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July 21, 2005

3577.02

Humboldt County Department of Health and Human Services
Division of Environmental Health
100 H Street, Suite 100
Eureka, California 95501

Attention: Mr. Mark Verhey, C.E.G.

Subject: Groundwater Monitoring Report; Second Quarter 2005
HPI Former Rio Dell Shell; 481 Wildwood Avenue, Rio Dell, California
LOP No. 12261

Dear Mr. Verhey:

LACO ASSOCIATES (LACO) is pleased to present to the Humboldt County Division of Environmental Health (HCDEH) the results of groundwater monitoring for the second quarter of 2005 at 481 Wildwood Avenue in Rio Dell, California.

Please call or email if you have any questions or concerns.

Sincerely,
LACO ASSOCIATES

Amy M. Thomson
Amy M. Thomson
Staff Geologist

PROFESSIONAL GEOLOGIST
TIMOTHY DOUGLAS NELSON
No. 7579
Exp. 05/31/07
STATE OF CALIFORNIA

Timothy D. Nelson, P.G.
PG 7579, Exp. 05/31/07

AMT:cs

Attachment

cc: Jim Seiler (electronically sent)

P:\3000\3577 HPI Rio Dell Shell\Submittals\GMRs\2005\2005\2Q '05\2nd Q 05.doc

21 W. 4th Street · P.O. Box 1023 · Eureka, California 95502 · 707-443-5054 · 1-800-515-5054 · FAX 707-443-0553
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GROUNDWATER MONITORING REPORT
SECOND QUARTER 2005

481 Wildwood Avenue, Rio Dell, California

LOP No. 12261; LACO Project No. 3577.02

INTRODUCTION

This report presents the cumulative results of groundwater monitoring conducted at the Former Rio Dell Shell site (hereafter referred to as the "site") since 1999. Field activities associated with the second quarter 2005 groundwater monitoring event were conducted on June 8, 2005. Please refer to Table A, included below, for field sampling data details for the second quarter of 2005. Monitoring well sampling protocol is included in LACO's *Standard Operating Procedures* on file at your office. A location and a site map are provided as Figures 1 and 2, respectively.

Table A: Field Sampling Data for June 8, 2005

MONITORING WELL ID	SCREENED INTERVAL	DTW (feet bgs)	PURGE METHOD	WATER QUALITY PARAMETERS	ANALYTICALS	SAMPLING SCHEDULE
					ORGANICS	
MW1D	18-25	7.7	---	---	---	
MW2D	18-25	5.45	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW3D	13-20	638	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW4S	7-12	7.93	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW5S	5-12	3.35	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW6S	5-12	8.07	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW7S	5-12	6.45	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW8S	5-12	6.6	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW9S	5-12	6.92	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW10S	5-12	4.42	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly

A key of this Table is included as Attachment 1.

SITE CHRONOLOGY

1990: Three single-wall steel gasoline underground storage tanks (USTs) were removed and replaced by two double-wall fiberglass gasoline USTs (one 10,000-gallon and one 12,000-gallon).

April 1999: One 10,000-gallon and one 12,000-gallon UST used for gasoline, and associated piping from both USTs, were removed.

December 1999: Five temporary soil borings (B1 through B5) and three monitoring wells (MW1, MW2, and MW3) were installed.

June 2001: Monitoring wells MW4, MW5, and MW6 were installed, and monitoring wells MW1 through MW3 were reconstructed.

August 2002: Nine borings (B6 through B14), four observation wells (OW1 through OW4), and one extraction well (EW1) were installed.

October 2002: Three monitoring wells were installed (MW7 through MW9).

June 2004: Monitoring well MW10 was installed

HYDROGEOLOGY

The subject property is located on colluvial deposits overlying Quaternary Eel River deposits, approximately 140 feet above sea level. The monitoring wells are screened at different depth intervals so as to collect groundwater from the more saturated sandy units.

- The hydraulic gradient for the shallow aquifer was calculated using the hydraulic heads of monitoring wells MW5, MW8, MW9, and the three-point method. The calculated hydraulic gradient for the shallow aquifer for the current sampling event was calculated as 5.6 percent in the N33°W direction.
- The hydraulic gradient for the deep aquifer, as calculated by using the three-point method in the area defined by monitoring wells MW1, MW2, and MW3, was 1.3 percent in the N75°W direction.

This hydraulic gradient data is consistent with previous hydraulic gradient calculations at this site. Hydraulic gradient contour maps for the shallow and deep aquifers created with Surfer 7.0 software are presented as Figures 3 and 4, respectively. Current and historic hydraulic head data are presented in Table 1, historic hydraulic gradient data are presented in Table 2, and a copy of the field sampling data sheets are included as Attachment 2.

QUARTERLY LABORATORY ANALYTICAL RESULTS

Groundwater analytical data from the June 8, 2005, quarterly sampling event are detailed in Table B, included below. Current and historic groundwater analytical data are included in Table 1. Copies of the laboratory analytical reports for this reporting period are included as Attachment 3.

Table B: Analytical Results for the June 8, 2005, Quarterly Sampling Event										
WELL	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)
MW1D	---	---	---	---	---	---	---	---	---	---
MW2D	<50	<0.50	<0.50	<0.50	<0.50	8.5	<10	1.2	<1.0	<1.0
MW3D	210	<0.50	<0.50	<0.50	<0.50	180	<10	14	<1.0	<1.0
MW4S	54	<0.50	<0.50	<0.50	<0.50	23	<10	3.4	<1.0	<1.0
MW5S	1,300	16	<0.50	1.3	0.53	540	86	110	<1.0	<1.0
MW6S	61	<0.50	<0.50	<0.50	<0.50	1.1	<50	<1.0	<1.0	<1.0
MW7S	1,100	<0.50	<0.50	<0.50	<0.50	1,100	95	89	5.9	<1.0
MW8S	340	<0.50	<0.50	<0.50	<0.50	300	57	33	1.9	<1.0
MW9S	400	<0.50	<0.50	<0.50	<0.50	370	100	1.1	4.0	<1.0
MW10S	420	<0.50	<0.50	<0.50	<0.50	370	88	38	<2.0	<1.0

DISCUSSION OF QUARTERLY RESULTS

Analytical results reported for the shallow and deep monitoring wells sampled during the second quarter of 2005 generally fall within the range of previously reported sampling events. Monitoring well MW1 has not been sampled since June 2002; however, depth-to-water (DTW) is still measured with each sampling event.

In groundwater samples collected from monitoring well MW2, total petroleum hydrocarbons as gasoline (TPHg) has not been reported since September 2003. Methyl tertiary butyl ether (MTBE) in monitoring well MW2 has decreased by one order of magnitude since the previous sampling event of March 2005. It appears that the MTBE in monitoring well MW2 has generally remained constant since sampling was initiated in December 1999, and has been under the water quality objective (WQO) of 13µg/L since March 2005.

Groundwater samples collected from monitoring well MW3 indicate an increase in TPHg within the same order of magnitude as the previous sampling event; it has taken TPHg approximately 4 to 5 years to decrease by one order of magnitude. MTBE concentrations in monitoring well MW3 have not changed since the last sampling event; overall, it has taken MTBE approximately 4 years to decrease by one order of magnitude.

Groundwater samples collected from monitoring well MW4 indicate that TPHg and MTBE concentrations have taken approximately 2.5 years to decrease by one order of magnitude.

Groundwater samples collected from monitoring well MW5 indicate that TPHg and benzene concentrations have increased by one order of magnitude since the last sampling event; however,

TPHg concentrations have remained relatively steady since sampling was initiated. MTBE in this monitoring well has decreased by one order of magnitude since October 2002, and benzene has decreased one order of magnitude since June 2003.

Groundwater samples collected from monitoring well MW6 indicate that TPHg concentrations have taken approximately 2 years to decrease by one order of magnitude. Benzene has been reported as non-detect since June 2004. MTBE in this monitoring well has been below the water quality objective of 13µg/L since the beginning of sampling (July 2001).

Groundwater samples collected from monitoring well MW7 indicated an increase in TPHg by one order of magnitude since the last sampling event. Groundwater samples collected from both monitoring wells MW7 and MW8 indicated a decrease in tertiary butyl alcohol (TBA) concentrations by one order of magnitude since March 2005, while all other analytes detected in monitoring well MW8 decreased within the same order of magnitude.

Groundwater samples collected from monitoring wells MW9 and MW10 indicate decreases in MTBE, TBA, TAME, and ETBE within the same order of magnitude, while TPHg increased within the same order of magnitude.

The analyte TAME was detected in all wells, shallow and deep, with the exception of monitoring well MW6 which is upgradient from the source; while TBA and ethyl tertiary butyl ether (ETBE) were found only in the shallow monitoring wells. The relatively unchanged analyte concentrations for monitoring wells MW5, MW7, MW8, MW9, and MW10, indicate their proximity to the source.

The North Coast Laboratories (NCL) case narrative states that, the reported gasoline values for monitoring wells MW3, MW4, MW7, MW8, MW9 and MW10 comes from gasoline additives such as MTBE.

INTRINSIC INDICATOR RESULTS AND DISCUSSION

Field intrinsic bioremediation indicators dissolved oxygen (DO) and oxidation reduction potential (ORP) are routinely monitored during sampling. DO levels of +2.0 mg/L and greater and ORP levels of +50 mV and greater are typical of aerobic conditions at a site. In the contrary, DO and ORP recordings below these thresholds generally indicate anaerobic conditions at a site. The recordings of DO and ORP obtained from monitoring wells for this sampling event

generally exhibited levels below the threshold which suggests anaerobic conditions exist at the location of the monitoring wells.

RECOMMENDATION

The next sampling event is scheduled for September 2005.

LIST OF FIGURES, TABLES, AND ATTACHMENTS

Figure 1: Location Map

Figure 2: Site Map

Figure 3: Hydraulic Gradient Map - Shallow Aquifer, June 8, 2005

Figure 4: Hydraulic Gradient Map - Deep Aquifer, June 8, 2005

Table 1: Historical Well Data and Groundwater Analytical Results

Table 2: Historical Hydraulic Gradient Data

Attachment 1: Key to Abbreviations

Attachment 2: Groundwater Sampling: Field Data Sheets

Attachment 3: Laboratory Analytical Reports

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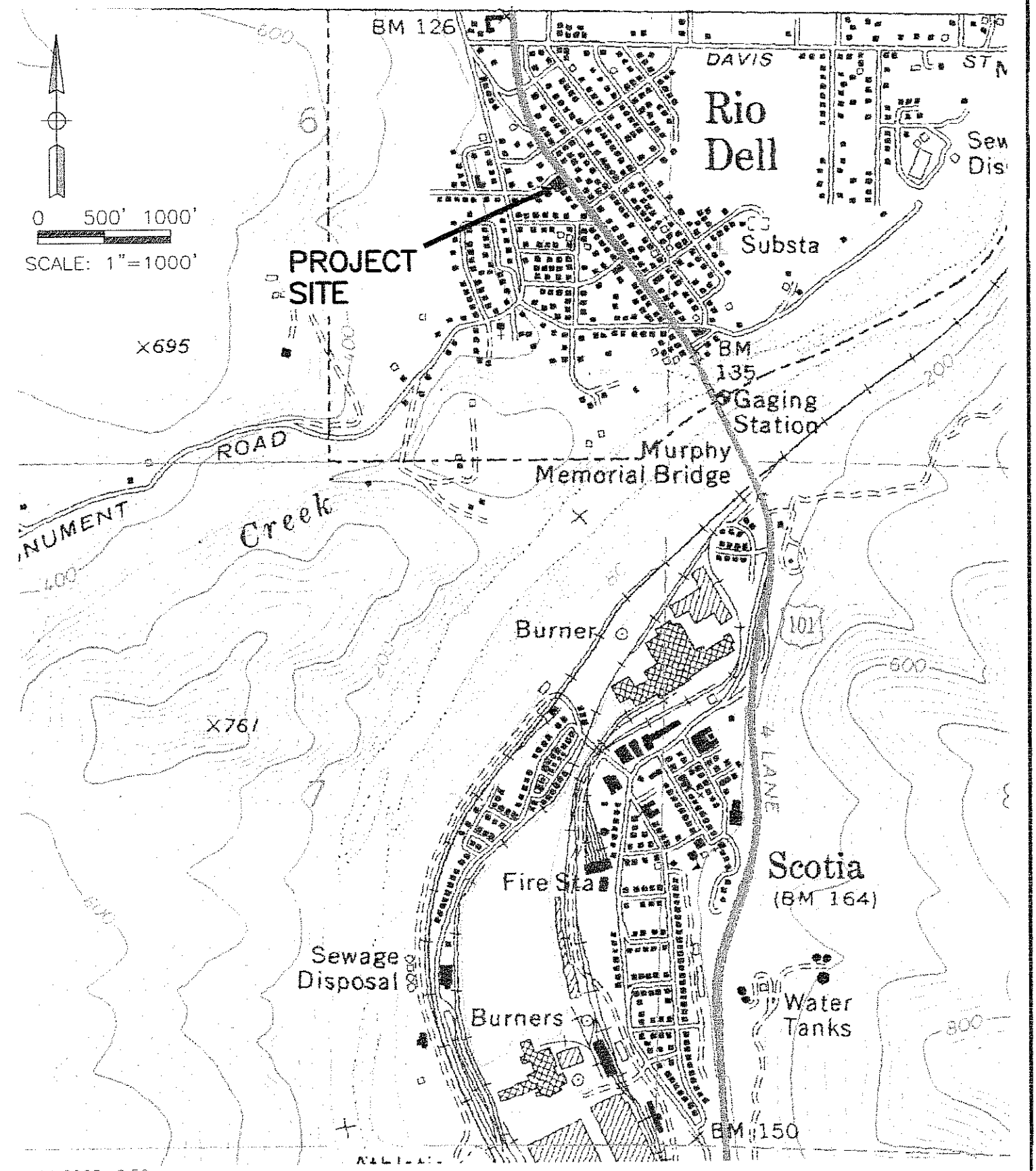
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT	GROUNDWATER MONITORING REPORT	BY	RJM	1
	CLIENT	HUMBOLDT PETROLEUM INC.	DATE	7/11/05	
	LOCATION	481 WILDWOOD AVE, RIO DELL	CHECK		JOB NO. 3577.02
		LOCATION MAP	SCALE	1"=1000'	



