water Level Equipment**  
 Electronic Indicator  
 Oil Water Interface Probe  
 Other (specify) \_\_\_\_\_

**Purge Equipment**  
 Bailor  Disposable  Teflon #: \_\_\_\_\_  
 Submersible Pump; type: \_\_\_\_\_  
 Other (specify) \_\_\_\_\_

**Purge Calculation**

total depth 20  
 depth to water - 5.84  
 linear feet of water = 14.16  
 gallons per linear foot X .17  
 gallons per casing = 2.41  
 number of casings X 3  
 calculated purge = 7.22

casing diameter		gallons per linear foot
0.75 in.	<input type="checkbox"/>	0.023
1 in.	<input type="checkbox"/>	0.04
2 in.	<input checked="" type="checkbox"/>	0.17
4 in.	<input type="checkbox"/>	0.67
6 in.	<input type="checkbox"/>	1.5
other	<input type="checkbox"/>	calculate

1 cubic foot = 7.48 gallons

Purged By: WJB  
 name

Purge Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Purged Dry?: N circle Y Sampling Delay?: N circle Y

	time (24:00)	gallons (purged)	pH (units)	EC (us @ 25° C)	temp (°F circle C)	color (see below)	turbidity (NTU or see below)	odor (see below)
start	920	0						
volume 1	930	2.25	6.74	456	19.6	brown	mod.	slight
volume 2	934	4.50	6.74	427	19.1	"	"	"
volume 3	937	7.25	6.75	440	19.0	"	"	"
volume 4								
complete								

brown, yellow cloudy, clear      heavy, moderate light, trace      strong, moderate slight, none

**Groundwater Sampling Information**

**Sample Type**  
 Monitoring Well  
 Extraction Well  
 Domestic Well  
 Other (specify) \_\_\_\_\_

**Sampling Equipment**  
 Bailor  Disposable  Teflon #: \_\_\_\_\_  
 Submersible Pump; type: \_\_\_\_\_  
 Sampling Port  
 Other (specify) \_\_\_\_\_

Sample ID MW-2      Date 63005      Time (24:00) 0945  
 Dupe # \_\_\_\_\_      12:00

Sampled By: WJB  
 name

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
<u>4</u>	<input type="checkbox"/> TPH gas (8015M) <input type="checkbox"/> BTEX (8020 or 8260B) <input type="checkbox"/> MIBE (8020 or 8260B) <input type="checkbox"/> Fuel Oxy (8260B) <input type="checkbox"/> Other (specify) _____	<u>40 ml</u> <u>VOA</u> <u>HCl</u>	
<u>2</u>	<input type="checkbox"/> VOCs (8010 or 8240 or 8260B) <input type="checkbox"/> TPH as Stoddard Solvent (8015M) <input type="checkbox"/> Metals (8010) <input type="checkbox"/> Other (specify) _____	<u>40 ml VOA</u> <u>HCl</u> <u>1 liter amber</u> <u>none</u> <u>500 ml plastic</u> <u>HNO<sub>3</sub></u>	

Sampling Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Signature: Will [Signature]

**Field Data Sheet**  
Groundwater Sampling Form

**Site Information**

649 Pacific Av. MW-3 IA220  
 Project Address Well/Sample Point ID Project Number

Alameda Alameda California  
 City County State

**Purge Information**

**Water Level Equipment**  
 Electronic Indicator  
 Oil Water Interface Probe  
 Other (specify) \_\_\_\_\_

**Purge Equipment**  
 Bailor  Disposable  Teflon #: \_\_\_\_\_  
 Submersible Pump; type: \_\_\_\_\_  
 Other (specify) \_\_\_\_\_

**Purge Calculation**

total depth 20  
 depth to water 6.11  
 linear feet of water = 13.89  
 gallons per linear foot X .17  
 gallons per casing = 2.36  
 number of casings X 3  
 calculated purge = 7.08

casing diameter		gallons per linear foot
0.75 in.	<input type="checkbox"/>	0.023
1 in.	<input type="checkbox"/>	0.04
2 in.	<input checked="" type="checkbox"/>	0.17
4 in.	<input type="checkbox"/>	0.67
6 in.	<input type="checkbox"/>	1.5
other	<input type="checkbox"/>	calculate

1 cubic foot = 7.48 gallons

Purged By: [Signature]  
name

Purge Notes:  
Dry out ~5 gal., purge cut short  
begin sampling.