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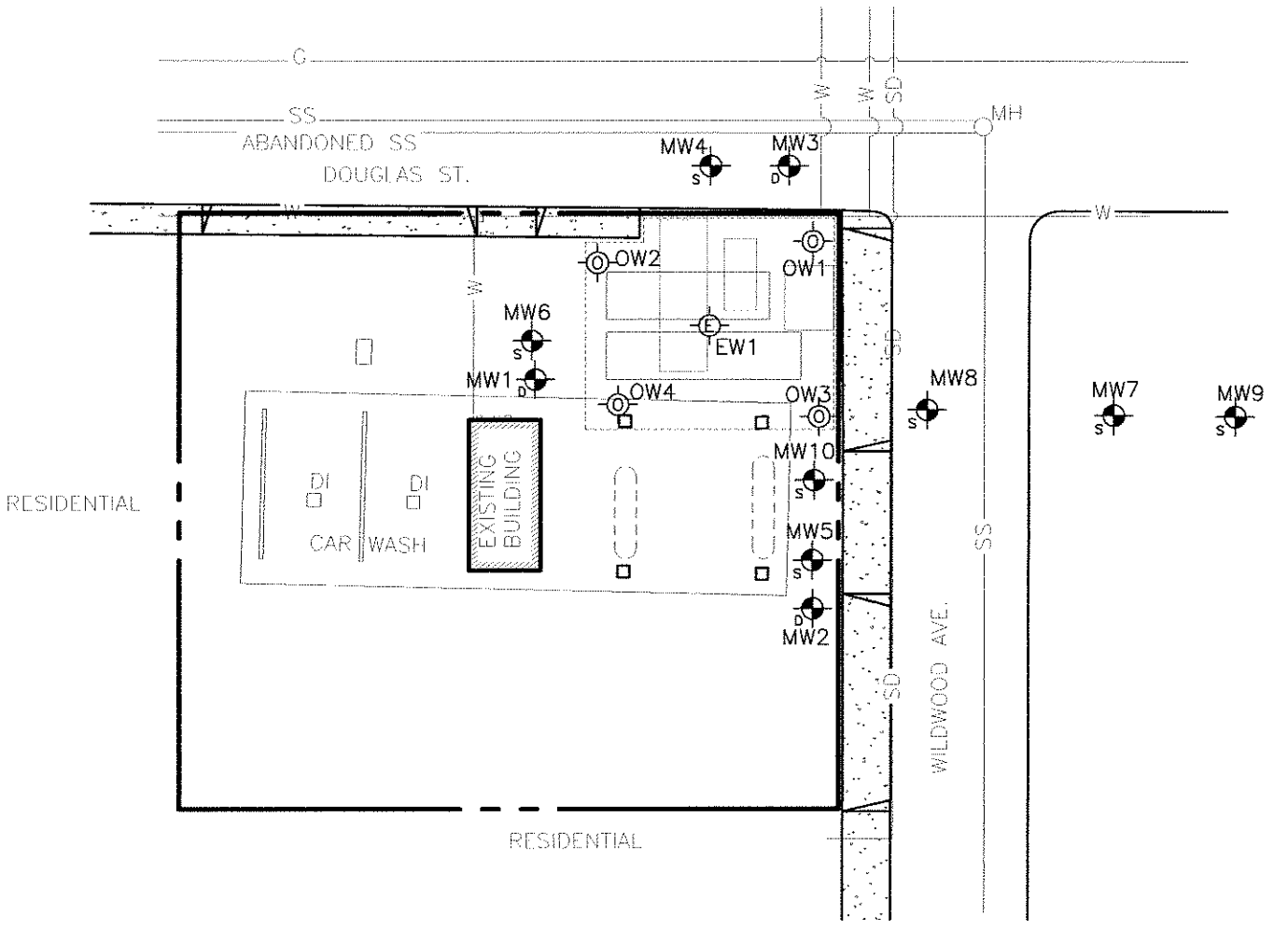
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT GROUNDWATER MONITORING REPORT	BY RJM	FIGURE 2
	CLIENT HUMBOLDT PETROLEUM INC	DATE 7/11/05	
	LOCATION 481 WILDWOOD AVE, RIO DELL	CHECK	JOB NO. 3577.02
	SITE MAP	SCALE 1"=30'	

LEGEND

- FORMER UST'S – REMOVED 1990
- UST'S REMOVED 4/21/99
- MONITORING WELL–SHALLOW
- MONITORING WELL–DEEP
- EXTRACTION WELL
- OBSERVATION WELL

0 15' 30'

SCALE: 1"=30'



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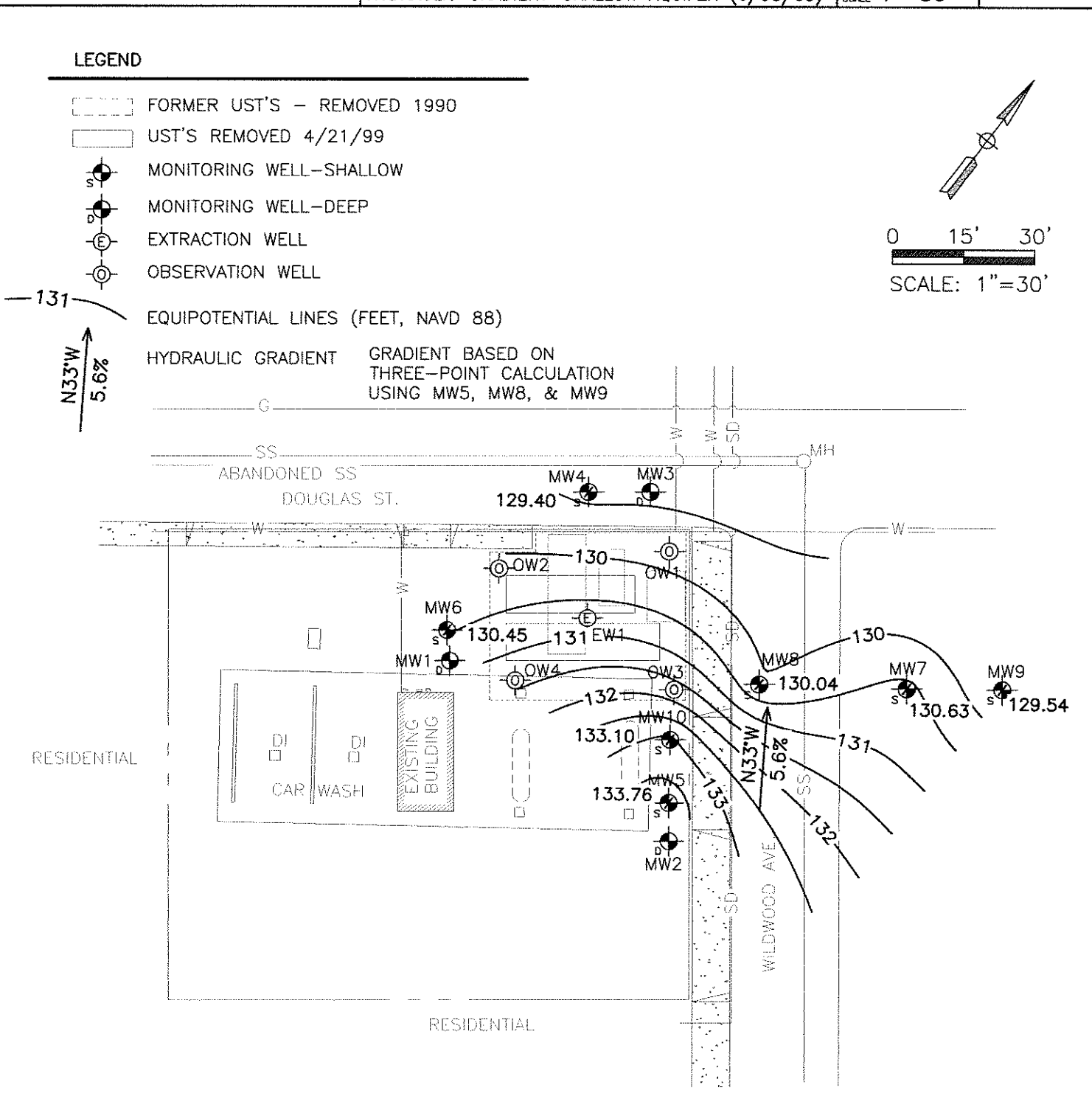
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT GROUNDWATER MONITORING REPORT	BY RJM	FIGURE 3
	CLIENT HUMBOLDT PETROLEUM INC	DATE 7/12/05	
	LOCATION 481 WILDWOOD AVE, RIO DELL	CHECK	JOB NO. 3577.02
	HYDRAULIC GRADIENT-SHALLOW AQUIFER (6/08/05)	SCALE 1"=30'	



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LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT GROUNDWATER MONITORING REPORT	BY RJM	FIGURE 4
	CLIENT HUMBOLDT PETROLEUM INC	DATE 7/12/05	
	LOCATION 481 WILDWOOD AVE, RIO DELL	CHECK	JOB NO. 3577.02
	HYDRAULIC GRADIENT-DEEP AQUIFER (6/08/05)	SCALE 1"=30'	

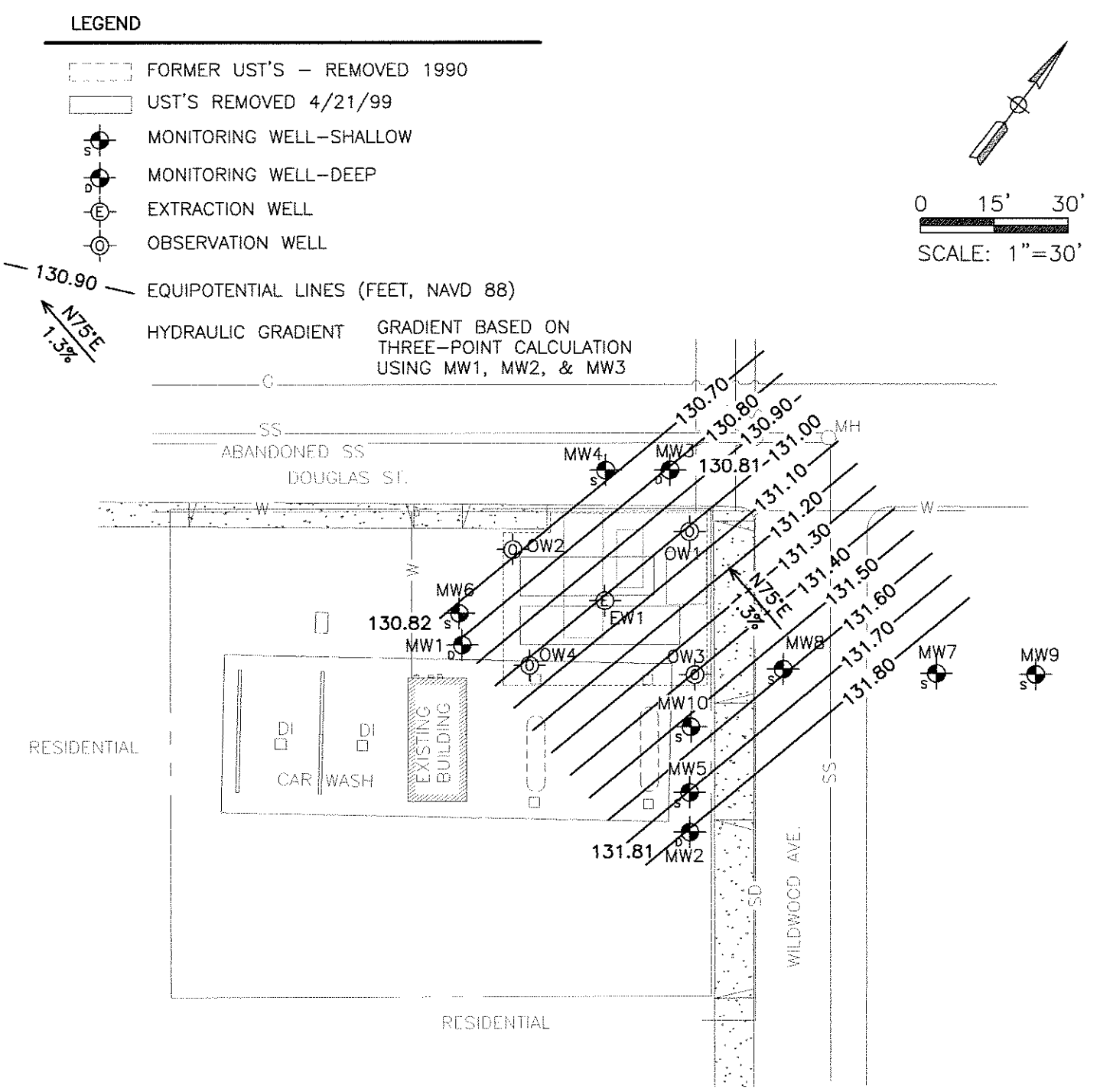

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TABLE 1: WELL DATA AND GROUNDWATER ANALYTICAL RESULTS
Former Rio Dell Shell, 481 Wildwood Avenue, Rio Dell, CA
LACO Project No. 3577.02; LOP No. 12261