Purged Dry?: N circle  Sampling Delay?: N circle

	time (24:00)	gallons (purged)	pH (units)	EC (us @ 25° C)	temp (°F circle °C)	color (see below)	turbidity (NTU or see below)	odor (see below)
start	<u>1040</u>	<u>0</u>						
volume 1	<u>1044</u>	<u>2.50</u>	<u>6.76</u>	<u>807</u>	<u>20.0</u>	<u>brown</u>	<u>mod.</u>	<u>none</u>
volume 2	<u>1050</u>	<u>5.00</u>	<u>7.17</u>	<u>765</u>	<u>19.6</u>	<u>"</u>	<u>"</u>	<u>"</u>
volume 3								
volume 4								
complete								

brown, yellow cloudy, clear      heavy, moderate light, trace      strong, moderate slight, none

**Groundwater Sampling Information**

**Sample Type**  
 Monitoring Well  
 Extraction Well  
 Domestic Well  
 Other (specify) \_\_\_\_\_

**Sampling Equipment**  
 Bailor  Disposable  Teflon #: \_\_\_\_\_  
 Submersible Pump; type: \_\_\_\_\_  
 Sampling Port  
 Other (specify) \_\_\_\_\_

Sample ID MW-3 Date 63005 Time (24:00) 11:00  
 Dupe # \_\_\_\_\_ 12:00

Sampled By: [Signature]  
name

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
<u>4</u>	<input type="checkbox"/> TPH gas (8015M) <input type="checkbox"/> BTEX (8020 or 8260B) <input type="checkbox"/> MIBE (8020 or 8260B) <input type="checkbox"/> Fuel Oxy (8260B) <input type="checkbox"/> Other (specify) _____	<u>40 ml</u> <u>VOA</u>	<u>NOI</u>
<u>2</u>	<input type="checkbox"/> VOCs (8010 or 8240 or 8260B) <input type="checkbox"/> TPH as Stoddard Solvent (8015M) <input type="checkbox"/> Metals (8010) <input type="checkbox"/> Other (specify) _____	<u>40 ml VOA</u> <u>liter amber</u> <u>500 ml plastic</u>	<u>HCl</u> <u>none</u> <u>HNO<sub>3</sub></u>

Sampling Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Signature: [Signature]

**Field Data Sheet**  
**Groundwater Sampling Form**

**Site Information**

649 Pacific Av. MW-4 IA220  
 Project Address Well/Sample Point ID Project Number

Alameda Alameda California  
 City County State

**Purge Information**

**Water Level Equipment**  
 Electronic Indicator  
 Oil Water Interface Probe  
 Other (specify) \_\_\_\_\_

**Purge Equipment**  
 Bailor  Disposable  Teflon #. \_\_\_\_  
 Submersible Pump; type: \_\_\_\_\_  
 Other (specify) \_\_\_\_\_

**Purge Calculation**

total depth 20  
 depth to water 5.56  
 linear feet of water = 14.44  
 gallons per linear foot X 0.17  
 gallons per casing = 2.45  
 number of casings X 3  
 calculated purge = 7.36

casing diameter		gallons per linear foot
0.75 in.	<input type="checkbox"/>	0.023
1 in.	<input type="checkbox"/>	0.04
2 in.	<input checked="" type="checkbox"/>	0.17
4 in.	<input type="checkbox"/>	0.67
6 in.	<input type="checkbox"/>	1.5
other	<input type="checkbox"/>	calculate

1 cubic foot = 7.48 gallons

Purged By: WLB  
 name \_\_\_\_\_

Purge Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Purged Dry?: N circle Y      Sampling Delay?: N circle Y

	time (24:00)	gallons (purged)	pH (units)	EC (µs @ 25° C)	temp (°F circle C)	color (see below)	turbidity (NTU or see below)	odor (see below)
start	1115	0						
volume 1	1121	2.50	7.01	564	23.3	brown	mod.	none
volume 2	1125	5.00	6.95	531	23.1	"	"	"
volume 3	1131	7.50	7.17	572	22.4	"	"	"
volume 4								
complete								

brown, yellow cloudy, clear      heavy, moderate light, trace      strong, moderate slight, none

**Groundwater Sampling Information**

**Sample Type**  
 Monitoring Well  
 Extraction Well  
 Domestic Well  
 Other (specify) \_\_\_\_\_

**Sampling Equipment**  
 Bailor  Disposable  Teflon #. \_\_\_\_  
 Submersible Pump; type: \_\_\_\_\_  
 Sampling Port  
 Other (specify) \_\_\_\_\_

Sample ID MW-4      Date 63005      Time (24:00) 1140

Dupe # \_\_\_\_\_      12:00

Sampled By: WLB  
 name \_\_\_\_\_

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
4	<input type="checkbox"/> TPH gas (8015M) <input type="checkbox"/> BTEX (8020 or 8260B) <input type="checkbox"/> MIBE (8020 or 8260B) <input type="checkbox"/> Fuel Oxy (8260B) <input type="checkbox"/> Other (specify) _____	40 ml VOA	HCl
2	<input type="checkbox"/> VOCs (8010 or 8240 or 8280B) <input type="checkbox"/> TPH as Stoddard Solvent (8015M) <input type="checkbox"/> Metals (8010) <input type="checkbox"/> Other (specify) _____	40 ml VOA 1 liter amber 500 ml plastic	HCl none HNO <sub>3</sub>

Sampling Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Signature: Will [Signature]

# Field Data Sheet

## Groundwater Sampling Form

Site Information		MW-5	IA220
649 Pacific Av. Project Address		Well/Sample Point ID	Project Number
Alameda City	Alameda County	California State	

### Purge Information

<b>Water Level Equipment</b> <input checked="" type="checkbox"/> Electronic Indicator <input type="checkbox"/> Oil Water Interface Probe <input type="checkbox"/> Other (specify) _____	<b>Purge Equipment</b> <input checked="" type="checkbox"/> Bailor <input checked="" type="checkbox"/> Disposable <input type="checkbox"/> Teflon #: _____ <input type="checkbox"/> Submersible Pump; type: _____ <input type="checkbox"/> Other (specify) _____	Purged By: <u>[Signature]</u> name: _____  Purge Notes: _____ _____ _____ _____ _____
--	--	---

Purge Calculation	
total depth	20
depth to water	5.24
linear feet of water	= 14.76
gallons per linear foot X	.17
gallons per casing	= 2.51
number of casings X	3
calculated purge	= 7.53

casing diameter		gallons per linear foot
0.75 in.	<input type="checkbox"/>	0.023
1 in.	<input type="checkbox"/>	0.04
2 in.	<input checked="" type="checkbox"/>	0.17
4 in.	<input type="checkbox"/>	0.67
6 in.	<input type="checkbox"/>	1.5
other	<input type="checkbox"/>	calculate
1 cubic foot = 7.48 gallons		

	time (24:00)	gallons (purged)	pH (units)	EC (u/s @ 25° C)	temp (°F circle °C)	color (see below)	turbidity (NTU or see below)	odor (see below)
start	1148	0						
volume 1	1152	2.50	6.95	688	22.6	brown	mod.	none
volume 2	1156	5.00	7.06	670	22.0	"	"	"
volume 3	1200	7.75	7.04	660	21.9	"	"	"
volume 4								
complete								

brown, yellow cloudy, clear    heavy, moderate light, trace    strong, moderate sight, none