Well ID	Sample Date	Well Head Elevation* (ft msl)	Water Surface Elevation (ft msl)	Depth to Water (ft)	Foot notes	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Methanol/ Ethanol (µg/L)
MW-1	**12/28/1999**	**135.21**	130.55	7.97		<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0	---
	2/24/2000		132.09	6.43		---	---	---	---	---	---	---	---	---	---	---
	3/21/2000		131.72	6.8		---	---	---	---	---	---	---	---	---	---	---
	4/18/2000		130.71	7.81		<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0	---
	5/26/2000		130.45	8.07		---	---	---	---	---	---	---	---	---	---	---
	6/30/2000		129.75	8.77		---	---	---	---	---	---	---	---	---	---	---
	7/31/2000		129.07	9.45		<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0	---
	8/30/2000		128.55	9.97		---	---	---	---	---	---	---	---	---	---	---
	9/22/2000		128.40	10.12		---	---	---	---	---	---	---	---	---	---	---
	10/26/2000		127.94	10.58		<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0	---
	11/24/2000		128.04	10.48		---	---	---	---	---	---	---	---	---	---	---
	12/12/2000		129.84	8.68		---	---	---	---	---	---	---	---	---	---	---
	1/12/2001		130.12	8.4		<50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<1.0	---
	2/22/2001		131.01	7.51		---	---	---	---	---	---	---	---	---	---	---
	4/5/2001		130.96	7.56		---	---	---	---	---	---	---	---	---	---	---
	5/2/2001		130.86	7.66		<50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<1.0	---
	6/14/01	**138.52**	**Reconstructed**													
	7/6/2001		129.07	**9.45**		<50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<1.0	**Ethanol =10**
	9/4/2001		127.86	10.66		---	---	---	---	---	---	---	---	---	---	---
	10/18/2001		127.07	11.45		<50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<1.0	---
	11/29/2001		128.52	10		---	---	---	---	---	---	---	---	---	---	---
	1/2/2002		131.33	7.19		<50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<1.0	---
	1/21/2002		130.92	**7.6**		<50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<1.0	**Methanol = 77**
	2/27/2002		131.38	7.14		---	---	---	---	---	---	---	---	---	---	---
	3/13/2002		131.01	7.51		<50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<1.0	---
	4/19/2002		130.42	8.1		---	---	---	---	---	---	---	---	---	---	---
	5/20/2002		130.44	8.08		---	---	---	---	---	---	---	---	---	---	---
	6/13/2002		129.62	8.9		<50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<1.0	---
	10/31/2002		---	---		---	---	---	---	---	---	---	---	---	---	---
	1/3/2003		131.04	7.48		---	---	---	---	---	---	---	---	---	---	---
	3/18/2003		133.81	4.71		---	---	---	---	---	---	---	---	---	---	---
	6/24/2003		129.83	8.69		---	---	---	---	---	---	---	---	---	---	---
	9/18/2003		128.20	10.32		---	---	---	---	---	---	---	---	---	---	---
	12/9/2003		129.17	9.35		---	---	---	---	---	---	---	---	---	---	---
	3/4/2004		131.69	6.83		---	---	---	---	---	---	---	---	---	---	---
	6/23/2004		129.47	9.05		---	---	---	---	---	---	---	---	---	---	---
	9/14/2004		127.54	10.98		---	---	---	---	---	---	---	---	---	---	---
	12/16/2004		129.63	8.89		---	---	---	---	---	---	---	---	---	---	---
	3/15/2005		130.94	7.58		---	---	---	---	---	---	---	---	---	---	---
	6/8/2005		130.82	7.7		---	---	---	---	---	---	---	---	---	---	---

TABLE 1: WELL DATA AND GROUNDWATER ANALYTICAL RESULTS
Former Rio Dell Shell, 481 Wildwood Avenue, Rio Dell, CA
LACO Project No. 3577.02; LOP No. 12261

Well ID	Sample Date	Well Head Elevation* (ft msl)	Water Surface Elevation (ft msl)	Depth to Water (ft)	Foot notes	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Methanol/ Ethanol (µg/L)
MW-2	12/28/1999	133.88	130.41	6.85		<50	<0.50	<0.50	<0.50	<0.50	1.8	<10	<1.0	<1.0	<1.0	---
	2/24/2000		131.97	5.29		---	---	---	---	---	---	---	---	---	---	---
	3/24/2000		131.59	5.67		---	---	---	---	---	---	---	---	---	---	---
	4/18/2000		130.56	6.7		<50	<0.50	<0.50	<0.50	<0.50	21	<10	<1.0	<1.0	<1.0	---
	5/26/2000		130.32	6.94		---	---	---	---	---	---	---	---	---	---	---
	6/30/2000		129.61	7.65		---	---	---	---	---	---	---	---	---	---	---
	7/31/2000		128.92	8.34		<50	<0.50	<0.50	<0.50	<0.50	8.8	<10	<1.0	<1.0	<1.0	---
	8/30/2000		128.41	8.85		---	---	---	---	---	---	---	---	---	---	---
	9/22/2000		128.28	8.98		---	---	---	---	---	---	---	---	---	---	---
	10/26/2000		128.03	9.23		<50	<0.50	<0.50	<0.50	<0.50	22	<10	<1.0	<1.0	<1.0	---
	11/24/2000		127.92	9.34		---	---	---	---	---	---	---	---	---	---	---
	12/12/2000		128.58	8.68		---	---	---	---	---	---	---	---	---	---	---
	1/12/2001		130.03	7.23		<50	<0.50	<0.50	<0.50	<0.50	39	<5.0	<1.0	<1.0	<1.0	---
	2/22/2001		131.45	5.81		---	---	---	---	---	---	---	---	---	---	---
	4/5/2001		130.76	6.5		---	---	---	---	---	---	---	---	---	---	---
	5/2/2001		130.56	6.7		<50	<0.50	<0.50	<0.50	<0.50	49	7.6	1.2	<1.0	<1.0	---
	6/15/01	137.26	Reconstructed													
	7/6/2001		129.19	8.07		<50	<0.50	<0.50	<0.50	<0.50	7.9	5.4	<1.0	<1.0	<1.0	---
	9/4/2001		128.02	9.24		---	---	---	---	---	---	---	---	---	---	---
	10/18/2001		127.06	10.2		74	<0.50	<0.50	<0.50	<0.50	5.1	12	<1.0	<1.0	<1.0	---
	11/29/2001		128.53	8.73		---	---	---	---	---	---	---	---	---	---	---
	1/2/2002		131.34	5.92		<100	<0.50	<0.50	<0.50	<0.50	5.4	<10	<1.0	<1.0	<1.0	---
	1/21/2002		130.92	6.34		<50	<0.50	<0.50	<0.50	<0.50	7.3	<5.0	<1.0	<1.0	<1.0	Methanol = 87
	2/27/2002		131.35	5.91		---	---	---	---	---	---	---	---	---	---	---
	3/13/2002		131.01	6.25		<50	<0.50	<0.50	<0.50	<0.50	8.0	<5.0	<1.0	<1.0	<1.0	---
	4/19/2002		130.42	6.84		---	---	---	---	---	---	---	---	---	---	---
	5/20/2002		130.41	6.85		---	---	---	---	---	---	---	---	---	---	---
	6/13/2002		129.80	7.46		<50	<0.50	<0.50	<0.50	<0.50	0.78	<5.0	<1.0	<1.0	<1.0	---
	10/31/2002		132.49	4.77		<50	<0.50	<0.50	<0.50	<0.50	6.3	<20	<1.0	<1.0	<1.0	---
	1/3/2003		131.16	6.1		<50	<0.50	<0.50	<0.50	<0.50	4.6	<20	<1.0	<1.0	<1.0	---
	3/18/2003		130.98	6.28		<50	<0.50	<0.50	<0.50	<0.50	11	<20	<1.0	<1.0	<1.0	---
	6/24/2003		129.79	7.47		<50	<0.50	<0.50	<0.50	<0.50	5.6	<20	<1.0	<1.0	<1.0	---
	9/18/2003		128.17	9.09		50	<0.50	<0.50	<0.50	<0.50	9.3	<20	<1.0	<1.0	<1.0	---
	12/9/2003		129.16	8.10		<50	<0.50	<0.50	<0.50	<0.50	7.0	<20	<1.0	<1.0	<1.0	---
	3/4/2004		131.65	5.61		<50	<0.50	<0.50	<0.50	<0.50	4.4	<10	<1.0	<1.0	<1.0	---
	6/23/2004		129.44	7.82		<50	<0.50	<0.50	<0.50	<0.50	18	<10	1.9	<1.0	<1.0	---
	9/14/2004		127.49	9.77		<50	<0.50	<0.50	<0.50	<0.50	19	<10	1.8	<1.0	<1.0	---
	12/16/2004		129.61	7.65		<50	<0.50	<0.50	<0.50	<0.50	18	<10	1.9	<1.0	<1.0	---
	3/15/2005		130.86	6.40		<50	<0.50	<0.50	<0.50	<0.50	12	<10	1.6	<1.0	<1.0	---
	6/8/2005		131.81	5.45		<50	<0.50	<0.50	<0.50	<0.50	8.5	<10	1.2	<1.0	<1.0	---

TABLE 1: WELL DATA AND GROUNDWATER ANALYTICAL RESULTS
Former Rio Dell Shell, 481 Wildwood Avenue, Rio Dell, CA
LACO Project No. 3577.02; LOP No. 12261

Well ID	Sample Date	Well Head Elevation* (ft msl)	Water Surface Elevation (ft msl)	Depth to Water (ft)	Foot notes	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Methanol/ Ethanol (µg/L)
MW-3	12/28/1999	134.11	130.55	6.64		73	<0.50	<0.50	<0.50	<0.50	240	<10	36	<1.0	<1.0	---
	2/24/2000		132.06	5.13		---	---	---	---	---	---	---	---	---	---	---
	3/21/2000		131.72	5.47		---	---	---	---	---	---	---	---	---	---	---
	4/18/2000		130.72	6.47		1,700	<1.0	<1.0	<1.0	<1.0	3,700	<50	500	<1.0	<1.0	---
	5/26/2000		130.44	6.75		---	---	---	---	---	---	---	---	---	---	---
	6/30/2000		129.76	7.43		---	---	---	---	---	---	---	---	---	---	---
	7/31/2000		129.08	8.11		1,900	<1.0	<1.0	<1.0	<1.0	2,400	<50	570	<1.0	<1.0	---
	8/30/2000		128.56	8.63		---	---	---	---	---	---	---	---	---	---	---
	9/22/2000		128.41	8.78		---	---	---	---	---	---	---	---	---	---	---
	10/26/2000		127.96	9.23		570	<2.5	<2.5	<2.5	<2.5	900	<100	180	<1.0	<1.0	---
	11/24/2000		128.11	9.08		---	---	---	---	---	---	---	---	---	---	---
	12/12/2000		128.53	8.66		---	---	---	---	---	---	---	---	---	---	---
	1/12/2001		130.08	7.11		380	<2.0	<2.0	<2.0	<2.0	1,600	<20	360	<1.0	<1.0	---
	2/22/2001		131.08	6.11		---	---	---	---	---	---	---	---	---	---	---
	4/5/2001		130.97	6.22		---	---	---	---	---	---	---	---	---	---	---
	5/2/2001		130.81	6.38		350	<2.5	<2.5	<2.5	<2.5	1,300	27	320	<1.0	<1.0	---
	6/13/01	137.19	Reconstructed													---
	7/6/2001		129.24	7.95		<200	<2.0	<2.0	<2.0	<2.0	670	<20	140	<1.0	<1.0	---
	9/4/2001		128.31	8.88		---	---	---	---	---	---	---	---	---	---	---
	10/18/2001		127.06	10.13		140	<0.50	<0.50	<0.50	<0.50	410	15	90	0.59	<1.0	
	11/29/2001		128.46	8.73		---	---	---	---	---	---	---	---	---	---	---
	1/2/2002		131.30	5.89		290	<1.0	<1.0	<1.0	<1.0	330	<20	61	<1.0	<1.0	---
	1/21/2002		130.92	6.27		240	<0.50	<0.50	<0.50	<0.50	300	<10	47	<1.0	<1.0	Methanol = 82
	2/27/2002		131.29	5.9		---	---	---	---	---	---	---	---	---	---	---
	3/13/2002		130.97	6.22		120	<0.50	<0.50	<0.50	<0.50	190	<5.0	24	<1.0	<1.0	---
	4/19/2002		130.33	6.86		---	---	---	---	---	---	---	---	---	---	---
	5/20/2002		130.45	6.74		---	---	---	---	---	---	---	---	---	---	---
	6/13/2002		129.84	7.35		160	<0.50	<0.50	<0.50	<0.50	380	<5.0	34	1.2	<1.0	---
	10/31/2002		126.96	10.23		110	<0.50	<0.50	<0.50	<0.50	210	<20	18	1.3	<1.0	---
	1/3/2003		130.99	6.2		100	<0.50	<0.50	<0.50	<0.50	140	21	8.1	<1.0	1.1	---
	3/18/2003		131.04	6.15		150	<0.50	<0.50	<0.50	<0.50	210	<20	23	<1.0	<1.0	---
	6/24/2003		129.83	7.36		270	<0.50	<0.50	<0.50	<0.50	280	<20	28	1.3	<1.0	---
	9/18/2003		128.19	9.00		210	<0.50	<0.50	<0.50	<0.50	130	<20	7.4	<1.0	<1.0	---
	12/9/2003		129.18	8.01		120	<0.50	<0.50	<0.50	<0.50	150	<20	12	<1.0	<1.0	---
	3/4/2004		131.65	5.54		200	<0.50	<0.50	<0.50	<0.50	210	<10	16	<1.0	<1.0	---
	6/23/2004		129.47	7.72	3	170	<0.50	<0.50	<0.50	<0.50	150	<10	9.7	<1.0	<1.0	---
	9/14/2004		127.53	9.66	3,6	150	<0.50	<0.50	<0.50	<0.50	120	<15	7.2	<1.0	<1.0	---
	12/16/2004		129.62	7.57	3,6	200	<0.50	<0.50	<0.50	<0.50	160	<15	10	<1.0	<1.0	---
	3/15/2005		130.87	6.32		140	<0.50	<0.50	<0.50	<0.50	180	<10	15	<1.0	<1.0	---
	6/8/2005		130.81	6.38		210	<0.50	<0.50	<0.50	<0.50	180	<10	14	<1.0	<1.0	---

TABLE 1: WELL DATA AND GROUNDWATER ANALYTICAL RESULTS
Former Rio Dell Shell, 481 Wildwood Avenue, Rio Dell, CA
LACO Project No. 3577.02; LOP No. 12261

Well ID	Sample Date	Well Head Elevation* (ft msl)	Water Surface Elevation (ft msl)	Depth to Water (ft)	Foot notes	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Methanol/ Ethanol (µg/L)
MW-4	7/6/2001	137.33	128.84	8.49		<50	<0.50	<0.50	<0.50	<0.50	72	8.7	13	<1.0	<1.0	---
	9/4/2001		131.58	5.75												
	10/18/2001		130.90	6.43		86	<0.50	<0.50	<0.50	<0.50	160	9.5	35	<1.0	<1.0	---
	11/29/2001		132.68	4.65												
	1/2/2002		133.86	3.47		140	<0.50	<0.50	<0.50	<0.50	160	9	40	<1.0	<1.0	Methanol=57
	1/21/2002		134.01	3.32		160	<0.50	<0.50	<0.50	<0.50	190	<5.0	45	<1.0	<1.0	Methanol = 56
	2/27/2002		134.49	2.84		---	---	---	---	---	---	---	---	---	---	---
	3/13/2002		133.83	3.50		<50	<0.50	<0.50	<0.50	<0.50	68	<5.0	13	<1.0	<1.0	---
	4/19/2002		133.97	3.36		---	---	---	---	---	---	---	---	---	---	---
	5/20/2002		134.08	3.25		---	---	---	---	---	---	---	---	---	---	---
	6/13/2002		133.51	3.82		<50	<0.50	<0.50	<0.50	<0.50	28	<5.0	4.6	<1.0	<1.0	Ethanol = 6.7
	10/31/2002		130.84	6.49		<50	<0.50	<0.50	<0.50	<0.50	41	<20	7.9	<1.0	<1.0	---
	1/3/2003		133.92	3.41		<50	<0.50	<0.50	<0.50	<0.50	22	<20	3.6	<1.0	<1.0	---
	3/18/2003		131.32	6.01		<50	<0.50	<0.50	<0.50	<0.50	22	<20	3.8	<1.0	<1.0	---
	6/24/2003		129.77	7.56		68	<0.50	<0.50	<0.50	<0.50	32	<20	4.5	<1.0	<1.0	---
	9/18/2003		129.46	7.87		94	<0.50	<0.50	<0.50	<0.50	33	<20	4.6	<1.0	<1.0	---
	12/9/2003		130.17	7.16		<50	<0.50	<0.50	<0.50	<0.50	16	<20	2.3	<1.0	<1.0	---
	3/4/2004		130.70	6.63		<50	<0.50	<0.50	<0.50	<0.50	27	<10	3.1	<1.0	<1.0	---
	6/23/2004		129.80	7.53		<50	<0.50	<0.50	<0.50	0.5	24	<10	4.2	<1.0	<1.0	---
	9/14/2004		129.27	8.06		<50	<0.50	<0.50	<0.50	<0.50	15	<10	2.1	<1.0	<1.0	---
	12/16/2004		129.64	7.69	2	<50	<0.50	<0.50	<0.50	<0.50	12	<10	1.6	<1.0	<1.0	---
	3/15/2005		129.61	7.72		<50	<0.50	<0.50	<0.50	<0.50	23	<10	3.5	<1.0	<1.0	---
	6/8/2005		129.40	7.93		54	<0.50	<0.50	<0.50	<0.50	23	<10	3.4	<1.0	<1.0	---
MW-5	7/6/2001	137.11	127.07	10.04		<100	<1.0	<1.0	<1.0	<1.0	340	150	50	<1.0	<1.0	---
	9/4/2001		131.26	5.85		---	---	---	---	---	---	---	---	---	---	---
	10/18/2001		131.96	5.15		1,200	150	<2.5	19	9.8	1,000	330	250	<1.0	<1.0	---
	11/29/2001		133.22	3.89		---	---	---	---	---	---	---	---	---	---	---
	1/2/2002		133.86	3.25		2,200	370	2.9	26	8.5	1,200	290	280	<1.0	<1.0	Methanol = 130
	1/21/2002		133.72	3.39		2,400	380	2.9	27	6.1	1,400	<30	320	<1.0	<1.0	Methanol = 80
	2/27/2002		132.95	4.16		---	---	---	---	---	---	---	---	---	---	---
	3/13/2002		130.43	6.68		910	85	1.1	11	3.9	790	<20	170	<1.0	<1.0	---
	4/19/2002		133.48	3.63		---	---	---	---	---	---	---	---	---	---	---
	5/20/2002		134.03	3.08		---	---	---	---	---	---	---	---	---	---	---
	6/13/2002		133.78	3.33		1,500	270	1.7	15	3.2	1,400	380	250	<1.0	<1.0	Methanol = 120
	10/31/2002		132.39	4.72		2,200	420	3.6	24	5.56	1,200	470	340	1.2	<1.0	---
	1/3/2003		135.14	1.97		1,100	190	ND<5.0	8.1	ND<5.0	770	<20	210	<1.0	<1.0	---
	3/18/2003		133.64	3.47		1,600	310	2.2	17	2.60	710	110	160	<1.0	<1.0	---
	6/24/2003		132.90	4.21		2,300	280	2.0	24	1.80	780	150	180	<1.0	<1.0	---
	9/18/2003		132.00	5.11		1,700	32	1.0	10	1.30	910	99	210	<1.0	<1.0	---
	12/9/2003		132.38	4.73		1,000	17	0.65	7.1	1.30	880	94	210	<1.0	<1.0	---
	3/4/2004		133.54	3.57		1,400	95	1.1	7.2	0.98	940	130	180	<1.0	<1.0	---
	6/23/2004		133.29	3.82	2	1,600	51	0.75	5.3	1.2	760	130	170	<1.0	<1.0	---
	9/14/2004		132.85	4.26	2	1,500	14	<0.50	2.3	0.68	650	100	120	<1.0	<1.0	---
	12/16/2004		135.08	2.03		1,300	14	<0.50	1.8	0.56	670	90	120	<1.0	<1.0	---
	3/15/2005		133.73	3.38		890	2.7	<0.50	1.6	0.59	560	<10	130	<1.0	<1.0	---
	6/8/2005		133.76	3.35		1,300	16	<0.50	1.3	0.53	540	86	110	<1.0	<1.0	---

TABLE 1: WELL DATA AND GROUNDWATER ANALYTICAL RESULTS
Former Rio Dell Shell, 481 Wildwood Avenue, Rio Dell, CA
LACO Project No. 3577.02; LOP No. 12261

Well ID	Sample Date	Well Head Elevation* (ft msl)	Water Surface Elevation (ft msl)	Depth to Water (ft)	Foot notes	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Methanol/ Ethanol (µg/L)
MW-6	7/6/2001	138.52	129.57	8.95		<50	<0.50	<0.50	<0.50	<0.50	1.0	<5.0	<1.0	<1.0	<1.0	---
	9/4/2001		129.46	9.06		---	---	---	---	---	---	---	---	---	---	---
	10/18/2001		130.36	8.16		57	<0.50	<0.50	<0.50	<0.50	2.1	<5.0	<1.0	<1.0	<1.0	---
	11/29/2001		131.56	6.96		---	---	---	---	---	---	---	---	---	---	---
	1/2/2002		133.19	5.33		<50	<0.50	<0.50	<0.50	<0.50	0.81	<5.0	<1.0	<1.0	<1.0	---
	1/21/2002		134.03	4.49		<50	<0.50	<0.50	<0.50	<0.50	1.4	<5.0	<1.0	<1.0	<1.0	Methanol = 64
	2/27/2002		132.35	6.17		---	---	---	---	---	---	---	---	---	---	---
	3/13/2002		132.71	5.81		<50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<1.0	---
	4/19/2002		134.04	4.48		---	---	---	---	---	---	---	---	---	---	---
	5/20/2002		134.21	4.31		---	---	---	---	---	---	---	---	---	---	---
	6/13/2002		134.06	4.46		59	0.9	<0.50	<0.50	<0.50	0.99	<5.0	<1.0	<1.0	<1.0	---
	10/31/02		132.24	6.28		<50	2.5	<0.50	<0.50	<0.50	<0.50	<5.0	<1.0	<1.0	<1.0	---
	1/3/03		133.11	5.41		70	<0.50	<0.50	<0.50	<0.50	<1.0	<20	<1.0	<1.0	<1.0	---
	3/18/03		132.77	5.75		58	<0.50	<0.50	<0.50	<0.50	<1.0	<20	<1.0	<1.0	<1.0	---
	6/24/2003		131.24	7.28		120	0.65	<0.50	<0.50	<0.50	1.0	<20	<1.0	<1.0	<1.0	---
	9/18/2003		130.55	7.97		110	<0.50	<0.50	<0.50	<0.50	<1.0	<20	<1.0	<1.0	<1.0	---
	12/9/2003		130.61	7.91		52	<0.50	<0.50	<0.50	<0.50	<1.0	<20	<1.0	<1.0	<1.0	---
	3/4/2004		130.95	7.57	4	68	<0.50	<0.50	<0.50	<0.50	<1.0	<30	<1.0	<1.0	<1.0	---
	6/23/2004		130.66	7.86	2	68	0.75	<0.50	<0.50	<0.50	<1.0	<30	<1.0	<1.0	<1.0	---
	9/14/2004		130.15	8.37		<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0	---
	12/16/2004		130.37	8.15		<50	<0.50	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0	---
	3/15/2005		130.64	7.88		63	<0.50	<0.50	<0.50	<0.50	<1.0	<50	<1.0	<1.0	<1.0	---
	6/8/2005		130.45	8.07		61	<0.50	<0.50	<0.50	<0.50	1.1	<50	<1.0	<1.0	<1.0	---
MW-7	10/31/2002	137.08	127.22	9.86		1,100	<0.50	<0.50	<0.50	<0.50	2,200	1,200	39	23	<1.0	---
	1/3/2003		131.69	5.39		200	<0.50	<0.50	<0.50	<0.50	260	56	<1.0	<1.0	<1.0	---
	3/18/2003		131.58	5.50		420	<0.50	<0.50	<0.50	<0.50	620	130	22	8.5	<1.0	---
	6/24/2003		130.65	6.43		720	<0.50	<0.50	<0.50	<0.50	1,000	260	45	8.6	<1.0	---
	9/18/2003		129.77	7.31		900	<0.50	<0.50	<0.50	<0.50	1,000	190	45	6.8	<1.0	---
	12/9/2003		129.76	7.32		710	<0.50	<0.50	<0.50	<0.50	1,000	220	64	7.4	<1.0	---
	3/4/2004		130.65	6.43		910	<0.50	<0.50	<0.50	<0.50	1,300	320	80	7.3	<1.0	---
	6/23/2004		130.06	7.02	3	1,100	<0.50	<0.50	<0.50	<0.50	1,200	240	78	7.3	<1.0	---
	9/14/2004		129.35	7.73	3	1,300	<0.50	<0.50	<0.50	<0.50	1,000	210	73	5.7	<1.0	---
	12/16/2004		129.85	7.23	3	1,200	<0.50	<0.50	<0.50	<0.50	1,100	160	79	5.6	<1.0	---
	3/15/2005		130.01	7.07		810	<0.50	<0.50	<0.50	<0.50	1,100	140	90	6.2	<1.0	---
	6/8/2005		130.63	6.45		1,100	<0.50	<0.50	<0.50	<0.50	1,100	95	89	5.9	<1.0	---
MW-8	10/31/02	136.64	126.38	10.26		220	<0.50	<0.50	<0.50	0.51	400	560	26	2.9	<1.0	---
	1/3/03		132.88	3.76		160	<0.50	<0.50	<0.50	<0.50	210	67	28	4.6	<1.0	---
	3/18/03		131.79	4.85		270	<0.50	<0.50	<0.50	<0.50	380	59	67	4.2	<1.0	---
	6/24/2003		130.93	5.71		420	<0.50	<0.50	<0.50	<0.50	460	120	76	3.3	<1.0	---
	9/18/2003		130.81	5.83		830	<0.50	<0.50	<0.50	<0.50	830	160	88	4.7	<1.0	---
	12/9/2003		134.71	1.93		260	<0.50	<0.50	<0.50	<0.50	300	74	40	2.2	<1.0	---
	3/4/2004		132.63	4.01		570	<0.50	<0.50	<0.50	<0.50	630	270	84	4.3	<1.0	---
	6/23/2004		131.43	5.21	3	810	<0.50	<0.50	<0.50	<0.50	700	190	88	4.2	<1.0	---
	9/14/2004		131.11	5.53	3	500	<0.50	<0.50	<0.50	<0.50	360	77	54	1.9	<1.0	---
	12/16/2004		131.69	4.95	3	730	<0.50	<0.50	<0.50	<0.50	600	130	69	3.2	<1.0	---
	3/15/2005		131.39	5.25		410	<0.50	<0.50	<0.50	<0.50	520	180	56	3.9	<1.0	---
	6/8/2005		130.04	6.6		340	<0.50	<0.50	<0.50	<0.50	300	57	33	1.9	<1.0	---