### Groundwater Sampling Information

<b>Sample Type</b> <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Domestic Well <input type="checkbox"/> Other (specify) _____	<b>Sampling Equipment</b> <input checked="" type="checkbox"/> Bailor <input checked="" type="checkbox"/> Disposable <input type="checkbox"/> Teflon #: _____ <input type="checkbox"/> Submersible Pump; type: _____ <input type="checkbox"/> Sampling Port <input type="checkbox"/> Other (specify) _____
---	---

Sample ID	Date	Time (24:00)
MW-5	63005	1210
Dupe #		12:00

Sampled By: [Signature]  
name: \_\_\_\_\_

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
4	<input type="checkbox"/> TPH gas (8015M) <input type="checkbox"/> BTEX (8020 or 8260B) <input type="checkbox"/> MRBE (8020 or 8260B) <input type="checkbox"/> Fuel Oxy (8260B) <input type="checkbox"/> Other (specify) _____	40 ml VOA	HCl
2	<input type="checkbox"/> VOCs (8010 or 8240 or 8260B) <input type="checkbox"/> TPH as Stoddard Solvent (8015M) <input type="checkbox"/> Metals (8010) <input type="checkbox"/> Other (specify) _____	40 ml VOA 1 liter amber 500 ml plastic	HCl none HNO <sub>3</sub>

Sampling Notes:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Signature: [Signature]



2560 SOQUEL AVENUE, SUITE E  
SANTA CRUZ, CALIFORNIA 95062  
TEL: 831.475.8141  
FAX: 831.475.8249

**FIELD  
DATA SHEET**

Client: Don Lindsey Project #: IA220  
Job Address: 649 Pacific Ave Alameda Date: 6/30/05  
Weather Conditions: clear Personnel: (WB)  
Equipment on site: LG. truck, sampling equipment.  
Arrival Time: 830  
Departure Time: 1315

**FIELD NOTES:**

Inspect site, locate wells and check drums upon arrival.  
845 Begin DTW measurements.  
915 Finish DTW and purge calculations  
Begin sampling. (~~Do 2 then 1, one is smelly~~) ~~at~~ start inside  
1220 Finish GWS, begin cleanup.  
1230 start survey measurements  
1255 Finish survey measurements  
Final cleanup

Signature: [Handwritten Signature]

# Entech Analytical Labs, Inc.

3334 Victor Court (408) 588-0200  
 Santa Clara, CA 95054 (408) 588-0201 - Fax

# Chain of Custody / Analysis Request

Attention to: <i>Matt Paulus</i>	Phone No.: <i>831-4758141</i>	Purchase Order No.:	Invoice to: (If Different)	Phone:
Company Name: <i>CRM, Inc.</i>	Fax No.: <i>831-475-8249</i>	Project No.: <i>IA220</i>	Company:	Quote No.:
Mailing Address: <i>2560 Sequel Ave.</i>	Email Address: <i>mpaulus@crm.com</i>	Project Name: <i>Don Lindsay</i>	Billing Address: (If Different)	
City: <i>Santa Cruz</i>	State: <i>CA</i>	Zip Code: <i>95062</i>	Project Location: <i>649 Pacific Ave</i>	City: <i>Alameda</i>
				State: <i>CA</i>
				Zip:

Sampler: <i>(WB)</i>	Field Org. Code:	Turn Around Time		Matrix	No. of Containers	GC/MS Methods		GC Methods		General Chemistry		Remarks
		<input type="checkbox"/> Same Day	<input type="checkbox"/> 1 Day			<input type="checkbox"/> BTEX	<input type="checkbox"/> TPH	<input type="checkbox"/> PCBs	<input type="checkbox"/> Metals	<input type="checkbox"/> TOC	<input type="checkbox"/> Dissolved	
Global ID:		<input type="checkbox"/> 2 Day	<input type="checkbox"/> 3 Day			<input type="checkbox"/> PAH	<input type="checkbox"/> Pesticides	<input type="checkbox"/> TPH as Gas	<input type="checkbox"/> MTBE	<input type="checkbox"/> SO4	<input type="checkbox"/> NO3	
		<input type="checkbox"/> 4 Day	<input type="checkbox"/> 5 Day			<input type="checkbox"/> Lead	<input type="checkbox"/> TPH Extractable	<input type="checkbox"/> Methanol	<input type="checkbox"/> TPHSS	<input type="checkbox"/> SD4	<input type="checkbox"/> NO2	
		<input checked="" type="checkbox"/> 10 Day				<input type="checkbox"/> Base/Neutral/Acid Organics	<input type="checkbox"/> w/ Sol Cleanup	<input type="checkbox"/> Motor Oil	<input type="checkbox"/> PCBs - 8082	<input type="checkbox"/> SC	<input type="checkbox"/> TOC	

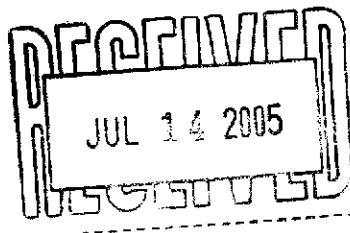
Relinquished by: <i>(Signature)</i>	Received by: <i>(Signature)</i>	Date: <i>6/3/05</i>	Time: <i>1430</i>	Special Instructions or Comments	<input type="checkbox"/> EDD Report	
Relinquished by:	Received by:	Date:	Time:		<input checked="" type="checkbox"/> EDF Report	<input type="checkbox"/> Plating
Relinquished by:	Received by:	Date:	Time:		<input type="checkbox"/> LUFT-5	<input type="checkbox"/> RCRA-8
Metals:				<input type="checkbox"/> PPM-13 <input type="checkbox"/> CAM-17		



# Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Matt Paulus  
Remediation Risk Management-SC  
2560 Soquel Ave., Suite 202  
Santa Cruz, CA 95062



Certificate ID: 44212 - 7/12/2005 12:22:36 PM

Date Received: 6/30/2005 4:17:58 PM

**Order Number: 44212**  
**Project Name: Don Lindsay**  
**Project Number: IA220**

## Certificate of Analysis - Final Report

On June 30, 2005, samples were received under chain of custody for analysis.  
Entech analyzes samples "as received" unless otherwise noted. The following results are included:

<u>Matrix</u>	<u>Test</u>	<u>Comments</u>
Liquid	Electronic Deliverables Gas/BTEX	
	TPH-Extractable	

Entech Analytical Labs, Inc. is certified for environmental analyses by the State of California (#2346).  
If you have any questions regarding this report, please call us at 408-588-0200 ext. 225.

Sincerely,

Laurie Glantz-Murphy  
Laboratory Director

# Entech Analytical Labs, Inc.

3334 Victor Court, Santa Clara, CA 95054

Phone: (408) 588-0200

Fax: (408) 588-0201

Remediation Risk Management-SC  
2560 Soquel Ave., Suite 202  
Santa Cruz, CA 95062  
Attn: Matt Paulus

Project ID: IA220  
Date Received: 6/30/2005

Sample Collected by: Client

## Certificate of Analysis - Data Report

Lab #: 44212-001 Sample ID: MW-1

Matrix: Liquid Sample Date: 6/30/2005 10:25 AM

EPA 3510C EPA 8015 MOD. (Extractable)								TPH-Extractable	
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Mineral Spirits (Stoddard)	210		1	50	µg/L	7/7/2005	DW050707	7/8/2005	DW050707

Surrogate  
o-Terphenyl

Surrogate Recovery	Control Limits (%)
78.4	22 - 133

Analyzed by: JHsiang  
Reviewed by: dba

EPA 8015 MOD. (Purgeable)								TPH as Gasoline	
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1	50	µg/L	N/A	N/A	7/8/2005	WGC4050707