TABLE 1: WELL DATA AND GROUNDWATER ANALYTICAL RESULTS
Former Rio Dell Shell, 481 Wildwood Avenue, Rio Dell, CA
LACO Project No. 3577.02; LOP No. 12261

Well ID	Sample Date	Well Head Elevation* (ft msl)	Water Surface Elevation (ft msl)	Depth to Water (ft)	Foot notes	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Methanol/ Ethanol (µg/L)
MW-9	10/31/02	136.46	125.46	11.00		200	<0.50	<0.50	<0.50	<0.50	330	230	2.5	3.4	<1.0	---
	1/3/03		128.96	7.50		66	<0.50	<0.50	<0.50	<0.50	69	54	<1.0	3.5	<1.0	---
	3/18/03		130.86	5.60		180	<0.50	<0.50	<0.50	<0.50	280	59	<1.0	4.2	<1.0	---
	6/24/2003		130.38	6.08		420	<0.50	<0.50	<0.50	<0.50	420	200	1.2	5.6	1.1	---
	9/18/2003		129.09	7.37		450	<0.50	<0.50	<0.50	<0.50	460	150	1.2	4.6	1.1	---
	12/9/2003		128.88	7.58		320	<0.50	<0.50	<0.50	<0.50	400	140	1.2	4.5	<1.0	---
	3/4/2004		129.53	6.93		420	<0.50	<0.50	<0.50	<0.50	500	250	1.2	5.2	<1.0	---
	6/23/2004		128.71	7.75	3	460	<0.50	<0.50	<0.50	<0.50	470	160	1.4	4.7	<1.0	---
	9/14/2004		127.84	8.62	3	460	<0.50	<0.50	<0.50	<0.50	370	100	1.0	3.7	<1.0	---
	12/16/2004		128.10	8.36	3	460	<0.50	<0.50	<0.50	<0.50	410	100	<1.0	3.8	<1.0	---
	3/15/2005		129.48	6.98		320	<0.50	<0.50	<0.50	<0.50	420	160	1.2	4.4	<1.0	---
	6/8/2005		129.54	6.92		400	<0.50	<0.50	<0.50	<0.50	370	100	1.1	4.0	<1.0	---
MW-10	6/23/2004	137.52	133.80	3.72	3, 4	160	<0.50	<0.50	<0.50	<0.50	140	<60	17	<1.0	<1.0	---
	9/14/2004		132.97	4.55	5,6	130	<0.50	<0.50	<0.50	<0.50	94	<30	8.2	<1.0	<1.0	---
	12/16/2004		134.41	3.11	3	410	<0.50	<0.50	<0.50	<0.50	350	62	29	<1.0	<1.0	---
	3/15/2005		133.59	3.93		340	<0.50	<0.50	<0.50	<0.50	400	140	41	1.2	<1.0	---
	6/8/2005		133.10	4.42		420	<0.50	<0.50	<0.50	<0.50	370	88	38	<2.0	<1.0	---

*Reference NAVD 88, 11/02.
Elevations of 8/15/02 set by R. Smith, LS. Used Caltrans HPGN monument "D CA 01 NC" south of Rio Dell @ Jordan Road/Hwy. 254 (Pepperwood) off-ramp

Laboratory Notations

[1] Samples does not present a peak pattern consistent with that of gasoline.

[2] The gasoline value includes the reported gasoline components and additives in addition to other peaks in the gasoline range

[3] The gasoline value is primarly from the reported gasoline additives.

[4] TBA reporting limit was raised due to matrix interference.

[5] The gasoline value includes the reported gasoline addditives in addition to other peaks in the gasoline range.

[6] Some reporting limits were raised due to matrix interference.

[7] The travel blank for this work order was prepared with water that had a high background of MTBE.
The containers for this project were not affected as demonstrated by the ND results for sample MW6 (9/14/04)

TABLE 2: HISTORIC HYDRAULIC GRADIENT DATA
Former Rio Dell Shell, 481 Wildwood Ave., Rio Dell, CA
LACO Project No. 3577.02; LOP No. 12261

	Shallow Aquifer		Deep Aquifer	
Date	Direction	Slope (%)	Direction	Slope (%)
12/28/1999	---	---	S49°E	0.81
2/24/2000	---	---	S61°E	0.63
3/21/2000	---	---	S57°E	0.69
4/18/2000	---	---	S58°E	0.74
5/26/2000	---	---	S46°E	0.69
6/30/2000	---	---	S55°E	0.74
7/31/2000	---	---	S46°E	0.76
8/28/2000	---	---	S43°E	0.70
9/22/2000	---	---	S43°E	0.70
10/26/2000	---	---	S5°E	0.40
1/12/2001	---	---	S45°E	0.06
5/2/2001	---	---	S59°E	0.10
6/1/2001	**shallow wells installed**		**deep wells reconstructed**	
7/6/2001	N73°E	4.5	S11°W	0.70
9/4/2001	S31°W	5.5	S20°W	0.70
10/18/2001	S87°W	2.7	N56°W	0.03
11/29/2001	S45°W	3.6	N35°W	0.10
1/2/2002	S35°W	1.8	N50°W	0.07
1/21/2002	N89°E	0.6	N76°W	0.04
2/27/2002	S20°W	5	N1°W	0.15
3/13/2002	S54°W	5.1	N27°W	0.10
4/19/2002	N85°E	1	N14°W	0.20
5/20/2002	N49°E	0.45	S41°E	0.03
6/13/2002	N21°W	1.36	S52°W	0.44
10/31/2002	N46°E	5.6	N77°W	9.30
1/3/2003	S85°W	4	N61°W	0.26
3/18/2003	N9°W	3.5	N50°E	6.30
6/24/2003	N20°W	4.3	S77°E	0.01
9/18/2003	N40°W	5.5	N79°E	0.05
12/9/2003	N21°E	1.1	S52°E	0.01
3/4/2004	N73°W	4.3	N50°E	0.08
6/23/2004	N57°W	5.3	S77°E	0.05
9/14/2004	N34°E	6.7	S77°E	0.07
12/16/2004	N3°E	10.9	N72°E	0.02
3/15/2005	N8°W	7.6	N55°E	0.10
6/8/2005	N33°W	5.6	N75°W	1.3

Attachment 1

ATTACHMENT 1: ABBREVIATIONS USED IN TABULATED DATA
HPI/Former Rio Dell Shell
481 Wildwood Avenue, Rio Dell
LOP No. 12261;LACO No. 3577.02

KEY TO TABLE 1
Abbreviations

ND = Not detected over the method detection limit
--- = Analyte not tested
µg/l = micrograms per liter
mg/l = milligrams per liter
µmohs = micromohs, a measure of electrical resistance
mV = millivolts
mcl = maximum contaminant level, an enforceable California or Federal drinking water standard.
al = action limit; a non-enforceable California drinking water standard; shown in parentheses.
tot = taste and odor threshold, a non-enforceable California drinking water standard.
TPHg = Total petroleum hydrocarbons as gasoline
TPHd = Total petroleum hydrocarbons as diesel
Oxygenates (fuel additives): methyl tertiary butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tert-amyl methyl ether (TAME) and tert-butyl alcohol (TBA).
ORP = Oxidation-reduction potential
$CaCO_3$ = Calcium carbonate
CO_2 = Carbon dioxide
BOD = Biological oxygen demand
COD = Chemical oxygen demand

Laboratory Notations

[1] Sample does not present a peak pattern consistent with that of gasoline.
[2] Sample values includes the reported gasoline components and additives in addition to other peaks in the gasoline range
[3] Sample values are primarly from the reported gasoline additives.
[4] TBA reporting limit was raised due to matrix interference.

Attachment 2

LACO ASSOCIATES
CONSULTING ENGINEERS

21 West Fourth Street, Eureka, CA 95501
TEL 707.443.5054
FAX 707.443.0553

Project Name: HPI - Rio Dell Shell
Project No.: 3577.02
Date: 6-8-05
Golbal ID No.: T0602300194
PM: TDN

Tech: SJD
Mob/Demob time: .50/.50
Travel time: 1.25
Time on site: 8:15
Time off site: 12:40
Mileage: 52

WELL No.:	MW1		MW2		MW3		MW4		MW6	
DIAMETER (in)	2.00		2.00		2.00		2.00		2.00	
SCREENED INTERVAL (ft)	18-25		18-25		13-20		7-12		5-12	
DEPTH TO WATER (ft)	7.20		5.45		6.38		7.93		8.07	
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
FIELD INTRINSICS: pH										
TEMP (°C)										
Ecw (µmohs)										
ORP (mV)			-92	-71	—	—	—	—	-86	-39
DO (mg/L)			0.87	0.49	—	—	—	—	1.04	0.39
OTHER (units)			—		—		—		—	
PURGE: TIME			9:28	9:40	—	—	—	—	9:58	10:10
METHOD (DHP/CB/B)			DHP		—		—		DHP	
RATE (Lpm)			0.25		—		—		0.50	
VOLUME (L)			3.0		—		—		3.0	
COLOR			SLIGHT CLOUDY	CLOUDY	—	—	—	—	CLOUDY	LT GREY CLOUDY
ODOR			LIGHT SULFUR SLIGHT SWEET		—		—		MED SULFUR	
INTAKE DEPTH (FEET)			21.0		—		—		10.0	
SAMPLE: TIME			9:42		—		—		10:12	
METHOD (DHP/CB/B)			DHP		—		—		DHP	
ANALYTES	MEASURE ONLY		8260 list 1		8260 list 1		8260 list 1		8260 list 1	
TOTAL DRAWDOWN (FEET)			1.01		—		—		1.65	
REMARKS			—		—		—		—	
WELL CONDITION			GOOD		—		—		GOOD	
WASTE DRUMS										

DEPTH MEASUREMENTS ARE REFERENCED TO TOP OF CASING

DHP=DOWN HOLE PUMP CB=CHECK BALL B=BAILER FD=FIELD DUPLICATE MB=METHOD BLANK FF=FIELD FILTERED

LACO ASSOCIATES
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21 West Fourth Street, Eureka, CA 95501
TEL 707.443.5054
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Project Name: HPI - Rio Dell Shell
Project No.: 3577.02
Date: 6-8-05
Golbal ID No.: T0602300194
PM: TDN

Tech: SJD
Mob/Demob time: .50/.50
Travel time: 1.25
Time on site: 8:15
Time off site: 12:40
Mileage: 52

WELL No.:	MW9		MW8		MW7		MW5		MW10	
DIAMETER (in)	2.00		2.00 2LT		2.00		2.00 2LT		2.00	
SCREENED INTERVAL (ft)	5-12		5-12		5-12		5-12		5-12	
DEPTH TO WATER (ft)	6.92		6.60		6.45		3.35		4.42	
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
FIELD INTRINSICS: pH										
TEMP (°C)										
Ecw (µmohs)										
ORP (mV)			-10	-90			-68	-82		
DO (mg/L)			0.91	0.49			1.17	0.40		
OTHER (units)										
PURGE: TIME			10:44	10:58			11:28	11:42		
METHOD (DHP/CB/B)			DHP				DHP			
RATE (Lpm)			0.14				0.18			
VOLUME (L)			2.0				2.5			
COLOR			CLOUDY	CLOUDY	~~CLOUDY~~		CLOUDY			
ODOR			MED SULFUR / LIGHT SWEET				MED SULFUR / LIGHT SWEET			
INTAKE DEPTH (FEET)			9.0				9.0			
SAMPLE: TIME			10:56				11:42			
METHOD (DHP/CB/B)			DHP				DHP			
ANALYTES	8260 list 1		8260 list 1		8260 list 1		8260 list 1		8260 list 1	
TOTAL DRAWDOWN (FEET)			0.12				1.6			
REMARKS										
WELL CONDITION			GOOD				GOOD			
WASTE DRUMS										

DEPTH MEASUREMENTS ARE REFERENCED TO TOP OF CASING

DHP=DOWN HOLE PUMP CB=CHECK BALL B=BAILER FD=FIELD DUPLICATE MB=METHOD BLANK FF=FIELD FILTERED

LACO ASSOCIATES
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Project Name: HPI - Rio Dell Shell
Project No.: 3577.02
Date: 6-8-05
Golbal ID No.: T0602300194
PM: TDN

Tech: SJD
Mob/Demob time: .50/.50
Travel time: 1.25
Time on site: 8:15
Time off site: 12:40
Mileage: 52

WELL No.:	OW1		OW2		OW3		OW4			
DIAMETER (in)										
SCREENED INTERVAL (ft)										
DEPTH TO WATER (ft)	2.49		2.72				1.66			
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
FIELD INTRINSICS: pH										
FIELD INTRINSICS: TEMP (°C)										
FIELD INTRINSICS: Ecw (µmohs)										
FIELD INTRINSICS: ORP (mV)										
FIELD INTRINSICS: DO (mg/L)										
FIELD INTRINSICS: OTHER (units)										
PURGE: TIME										
PURGE: METHOD (DHP/CB/B)										
PURGE: RATE (Lpm)										
PURGE: VOLUME (L)										
PURGE: COLOR										
PURGE: ODOR										
PURGE: INTAKE DEPTH (FEET)										
SAMPLE: TIME										
SAMPLE: METHOD (DHP/CB/B)										
SAMPLE: ANALYTES	MEASURE ONLY		MEASURE ONLY		MEASURE ONLY		MEASURE ONLY			
SAMPLE: TOTAL DRAWDOWN (FEET)										
SAMPLE: REMARKS										
WELL CONDITION	—		—		—		—			
WASTE DRUMS										

DEPTH MEASUREMENTS ARE REFERENCED TO TOP OF CASING

DHP=DOWN HOLE PUMP CB=CHECK BALL B=BAILER FD=FIELD DUPLICATE MB=METHOD BLANK FF=FIELD FILTERED

LACO ASSOCIATES
CONSULTING ENGINEERS
21 West Fourth Street, Eureka, CA 95501
TEL 707.443.5054
FAX 707.443.0553

Project Name: HPI - RIO DELL SHELL
Project No.: 2577.02
Tech: RLD
Date: 6-9-05

METER ACCURACY RANGE

+/- 0.2 pH	+/- 0.5 °C	+/- 20 µmohs	+/- 2 mv	+/- 0.3 mg/L

WELL ID: MW2

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
9:30	—	—	—	-82	0.36
9:32	—	—	—	-79	0.24
9:34	—	—	—	-73	0.24
9:36	—	—	—	-72	0.34
9:38	—	—	—	-71	0.45
9:40	—	—	—	-71	0.49

WELL ID: MW6

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
10:00	—	—	—	-81	0.91
10:02	—	—	—	-70	0.41
10:04	—	—	—	-58	0.43
10:06	—	—	—	-44	0.52
10:08	—	—	—	-41	0.43
10:10	—	—	—	-39	0.39

WELL ID: MW8

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
10:46	—	—	—	-73	1.25
10:48	—	—	—	-76	0.49
10:50	—	—	—	-83	0.40
10:52	—	—	—	-89	0.49
10:54	—	—	—	-90	0.49

WELL ID: MW5

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
11:30	—	—	—	-75	1.06
11:32	—	—	—	-78	0.39
11:34	—	—	—	-79	0.50
11:36	—	—	—	-80	0.53
11:38	—	—	—	-81	0.40
11:40	—	—	—	-82	0.40

WELL ID:

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)

WELL ID:

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)

LACO ASSOCIATES
CONSULTING ENGINEERS
21 West Fourth Street, Eureka, CA 95501
TEL 707.443.5054
FAX 707.443.0553

Project Name: HPI - RIO DELL SHELL
Project No.: 3577.02
Tech: SJD/RLD
Date: 6-8-05

WELL ID: MW1		WELL ID: MW2		WELL ID: MW3		WELL ID: MW4		WELL ID: MW5		WELL ID: MW6	
TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)
8:32	7.71	8:42	5.47	8:31	6.38	8:33	7.92	8:45	3.37	8:35	8.07
8:42	7.70	8:52	5.45	8:41	6.38	8:43	7.93	8:55	3.35	8:45	8.07
8:52	7.70	9:02	5.45			8:53	7.93	9:05	3.35		

WELL ID: MW7		WELL ID: MW8		WELL ID: MW9		WELL ID: MW10		WELL ID: OW1		WELL ID: OW2	
TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)
8:41	6.46	8:39	6.60	8:37	6.92	8:44	4.43	11:34	2.49	11:36	2.72
8:51	6.45	8:49	6.60	8:47	6.92	8:54	4.44	11:44	2.49	11:46	2.72
9:01	6.45					9:04	4.42				
						9:14	4.42				

WELL ID: OW3		WELL ID: OW4		WELL ID:		WELL ID:		WELL ID:		WELL ID:	
TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)
—	—	11:39	1.66								
		11:49	1.66								

NORTH COAST LABORATORIES LTD.
5680 West End Road • Arcata • CA 95521-9202
707-822-4649 Fax 707-822-6831

Chain of Custody

LABORATORY NUMBER:

Attention: Accounts Payable
Results & Invoice to: Laco Associates
Address: 21 W. 4th St. Eureka CA 95501

Phone: (707) 443-5054
Copies of Report to: LACO; Tim Nelson

Sampler (Sign & Print): SJD

TAT: ☐ 24 Hr ☐ 48 Hr ☐ 5 Day ☐ 5–7 Day
☑ STD (2–3 Wk) ☐ Other:
PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES

REPORTING REQUIREMENTS: State Forms ☐
Preliminary: FAX ☑ Verbal ☐ By:
Final Report: FAX ☐ Verbal ☐ By:

CONTAINER CODES: 1—½ gal. pl; 2—250 ml pl; 3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L cg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other

PRESERVATIVE CODES: a—HNO_3; b—HCl; c—H_2SO_4; d—$Na_2S_2O_3$; e—NaOH; f—$C_2H_3O_2Cl$; g—other

PROJECT INFORMATION

Project Number: 3577.02
Project Name: HPI Rio Dell Shell
Purchase Order Number: TASK - 3023

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	PRESERVATIVE	CONTAINER	ANALYSIS	SAMPLE CONDITION/SPECIAL INSTRUCTIONS
	3577-MW2-W	6-8-05	Am	GW	b	9	8260 List 1	GEOTRACKER
	3577-MW3-W	↓	↓	↓			3	
	3577-MW4-W						3	
	3577-MW5-W						3	
	3577-MW6-W						3	
	3577-MW7-W						3	
	3577-MW8-W						3	
	3577-MW9-W						3	
	3577-MW10-W						3	
	3577-QCTB-W	↓	↓	↓			1	

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME

SAMPLE DISPOSAL
☐ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA
SHIPPED VIA: UPS Air-Ex Fed-Ex Bus Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; S=Soil; O=Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

LACO ASSOCIATES
CONSULTING ENGINEERS
21 West Fourth Street, Eureka, CA 95501
TEL 707.443.5054
FAX 707.443.0553

Project Name: HPI - Rio Dell Shell
Project No.: 3577.02
Date: 6-8-05
Golbal ID No.: T0602300194
PM: TDN

Tech: SJD
Mob/Demob time: .50/.50
Travel time: 1.25
Time on site: 8:15
Time off site: 12:40
Mileage: 52

WELL No.:	MW1		MW2		MW3		MW4		MW6	
DIAMETER (in)	2.00		2.00		2.00		2.00		2.00	
SCREENED INTERVAL (ft)	18-25		18-25		13-20		7-12		5-12	
DEPTH TO WATER (ft)	7.20		5.45		6.38		7.93		8.07	
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
FIELD INTRINSICS: pH										
TEMP (°C)										
Ecw (µmohs)										
ORP (mV)					-121	-103	-119	-83		
DO (mg/L)					1.14	0.53	1.06	0.64		
OTHER (units)										
PURGE: TIME					9:23	9:31	9:42	9:56		
METHOD (DHP/CB/B)					DHP		DHP			
RATE (Lpm)					0.18		0.17			
VOLUME (L)					1.40		2.40			
COLOR					CLEAR	CLEAR	CLEAR	CLEAR		
ODOR					STRONG SULFUR		STRONG SULFUR			
INTAKE DEPTH (FEET)					16.0		10.0			
SAMPLE: TIME					9:32		9:57			
METHOD (DHP/CB/B)					DHP		DHP			
ANALYTES	MEASURE ONLY		8260 list 1		8260 list 1		8260 list 1		~~8260~~ list 1	
TOTAL DRAWDOWN (FEET)					0.20		2.86			
REMARKS										
WELL CONDITION			good		ALL 3 BOLTS MISSING & STRIPPED		good		good	
WASTE DRUMS										

DEPTH MEASUREMENTS ARE REFERENCED TO TOP OF CASING

DHP=DOWN HOLE PUMP CB=CHECK BALL B=BAILER FD=FIELD DUPLICATE MB=METHOD BLANK FF=FIELD FILTERED

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Project Name: HPI - Rio Dell Shell
Project No.: 3577.02
Date: 6-8-05
Golbal ID No.: T0602300194
PM: TDN

Tech: SJD
Mob/Demob time: .50/.50
Travel time: 1.25
Time on site: 8:15
Time off site: 12:40
Mileage: 52

WELL No.:	MW9		MW8		MW7		MW5		MW10	
DIAMETER (in)	2.00		2.00		2.00		2.00		2.00	
SCREENED INTERVAL (ft)	5-12		5-12		5-12		5-12		5-12	
DEPTH TO WATER (ft)	6.92		6.60		6.45		3.35		4.42	
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
DEPTH MEASUREMENTS ARE REFERENCED TO TOP OF CASING — FIELD INTRINSICS: pH										
TEMP (°C)										
Ecw (µmohs)										
ORP (mV)	-95	-104			-95	-86			-120	-134
DO (mg/L)	1.27	0.49			1.12	0.43			0.92	0.57
OTHER (units)										
PURGE: TIME	10:11	10:19			10:41	10:51			11:06	11:14
METHOD (DHP/CB/B)	DHP				DHP				DHP	
RATE (Lpm)	0.20				0.20				0.20	
VOLUME (L)	1.60				2.0				1.60	
COLOR	CLEAR	CLEAR			CLEAR	CLEAR			LT. GREY TINT	MKD. GREY TURBID
ODOR	STRONG SULFUR	/ LIGHT SWEET			MCD. SULFUR	/ LIGHT SWEET			STRONG SULFUR	
INTAKE DEPTH (FEET)	10.0				10.0				10.0	
SAMPLE: TIME	10:20				10:52				11:15	
METHOD (DHP/CB/B)	DHP				DHP				DHP	
ANALYTES	8260 list 1		8260 list 1		8260 list 1		8260 list 1		8260 list 1	
TOTAL DRAWDOWN (FEET)	0.98				1.67				1.49	
REMARKS										
WELL CONDITION	good		good		good		good		good	
WASTE DRUMS										

DHP=DOWN HOLE PUMP CB=CHECK BALL B=BAILER FD=FIELD DUPLICATE MB=METHOD BLANK FF=FIELD FILTERED

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Project Name: **HPI - Rio Dell Shell**
Project No.: **3577.02**
Date: 6-8-05
Golbal ID No.: **T0602300194**
PM: **TDN**

Tech: SJD
Mob/Demob time: .50/.50
Travel time: 1.25
Time on site: 8:15
Time off site: 12:40
Mileage: 52

WELL No.:	OW1		OW2		OW3		OW4			
DIAMETER (in)	—		—		—		—			
SCREENED INTERVAL (ft)	—		—		—		—			
DEPTH TO WATER (ft)	2.49		2.72		—		1.66			
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
DEPTH MEASUREMENTS ARE REFERENCED TO TOP OF CASING — FIELD INTRINSICS: pH										
TEMP (°C)										
Ecw (µmohs)										
ORP (mV)										
DO (mg/L)										
OTHER (units)										
PURGE: TIME										
METHOD (DHP/CB/B)										
RATE (Lpm)										
VOLUME (L)										
COLOR										
ODOR										
INTAKE DEPTH (FEET)										
SAMPLE: TIME										
METHOD (DHP/CB/B)										
ANALYTES	MEASURE ONLY		MEASURE ONLY		MEASURE ONLY		MEASURE ONLY			
TOTAL DRAWDOWN (FEET)										
REMARKS										
WELL CONDITION	good		good		UNABLE TO REMOVE WELL CAP - BROKE TOOLS TRYING		good			
WASTE DRUMS										

DHP=DOWN HOLE PUMP CB=CHECK BALL B=BAILER FD=FIELD DUPLICATE MB=METHOD BLANK FF=FIELD FILTERED

LACO ASSOCIATES
CONSULTING ENGINEERS
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TEL 707.443.5054
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Project Name: RIO DELL SHELL
Project No.: 3577.02
Tech: SJD
Date: 6-8-05

METER ACCURACY RANGE

+/- 0.2 pH	+/- 0.5 °C	+/- 20 µmohs	+/- 2 mv	+/- 0.3 mg/L

WELL ID: MW3

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
9:25	~	~	~	-111	0.56
9:27	~	~	~	-100	0.52
9:29	~	~	~	-104	0.54
9:31	~	~	~	-103	0.53

WELL ID: MW4

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
9:44	~	~	~	-115	0.73
9:46	~	~	~	-112	0.67
9:48	~	~	~	-110	0.47
9:50	~	~	~	-100	0.53
9:52	~	~	~	-87	0.64
9:54	~	~	~	-84	0.66
9:56	~	~	~	-83	0.64

WELL ID: MW9

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
10:13	~	~	~	-103	0.55
10:15	~	~	~	-107	0.43
10:17	~	~	~	-105	0.46
10:19	~	~	~	-104	0.49

WELL ID: MW7

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
10:43	~	~	~	-98	0.76
10:45	~	~	~	-98	0.61
10:47	~	~	~	-95	0.49
10:49	~	~	~	-87	0.45
10:51	~	~	~	-86	0.43

WELL ID: MW10

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
11:08	~	~	~	-120	0.55
11:10	~	~	~	-134	0.37
11:12	~	~	~	-134	0.53
11:14	~	~	~	-134	0.57

WELL ID:

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)

Attachment 3

NORTH COAST LABORATORIES LTD.