Surrogate  
4-Bromofluorobenzene

Surrogate Recovery	Control Limits (%)
93.6	65 - 135

Analyzed by: mruan  
Reviewed by: bdhabalia

EPA 8020								BTEX	
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707
Toluene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707
Ethyl Benzene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707
Xylenes, Total	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707

Surrogate  
4-Bromofluorobenzene

Surrogate Recovery	Control Limits (%)
94.1	65 - 135

Analyzed by: mruan  
Reviewed by: bdhabalia

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Attn: Matt Paulus

Project ID: IA220  
Date Received: 6/30/2005

Sample Collected by: Client

## Certificate of Analysis - Data Report

Lab #: 44212-002 Sample ID: MW-2

Matrix: Liquid Sample Date: 6/30/2005 9:45 AM

EPA 3510C EPA 8015 MOD. (Extractable)									TPH-Extractable	
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch	
TPH as Mineral Spirits (Stoddard)	ND		1	50	µg/L	7/7/2005	DW050707	7/8/2005	DW050707	

Surrogate	Surrogate Recovery	Control Limits (%)	
o-Terphenyl	72.6	22	- 133

Analyzed by: JHsiang

Reviewed by: dba

EPA 8015 MOD. (Purgeable)									TPH as Gasoline	
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch	
TPH as Gasoline	ND		1	50	µg/L	N/A	N/A	7/8/2005	WGC4050707	

Surrogate	Surrogate Recovery	Control Limits (%)	
4-Bromofluorobenzene	101	65	- 135

Analyzed by: mruan

Reviewed by: bdhabalia

EPA 8020									BTEX	
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch	
Benzene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707	
Toluene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707	
Ethyl Benzene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707	
Xylenes, Total	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707	

Surrogate	Surrogate Recovery	Control Limits (%)	
4-Bromofluorobenzene	108	65	- 135

Analyzed by: mruan

Reviewed by: bdhabalia

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Project ID: IA220  
Date Received: 6/30/2005

Sample Collected by: Client

## Certificate of Analysis - Data Report

Lab #: 44212-003 Sample ID: MW-3

Matrix: Liquid Sample Date: 6/30/2005 11:00 AM

EPA 3510C EPA 8015 MOD. (Extractable)								TPH-Extractable	
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Mineral Spirits (Stoddard)	ND		1	50	µg/L	7/7/2005	DW050707	7/8/2005	DW050707

Surrogate Surrogate Recovery Control Limits (%)  
o-Terphenyl 80.1 22 - 133

Analyzed by: JHsiang  
Reviewed by: dba

EPA 8015 MOD. (Purgeable)								TPH as Gasoline	
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1	50	µg/L	N/A	N/A	7/8/2005	WGC4050707

Surrogate Surrogate Recovery Control Limits (%)  
4-Bromofluorobenzene 96.9 65 - 135

Analyzed by: mruan  
Reviewed by: bdhabalia

EPA 8020								BTEX	
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707
Toluene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707
Ethyl Benzene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707
Xylenes, Total	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707

Surrogate Surrogate Recovery Control Limits (%)  
4-Bromofluorobenzene 102 65 - 135

Analyzed by: mruan  
Reviewed by: bdhabalia

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Attn: Matt Paulus

Project ID: IA220  
Date Received: 6/30/2005

Sample Collected by: Client

## Certificate of Analysis - Data Report

Lab #: 44212-004 Sample ID: MW-4

Matrix: Liquid Sample Date: 6/30/2005 11:40 AM

EPA 3510C EPA 8015 MOD. (Extractable)								TPH-Extractable	
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Mineral Spirits (Stoddard)	ND		1	50	µg/L	7/7/2005	DW050707	7/8/2005	DW050707

Surrogate Surrogate Recovery Control Limits (%)  
o-Terphenyl 86.3 22 - 133

Analyzed by: JHsiang  
Reviewed by: dba

EPA 8015 MOD. (Purgeable)								TPH as Gasoline	
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1	50	µg/L	N/A	N/A	7/8/2005	WGC4050707

Surrogate Surrogate Recovery Control Limits (%)  
4-Bromofluorobenzene 91.2 65 - 135

Analyzed by: mruan  
Reviewed by: bdhabalia

EPA 8020								BTEX	
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707
Toluene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707
Ethyl Benzene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707
Xylenes, Total	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707

Surrogate Surrogate Recovery Control Limits (%)  
4-Bromofluorobenzene 94.3 65 - 135

Analyzed by: mruan  
Reviewed by: bdhabalia

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Attn: Matt Paulus

Project ID: IA220  
Date Received: 6/30/2005

Sample Collected by: Client

## Certificate of Analysis - Data Report

Lab #: 44212-005 Sample ID: MW-5

Matrix: Liquid Sample Date: 6/30/2005 12:10 PM

EPA 3510C EPA 8015 MOD. (Extractable)									TPH-Extractable
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Mineral Spirits (Stoddard)	ND		1	50	µg/L	7/7/2005	DW050707	7/8/2005	DW050707
530ppb Motor Oil Range Organics. No Stoddard pattern present.									

Surrogate	Surrogate Recovery	Control Limits (%)	Analyzed by:
o-Terphenyl	54.7	22 - 133	JHsiang
			Reviewed by: dba

EPA 8015 MOD. (Purgeable)									TPH as Gasoline
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1	50	µg/L	N/A	N/A	7/8/2005	WGC4050707

Surrogate	Surrogate Recovery	Control Limits (%)	Analyzed by:
4-Bromofluorobenzene	89.7	65 - 135	mruan
			Reviewed by: bdbabalia

EPA 8020									BTEX
Parameter	Result	Qual	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707
Toluene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707
Ethyl Benzene	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707
Xylenes, Total	ND		1	0.50	µg/L	N/A	N/A	7/8/2005	WGC4050707

Surrogate	Surrogate Recovery	Control Limits (%)	Analyzed by:
4-Bromofluorobenzene	95.3	65 - 135	mruan
			Reviewed by: bdbabalia

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Method Blank - Liquid - EPA 8015 MOD. (Purgeable) - TPH as Gasoline

QC Batch ID: WGC4050707

Validated by: bdhabalia - 07/12/05

QC Batch Analysis Date: 7/7/2005

Parameter	Result	DF	PQLR	Units
TPH as Gasoline	ND	1	50	µg/L

Surrogate for Blank % Recovery Control Limits

4-Bromofluorobenzene 92.8 65 - 135

Method Blank - Liquid - EPA 8020 - BTEX

QC Batch ID: WGC4050707

Validated by: bdhabalia - 07/12/05

QC Batch Analysis Date: 7/7/2005

Parameter	Result	DF	PQLR	Units
Benzene	ND	1	0.50	µg/L
Ethyl Benzene	ND	1	0.50	µg/L
Toluene	ND	1	0.50	µg/L
Xylenes, Total	ND	1	0.50	µg/L

Surrogate for Blank % Recovery Control Limits

4-Bromofluorobenzene 94.0 65 - 135

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Laboratory Control Sample / Duplicate - Liquid - EPA 8015 MOD. (Purgeable) - TPH as Gasoline

QC Batch ID: WGC4050707

Reviewed by: bdhabalia - 07/12/05

QC Batch ID Analysis Date: 7/7/2005

## LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
TPH as Gasoline	<50	250	249	µg/L	99.6	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	90.1	65 - 135

## LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline	<50	250	245	µg/L	98.0	1.6	25.0	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	103	65 - 135

Laboratory Control Sample / Duplicate - Liquid - EPA 8020 - BTEX

QC Batch ID: WGC4050707

Reviewed by: bdhabalia - 07/12/05

QC Batch ID Analysis Date: 7/7/2005

## LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
Benzene	<0.50	8.0	8.66	µg/L	108	65 - 135

Ethyl Benzene	<0.50	8.0	8.06	µg/L	101	65 - 135
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Toluene	<0.50	8.0	8.54	µg/L	107	65 - 135
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Xylenes, total	<0.50	24	24.5	µg/L	102	65 - 135
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Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	103	65 - 135

## LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	<0.50	8.0	7.62	µg/L	95.2	13	25.0	65 - 135

Ethyl Benzene	<0.50	8.0	7.18	µg/L	89.8	12	25.0	65 - 135
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Toluene	<0.50	8.0	7.57	µg/L	94.6	12	25.0	65 - 135
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Xylenes, total	<0.50	24	20.2	µg/L	84.2	19	25.0	65 - 135
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Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	96.3	65 - 135



# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Matrix Spike / Matrix Spike Duplicate - Liquid - EPA 8015 MOD. (Purgeable) - TPH as Gasoline

QC Batch ID: WGC4050707

Reviewed by: bdhabalia - 07/12/05

QC Batch ID Analysis Date: 7/7/2005

MS		Sample Spiked: 44212-001					Recovery Limits	
Parameter		Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	
TPH as Gasoline		ND	250	223	µg/L	7/7/2005	89.2	65 - 140

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	92.1	65 - 135

MSD		Sample Spiked: 44212-001					Recovery Limits			
Parameter		Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline		ND	250	250	µg/L	7/7/2005	100	11	25.0	65 - 140

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	96.4	65 - 135

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Matrix Spike / Matrix Spike Duplicate - Liquid - EPA 8020 - BTEX

QC Batch ID: WGC4050707

Reviewed by: bdhabalia - 07/12/05

QC Batch ID Analysis Date: 7/7/2005

## MS

Sample Spiked: 44212-001

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	Recovery Limits
Benzene	ND	2.8	2.48	µg/L	7/7/2005	88.2	65 - 140
Ethyl Benzene	ND	3.7	2.56	µg/L	7/7/2005	69.2	65 - 140
Toluene	ND	16	13.5	µg/L	7/7/2005	82.6	65 - 140
Xylenes, total	ND	20	14.0	µg/L	7/7/2005	71.8	65 - 140

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	95.8	65 - 135

## MSD

Sample Spiked: 44212-001

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	ND	2.8	2.73	µg/L	7/7/2005	97.2	9.6	25.0	65 - 140
Ethyl Benzene	ND	3.7	2.71	µg/L	7/7/2005	73.2	5.7	25.0	65 - 140
Toluene	ND	16	14.3	µg/L	7/7/2005	87.3	5.6	25.0	65 - 140
Xylenes, total	ND	20	15.0	µg/L	7/7/2005	77.1	7.2	25.0	65 - 140

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	98.7	65 - 135

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Method Blank - Liquid - EPA 8015 MOD. (Extractable) - TPH-Extractable

QC/Prep Batch ID: DW050707

Validated by: dba - 07/07/05

QC/Prep Date: 7/7/2005

Parameter	Result	DF	PQLR	Units
TPH as Mineral Spirits (Stoddard)	ND	1	50	µg/L

Surrogate for Blank	% Recovery	Control Limits
o-Terphenyl	89.7	22 - 133

Laboratory Control Sample / Duplicate - Liquid - EPA 8015 MOD. (Extractable) - TPH-Extractable

QC/Prep Batch ID: DW050707

Reviewed by: dba - 07/07/05

QC/Prep Date: 7/7/2005

## LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
TPH as Diesel	<50	1000	864	µg/L	86.4	40 - 138
TPH as Motor Oil	<200	1000	889	µg/L	88.9	40 - 138

Surrogate	% Recovery	Control Limits
o-Terphenyl	96.1	22 - 133

## LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Diesel	<50	1000	784	µg/L	78.4	9.6	25.0	40 - 138
TPH as Motor Oil	<200	1000	841	µg/L	84.1	5.6	25.0	40 - 138

Surrogate	% Recovery	Control Limits
o-Terphenyl	79.6	22 - 133