RECEIVED
LACO ASSOCIATES
JUN 27 2005
BY: met

June 23, 2005

DRG
TDN
EW
FRB

LACO Associates
P.O. Box 1023
Eureka, CA 95502

Order No.: 0506296
Invoice No.: 50967
PO No.: TASK-3023
ELAP No. 1247-Expires July 2006

Attn: Accounts Payable

RE: 3577.02, HPI Rio Dell Shell

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	3577-MW2-W
02A	3577-MW3-W
03A	3577-MW4-W
04A	3577-MW5-W
05A	3577-MW6-W
06A	3577-MW7-W
07A	3577-MW8-W
08A	3577-MW9-W
09A	3577-MW10-W
10A	3577-QCTB-W

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

All solid results are expressed on a wet-weight basis unless otherwise noted.

REPORT CERTIFIED BY

Laboratory Supervisor(s) | QA Unit | Jesse G. Chaney, Jr. Laboratory Director

5680 West End Road • Arcata California 95521-9202 • 707-822-4649 • FAX 707-822-6831

North Coast Laboratories, Ltd. **Date:** *23-Jun-05*

CLIENT: LACO Associates
Project: 3577.02, HPI Rio Dell Shell
Lab Order: 0506296

CASE NARRATIVE

Gasoline Components/Additives:
The ETBE reporting limit was raised for sample 3577-MW10-Wdue to matrix interference.

The gasoline value for sample 3577-MW5-W includes the reported gasoline components and additives in addition to other peaks in the gasoline range.

The gasoline value for sample 3577-MW6-W includes the reported gasoline additives in addition to other peaks in the gasoline range.

The gasoline values for samples 3577-MW3-W, 3577-MW4-W, 3577-MW7-W, 3577-MW8-W, 3577-MW9-W and 3577-MW10-W are primarily from the reported gasoline additives.

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Date: 23-Jun-05
WorkOrder: 0506296

ANALYTICAL REPORT

Client Sample ID: 3577-MW2-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-01A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	8.5	1.0	µg/L	1.0		6/21/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		6/21/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/21/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		6/21/05
Benzene	ND	0.50	µg/L	1.0		6/21/05
Tert-amyl methyl ether (TAME)	1.2	1.0	µg/L	1.0		6/21/05
Toluene	ND	0.50	µg/L	1.0		6/21/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/21/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/21/05
o-Xylene	ND	0.50	µg/L	1.0		6/21/05
Surrogate: 1,4-Dichlorobenzene-d4	93.1	80.8-139	% Rec	1.0		6/21/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	ND	50	µg/L	1.0		6/21/05

Client Sample ID: 3577-MW3-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-02A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	180	50	µg/L	50		6/21/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		6/22/05
Benzene	ND	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	14	1.0	µg/L	1.0		6/22/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/22/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	93.9	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	210	50	µg/L	1.0		6/22/05

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Date: 23-Jun-05
WorkOrder: 0506296

ANALYTICAL REPORT

Client Sample ID: 3577-MW4-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-03A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	23	1.0	µg/L	1.0		6/21/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		6/21/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/21/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		6/21/05
Benzene	ND	0.50	µg/L	1.0		6/21/05
Tert-amyl methyl ether (TAME)	3.4	1.0	µg/L	1.0		6/21/05
Toluene	ND	0.50	µg/L	1.0		6/21/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/21/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/21/05
o-Xylene	ND	0.50	µg/L	1.0		6/21/05
Surrogate: 1,4-Dichlorobenzene-d4	92.8	80.8-139	% Rec	1.0		6/21/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	54	50	µg/L	1.0		6/21/05

Client Sample ID: 3577-MW5-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-04A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	540	50	µg/L	50		6/21/05
Tert-butyl alcohol (TBA)	86	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		6/22/05
Benzene	16	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	110	50	µg/L	50		6/21/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	1.3	0.50	µg/L	1.0		6/22/05
m,p-Xylene	0.53	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	97.9	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	1,300	50	µg/L	1.0		6/22/05

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Date: 23-Jun-05
WorkOrder: 0506296

ANALYTICAL REPORT

Client Sample ID: 3577-MW6-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-05A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	1.1	1.0	µg/L	1.0		6/22/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		6/22/05
Benzene	ND	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		6/22/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/22/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	93.4	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	61	50	µg/L	1.0		6/22/05

Client Sample ID: 3577-MW7-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-06A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	1,100	50	µg/L	50		6/21/05
Tert-butyl alcohol (TBA)	95	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	5.9	1.0	µg/L	1.0		6/22/05
Benzene	ND	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	89	1.0	µg/L	1.0		6/22/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/22/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	94.9	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	1,100	50	µg/L	1.0		6/22/05

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Date: 23-Jun-05
WorkOrder: 0506296

ANALYTICAL REPORT

Client Sample ID: 3577-MW8-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-07A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	300	50	µg/L	50		6/21/05
Tert-butyl alcohol (TBA)	57	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	1.9	1.0	µg/L	1.0		6/22/05
Benzene	ND	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	33	1.0	µg/L	1.0		6/22/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/22/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	95.5	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	340	50	µg/L	1.0		6/22/05

Client Sample ID: 3577-MW9-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-08A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	370	50	µg/L	50		6/21/05
Tert-butyl alcohol (TBA)	100	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	4.0	1.0	µg/L	1.0		6/22/05
Benzene	ND	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	1.1	1.0	µg/L	1.0		6/22/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/22/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	94.0	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	400	50	µg/L	1.0		6/22/05

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Date: 23-Jun-05
WorkOrder: 0506296

ANALYTICAL REPORT

Client Sample ID: 3577-MW10-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-09A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	370	50	µg/L	50		6/21/05
Tert-butyl alcohol (TBA)	88	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	ND	2.0	µg/L	1.0		6/22/05
Benzene	ND	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	38	1.0	µg/L	1.0		6/22/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/22/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	94.7	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	420	50	µg/L	1.0		6/22/05

Client Sample ID: 3577-QCTB-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-10A **Matrix:** Trip Blank

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1.0		6/21/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		6/21/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/21/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		6/21/05
Benzene	ND	0.50	µg/L	1.0		6/21/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		6/21/05
Toluene	ND	0.50	µg/L	1.0		6/21/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/21/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/21/05
o-Xylene	ND	0.50	µg/L	1.0		6/21/05
Surrogate: 1,4-Dichlorobenzene-d4	89.8	80.8-139	% Rec	1.0		6/21/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	ND	50	µg/L	1.0		6/21/05

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North Coast Laboratories, Ltd.

Date: 23-Jun-05

CLIENT: LACO Associates
Work Order: 0506296
Project: 3577.02, HPI Rio Dell Shell

QC SUMMARY REPORT

Method Blank

Sample ID: **MB 062105** Batch ID: **R35477** Test Code: **8260OXYW** Units: **µg/L** Analysis Date: **6/21/05 6:10:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_050621A** SeqNo: **512315**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	1.0									
Tert-butyl alcohol (TBA)	ND	10									
Di-isopropyl ether (DIPE)	ND	1.0									
Ethyl tert-butyl ether (ETBE)	ND	1.0									
Benzene	ND	0.50									
Tert-amyl methyl ether (TAME)	ND	1.0									
Toluene	ND	0.50									
Ethylbenzene	0.09312	0.50									J
m,p-Xylene	0.1706	0.50									J
o-Xylene	ND	0.50									
1,4-Dichlorobenzene-d4	0.907	0.10	1.00	0	90.7%	81	139	0			

Sample ID: **MB 062105** Batch ID: **R35478** Test Code: **GASW-MS** Units: **µg/L** Analysis Date: **6/21/05 6:10:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_050621B** SeqNo: **512341**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	29.37	50									J

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 23-Jun-05

CLIENT: LACO Associates
Work Order: 0506296
Project: 3577.02, HPI Rio Dell Shell

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID: **LCS-05405** Batch ID: **R35477** Test Code: **8260OXYW** Units: **µg/L** Analysis Date: **6/21/05 2:47:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_050621A** SeqNo: **512312**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	18.82	1.0	20.0	0	94.1%	80	120	0			
Tert-butyl alcohol (TBA)	403.9	10	400	0	101%	25	162	0			
Di-isopropyl ether (DIPE)	18.97	1.0	20.0	0	94.8%	80	120	0			
Ethyl tert-butyl ether (ETBE)	19.05	1.0	20.0	0	95.2%	77	120	0			
Benzene	19.45	0.50	20.0	0	97.2%	78	117	0			
Tert-amyl methyl ether (TAME)	18.26	1.0	20.0	0	91.3%	64	136	0			
Toluene	19.13	0.50	20.0	0	95.6%	80	120	0			
Ethylbenzene	19.01	0.50	20.0	0	95.0%	80	120	0			
m,p-Xylene	38.23	0.50	40.0	0	95.6%	80	120	0			
o-Xylene	18.65	0.50	20.0	0	93.3%	80	120	0			
1,4-Dichlorobenzene-d4	1.01	0.10	1.00	0	101%	81	139	0			

Sample ID: **LCSD-05405** Batch ID: **R35477** Test Code: **8260OXYW** Units: **µg/L** Analysis Date: **6/21/05 3:12:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_050621A** SeqNo: **512313**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	18.50	1.0	20.0	0	92.5%	80	120	18.8	1.69%	20	
Tert-butyl alcohol (TBA)	392.3	10	400	0	98.1%	25	162	404	2.91%	20	
Di-isopropyl ether (DIPE)	18.75	1.0	20.0	0	93.7%	80	120	19.0	1.18%	20	
Ethyl tert-butyl ether (ETBE)	18.93	1.0	20.0	0	94.6%	77	120	19.0	0.631%	20	
Benzene	19.00	0.50	20.0	0	95.0%	78	117	19.4	2.34%	20	
Tert-amyl methyl ether (TAME)	18.07	1.0	20.0	0	90.3%	64	136	18.3	1.07%	20	
Toluene	19.05	0.50	20.0	0	95.2%	80	120	19.1	0.414%	20	
Ethylbenzene	18.61	0.50	20.0	0	93.1%	80	120	19.0	2.10%	20	
m,p-Xylene	37.09	0.50	40.0	0	92.7%	80	120	38.2	3.05%	20	
o-Xylene	18.47	0.50	20.0	0	92.4%	80	120	18.6	0.961%	20	
1,4-Dichlorobenzene-d4	1.03	0.10	1.00	0	103%	81	139	1.01	1.77%	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: LACO Associates
Work Order: 0506296
Project: 3577.02, HPI Rio Dell Shell

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID: **LCS-05406** Batch ID: **R35478** Test Code: **GASW-MS** Units: **µg/L** Analysis Date: **6/21/05 4:29:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_050621B** SeqNo: **512338**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	955.7	50	1,000	0	95.6%	80	120	0			

Sample ID: **LCSD-05406** Batch ID: **R35478** Test Code: **GASW-MS** Units: **µg/L** Analysis Date: **6/21/05 4:54:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_050621B** SeqNo: **512339**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	925.0	50	1,000	0	92.5%	80	120	956	3.27%	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

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Chain of Custody

LABORATORY NUMBER: 0506296

Attention: Accounts Payable
Results & Invoice to: Laco Associates
Address: 21 W. 4th St. Eureka CA 95501
Phone: (707) 443-5054
Copies of Report to: LACO; Tim Nelson
Sampler (Sign & Print): SJD

TAT: ☐ 24 Hr ☐ 48 Hr ☐ 5 Day ☐ 5–7 Day
☑ STD (2–3 Wk) ☐ Other:
PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES

REPORTING REQUIREMENTS: State Forms ☐
Preliminary: FAX ☑ Verbal ☐ By:
Final Report: FAX ☐ Verbal ☐ By:

CONTAINER CODES: 1—½ gal. pl; 2—250 ml pl; 3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L cg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other

PRESERVATIVE CODES: a—HNO_3; b—HCl; c—H_2SO_4; d—$Na_2S_2O_3$; e—NaOH; f—$C_2H_3O_2Cl$; g—other

PROJECT INFORMATION

Project Number: 3577.02
Project Name: HPI Rio Dell Shell
Purchase Order Number: TASK - 3023

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	ANALYSIS	CONTAINER	PRESERVATIVE	SAMPLE CONDITION/SPECIAL INSTRUCTIONS
	3577-MW2-W	6-8-05	AM	GW	8260 List 1	9	b	GEOTRACKER
	3577-MW3-W	↓	↓	↓		3		
	3577-MW4-W					3		
	3577-MW5-W					3		
	3577-MW6-W					3		
	3577-MW7-W					3		
	3577-MW8-W					3		
	3577-MW9-W					3		
	3577-MW10-W					3		
	3577-QCTB-W					1		Cold, intact

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
STEVE DAVIS	6-10-05 3:25pm		6/10/05 1530

SAMPLE DISPOSAL
☐ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA
SHIPPED VIA: UPS Air-Ex Fed-Ex Bus Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; S=Soil; O=Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

NORTH COAST LABORATORIES LTD.

June 23, 2005

RECEIVED
JUN 24 2005
BY JG

LACO Associates
P.O. Box 1023
Eureka, CA 95502

Attn: Accounts Payable

RE: 3577.02, HPI Rio Dell Shell

DRG
TDN
CJW
FRB

Order No.: 0506296
Invoice No.: 50967
PO No.: TASK-3023
ELAP No. 1247-Expires July 2006

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	3577-MW2-W
02A	3577-MW3-W
03A	3577-MW4-W
04A	3577-MW5-W
05A	3577-MW6-W
06A	3577-MW7-W
07A	3577-MW8-W
08A	3577-MW9-W
09A	3577-MW10-W
10A	3577-QCTB-W

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

All solid results are expressed on a wet-weight basis unless otherwise noted.

REPORT CERTIFIED BY

Laboratory Supervisor(s) | QA Unit | Jesse G. Chaney, Jr. Laboratory Director

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CLIENT: LACO Associates
Project: 3577.02, HPI Rio Dell Shell
Lab Order: 0506296

CASE NARRATIVE

Gasoline Components/Additives:
The ETBE reporting limit was raised for sample 3577-MW10-Wdue to matrix interference.

The gasoline value for sample 3577-MW5-W includes the reported gasoline components and additives in addition to other peaks in the gasoline range.

The gasoline value for sample 3577-MW6-W includes the reported gasoline additives in addition to other peaks in the gasoline range.

The gasoline values for samples 3577-MW3-W, 3577-MW4-W, 3577-MW7-W, 3577-MW8-W, 3577-MW9-W and 3577-MW10-W are primarily from the reported gasoline additives.

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Date: 23-Jun-05
WorkOrder: 0506296

ANALYTICAL REPORT

Client Sample ID: 3577-MW2-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-01A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	8.5	1.0	µg/L	1.0		6/21/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		6/21/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/21/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		6/21/05
Benzene	ND	0.50	µg/L	1.0		6/21/05
Tert-amyl methyl ether (TAME)	1.2	1.0	µg/L	1.0		6/21/05
Toluene	ND	0.50	µg/L	1.0		6/21/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/21/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/21/05
o-Xylene	ND	0.50	µg/L	1.0		6/21/05
Surrogate: 1,4-Dichlorobenzene-d4	93.1	80.8-139	% Rec	1.0		6/21/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	ND	50	µg/L	1.0		6/21/05

Client Sample ID: 3577-MW3-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-02A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	180	50	µg/L	50		6/21/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		6/22/05
Benzene	ND	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	14	1.0	µg/L	1.0		6/22/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/22/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	93.9	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	210	50	µg/L	1.0		6/22/05

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Date: 23-Jun-05
WorkOrder: 0506296

ANALYTICAL REPORT

Client Sample ID: 3577-MW4-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-03A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	23	1.0	µg/L	1.0		6/21/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		6/21/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/21/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		6/21/05
Benzene	ND	0.50	µg/L	1.0		6/21/05
Tert-amyl methyl ether (TAME)	3.4	1.0	µg/L	1.0		6/21/05
Toluene	ND	0.50	µg/L	1.0		6/21/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/21/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/21/05
o-Xylene	ND	0.50	µg/L	1.0		6/21/05
Surrogate: 1,4-Dichlorobenzene-d4	92.8	80.8-139	% Rec	1.0		6/21/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	54	50	µg/L	1.0		6/21/05

Client Sample ID: 3577-MW5-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-04A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	540	50	µg/L	50		6/21/05
Tert-butyl alcohol (TBA)	86	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		6/22/05
Benzene	16	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	110	50	µg/L	50		6/21/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	1.3	0.50	µg/L	1.0		6/22/05
m,p-Xylene	0.53	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	97.9	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	1,300	50	µg/L	1.0		6/22/05

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Date: 23-Jun-05
WorkOrder: 0506296

ANALYTICAL REPORT

Client Sample ID: 3577-MW6-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-05A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	1.1	1.0	µg/L	1.0		6/22/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		6/22/05
Benzene	ND	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		6/22/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/22/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	93.4	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	61	50	µg/L	1.0		6/22/05

Client Sample ID: 3577-MW7-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-06A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	1,100	50	µg/L	50		6/21/05
Tert-butyl alcohol (TBA)	95	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	5.9	1.0	µg/L	1.0		6/22/05
Benzene	ND	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	89	1.0	µg/L	1.0		6/22/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/22/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	94.9	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	1,100	50	µg/L	1.0		6/22/05

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Date: 23-Jun-05
WorkOrder: 0506296

ANALYTICAL REPORT

Client Sample ID: 3577-MW8-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-07A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	300	50	µg/L	50		6/21/05
Tert-butyl alcohol (TBA)	57	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	1.9	1.0	µg/L	1.0		6/22/05
Benzene	ND	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	33	1.0	µg/L	1.0		6/22/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/22/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	95.5	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	340	50	µg/L	1.0		6/22/05

Client Sample ID: 3577-MW9-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-08A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	370	50	µg/L	50		6/21/05
Tert-butyl alcohol (TBA)	100	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	4.0	1.0	µg/L	1.0		6/22/05
Benzene	ND	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	1.1	1.0	µg/L	1.0		6/22/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/22/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	94.0	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	400	50	µg/L	1.0		6/22/05

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Date: 23-Jun-05
WorkOrder: 0506296

ANALYTICAL REPORT

Client Sample ID: 3577-MW10-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-09A **Matrix:** Groundwater

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	370	50	µg/L	50		6/21/05
Tert-butyl alcohol (TBA)	88	10	µg/L	1.0		6/22/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/22/05
Ethyl tert-butyl ether (ETBE)	ND	2.0	µg/L	1.0		6/22/05
Benzene	ND	0.50	µg/L	1.0		6/22/05
Tert-amyl methyl ether (TAME)	38	1.0	µg/L	1.0		6/22/05
Toluene	ND	0.50	µg/L	1.0		6/22/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/22/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/22/05
o-Xylene	ND	0.50	µg/L	1.0		6/22/05
Surrogate: 1,4-Dichlorobenzene-d4	94.7	80.8-139	% Rec	1.0		6/22/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	420	50	µg/L	1.0		6/22/05

Client Sample ID: 3577-QCTB-W **Received:** 6/10/05 **Collected:** 6/8/05 0:00
Lab ID: 0506296-10A **Matrix:** Trip Blank

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1.0		6/21/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		6/21/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		6/21/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		6/21/05
Benzene	ND	0.50	µg/L	1.0		6/21/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		6/21/05
Toluene	ND	0.50	µg/L	1.0		6/21/05
Ethylbenzene	ND	0.50	µg/L	1.0		6/21/05
m,p-Xylene	ND	0.50	µg/L	1.0		6/21/05
o-Xylene	ND	0.50	µg/L	1.0		6/21/05
Surrogate: 1,4-Dichlorobenzene-d4	89.8	80.8-139	% Rec	1.0		6/21/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	ND	50	µg/L	1.0		6/21/05

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North Coast Laboratories, Ltd.

Date: 23-Jun-05

CLIENT: LACO Associates
Work Order: 0506296
Project: 3577.02, HPI Rio Dell Shell

QC SUMMARY REPORT

Method Blank

Sample ID: **MB 062105** Batch ID: **R35477** Test Code: **8260OXYW** Units: **µg/L** Analysis Date: **6/21/05 6:10:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_050621A** SeqNo: **512315**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	1.0									
Tert-butyl alcohol (TBA)	ND	10									
Di-isopropyl ether (DIPE)	ND	1.0									
Ethyl tert-butyl ether (ETBE)	ND	1.0									
Benzene	ND	0.50									
Tert-amyl methyl ether (TAME)	ND	1.0									
Toluene	ND	0.50									
Ethylbenzene	0.09312	0.50									J
m,p-Xylene	0.1706	0.50									J
o-Xylene	ND	0.50									
1,4-Dichlorobenzene-d4	0.907	0.10	1.00	0	90.7%	81	139	0			

Sample ID: **MB 062105** Batch ID: **R35478** Test Code: **GASW-MS** Units: **µg/L** Analysis Date: **6/21/05 6:10:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_050621B** SeqNo: **512341**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	29.37	50									J

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

North Coast Laboratories, Ltd.

Date: 23-Jun-05

CLIENT: LACO Associates
Work Order: 0506296
Project: 3577.02, HPI Rio Dell Shell

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID: **LCS-05405** Batch ID: **R35477** Test Code: **8260OXYW** Units: **µg/L** Analysis Date: **6/21/05 2:47:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_050621A** SeqNo: **512312**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	18.82	1.0	20.0	0	94.1%	80	120	0			
Tert-butyl alcohol (TBA)	403.9	10	400	0	101%	25	162	0			
Di-isopropyl ether (DIPE)	18.97	1.0	20.0	0	94.8%	80	120	0			
Ethyl tert-butyl ether (ETBE)	19.05	1.0	20.0	0	95.2%	77	120	0			
Benzene	19.45	0.50	20.0	0	97.2%	78	117	0			
Tert-amyl methyl ether (TAME)	18.26	1.0	20.0	0	91.3%	64	136	0			
Toluene	19.13	0.50	20.0	0	95.6%	80	120	0			
Ethylbenzene	19.01	0.50	20.0	0	95.0%	80	120	0			
m,p-Xylene	38.23	0.50	40.0	0	95.6%	80	120	0			
o-Xylene	18.65	0.50	20.0	0	93.3%	80	120	0			
1,4-Dichlorobenzene-d4	1.01	0.10	1.00	0	101%	81	139	0			

Sample ID: **LCSD-05405** Batch ID: **R35477** Test Code: **8260OXYW** Units: **µg/L** Analysis Date: **6/21/05 3:12:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_050621A** SeqNo: **512313**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	18.50	1.0	20.0	0	92.5%	80	120	18.8	1.69%	20	
Tert-butyl alcohol (TBA)	392.3	10	400	0	98.1%	25	162	404	2.91%	20	
Di-isopropyl ether (DIPE)	18.75	1.0	20.0	0	93.7%	80	120	19.0	1.18%	20	
Ethyl tert-butyl ether (ETBE)	18.93	1.0	20.0	0	94.6%	77	120	19.0	0.631%	20	
Benzene	19.00	0.50	20.0	0	95.0%	78	117	19.4	2.34%	20	
Tert-amyl methyl ether (TAME)	18.07	1.0	20.0	0	90.3%	64	136	18.3	1.07%	20	
Toluene	19.05	0.50	20.0	0	95.2%	80	120	19.1	0.414%	20	
Ethylbenzene	18.61	0.50	20.0	0	93.1%	80	120	19.0	2.10%	20	
m,p-Xylene	37.09	0.50	40.0	0	92.7%	80	120	38.2	3.05%	20	
o-Xylene	18.47	0.50	20.0	0	92.4%	80	120	18.6	0.961%	20	
1,4-Dichlorobenzene-d4	1.03	0.10	1.00	0	103%	81	139	1.01	1.77%	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: LACO Associates
Work Order: 0506296
Project: 3577.02, HPI Rio Dell Shell

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID: **LCS-05406** Batch ID: **R35478** Test Code: **GASW-MS** Units: **µg/L** Analysis Date: **6/21/05 4:29:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_050621B** SeqNo: **512338**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	955.7	50	1,000	0	95.6%	80	120	0			

Sample ID: **LCSD-05406** Batch ID: **R35478** Test Code: **GASW-MS** Units: **µg/L** Analysis Date: **6/21/05 4:54:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_050621B** SeqNo: **512339**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	925.0	50	1,000	0	92.5%	80	120	956	3.27%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

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Chain of Custody

LABORATORY NUMBER: 0506296

Attention: Accounts Payable
Results & Invoice to: Laco Associates
Address: 21 W. 4th St. Eureka CA 95501
Phone: (707) 443-5054
Copies of Report to: LACO; Tim Nelson
Sampler (Sign & Print): SJD

TAT: ☐ 24 Hr ☐ 48 Hr ☐ 5 Day ☐ 5–7 Day
☑ STD (2–3 Wk) ☐ Other:
PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES

REPORTING REQUIREMENTS: State Forms ☐
Preliminary: FAX ☑ Verbal ☐ By:
Final Report: FAX ☐ Verbal ☐ By:

CONTAINER CODES: 1—½ gal. pl; 2—250 ml pl; 3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L cg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other

PRESERVATIVE CODES: a—HNO_3; b—HCl; c—H_2SO_4; d—$Na_2S_2O_3$; e—NaOH; f—$C_2H_3O_2Cl$; g—other

PROJECT INFORMATION
Project Number: 3577.02
Project Name: HPI Rio Dell Shell
Purchase Order Number: TASK - 3023

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	CONTAINER	PRESERVATIVE	ANALYSIS: 8260 List 1	SAMPLE CONDITION/SPECIAL INSTRUCTIONS
	3577-MW2-W	6-8-05	Am	GW	3	b	9	GEOTRACKER
	3577-MW3-W	↓	↓	↓	3			
	3577-MW4-W				3			
	3577-MW5-W				3			
	3577-MW6-W				3			
	3577-MW7-W				3			
	3577-MW8-W				3			
	3577-MW9-W				3			
	3577-MW10-W				3			
	3577-QCTB-W	↓	↓	↓	1			Cold, in fact

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
STEVE DAVIS	6-10-05 3:25pm		6/10/05 1530

SAMPLE DISPOSAL
☐ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA
SHIPPED VIA: UPS Air-Ex Fed-Ex Bus Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; S=Soil; O=Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT