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January 25, 2006

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; Fourth Quarter 2005
Former Rio Dell Shell; 481 Wildwood Avenue, Rio Dell, California
LOP No. 12261

Dear Mr. Verhey:

LACO ASSOCIATES (LACO) presents to the Humboldt County Division of Environmental Health (HCDEH) the results of groundwater monitoring for the fourth quarter of 2005 at 481 Wildwood Avenue in Rio Dell, California. This report has been prepared on behalf of Mr. Jim Seiler and W & S Enviro.

Please contact LACO (707) 443-5054 if you have any questions or concerns.

Sincerely,
LACO ASSOCIATES

Amy M. Thomson
Staff Geologist

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

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

AMT:jg

Attachments

cc: Jim Seiler (electronically sent)

P:\3000\3577 HPI Rio Dell Shell\Submittals\GMRs\2005\2005\4Q05\3577 4th Q 05.doc

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GROUNDWATER MONITORING REPORT; FOURTH QUARTER 2005

Former Rio Dell Shell; 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 fourth quarter 2005 groundwater monitoring event were conducted on December 5, 2005. Please refer to Table A, included below, for field sampling details for this quarter. Protocol for monitoring well sampling is included in LACO's *Standard Operating Procedures,* on file at your office. Location and site maps are provided as Figures 1 and 2, respectively.

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).

Apr. 1999: One 10,000-gallon and one 12,000-gallon UST (both used for gasoline) were removed along with associated piping from USTs.

Dec. 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.

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

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

June 2004: Monitoring well MW10 was installed.

Aug. 2005: LACO submitted a *Remedial Action Plan.*

Table A: Field Sampling Data - December 5, 2005						
MONITORING WELL ID	SCREENED INTERVAL	DTW (feet bgs)	PURGE METHOD	WATER QUALITY PARAMETERS	ANALYTICALS ORGANICS	SAMPLING SCHEDULE
MW1	18-25	7.26	---	---	---	
MW2	18-25	7.09	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW3	13-20	7.05	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW4	7-12	8.47	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW5	5-12	3.76	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW6	5-12	5.78	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW7	5-12	7.60	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW8	5-12	5.89	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW9	5-12	7.97	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly
MW10	5-12	4.39	DHP	ORP and DO	TPHG, BTEX, MTBE, TBA, DIPE, ETBE, TAME	Quarterly

A key to this Table is included as Attachment 1, and field data sheets are included as Attachment 2.

HYDROGEOLOGY

The subject property is located atop colluvial deposits overlying Quaternary Eel River deposits, situated approximately 2,000 feet northwest of the Eel River, and is approximately 140 feet above sea level. Monitoring wells throughout the site are screened within two separate water bearing zones, separated by a lean clay with silt unit, which is overlain by a stiff, dark gray silty unit. Monitoring wells MW1, MW2, and MW3 are screened in the deeper water bearing zone (approximately 13 to 25 feet below ground surface [bgs]), while monitoring wells MW4 through MW10 are screened in a shallower water bearing zone (approximately 5 to 12 feet bgs).

- The hydraulic gradient for the shallow zone was calculated using the hydraulic heads of monitoring wells MW5, MW8, MW9, and a three-point calculation. The calculated hydraulic gradient for the shallow aquifer for the current sampling event was calculated as 0.06 foot per foot in the N5°W direction.
- The hydraulic gradient for the deep zone, as calculated by using the three-point method in the area defined by monitoring wells MW1, MW2, and MW3, is 0.02 foot per foot in the N55°E direction.

Hydraulic gradient contour maps for the shallow and deep zones, created with Surfer 7.0 software, are presented as Figures 3 and 4, respectively. This hydraulic gradient data is consistent with previous hydraulic gradient calculations at this site, and is evidenced by the distribution and concentrations of methyl tertiary butyl ether (MTBE) in groundwater (Figure 5). Current and historical hydraulic head data are presented in Table 1, historical hydraulic gradients are presented in Table 2, and a copy of the field sampling data sheets are included as Attachment 2.

LABORATORY ANALYTICAL RESULTS

Groundwater analytical data from the December 5, 2005, quarterly sampling event are detailed in Table B, included below. Current and historical groundwater analytical data are included in Table 1, and copies of the laboratory analytical reports for this reporting period are included as Attachment 3.

Table B: Analytical Results for the December 5, 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)
MW1	---	---	---	---	---	---	---	---	---	---
MW2	<50	<0.50	<0.50	<0.50	<0.50	**14**	<10	**1.7**	<1.0	<1.0
MW3	**220**	<0.50	<0.50	<0.50	<0.50	**190**	<10	**17**	<1.0	<1.0
MW4	<50	<0.50	<0.50	<0.50	<0.50	**9.1**	<10	**1.3**	<1.0	<1.0
MW5	**1,100**	**8.8**	<0.50	**0.77**	<0.50	**510**	**73**	**95**	<1.0	<1.0
MW6	**69**	**0.80**	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0
MW7	**1,000**	<0.50	<0.50	<0.50	<0.50	**990**	<60	**97**	**5.0**	<1.0
MW8	**530**	<0.50	<0.50	<0.50	<0.50	**460**	**58**	**53**	**2.7**	<1.0
MW9	**350**	<0.50	<0.50	<0.50	<0.50	**310**	**87**	<1.0	**2.8**	<1.0
MW10	**420**	<0.50	<0.50	<0.50	<0.50	**370**	**73**	**35**	<1.0	<1.0

DISCUSSION OF ANALYTICAL RESULTS

The North Coast Laboratories' case narrative states that the reported gasoline values for monitoring wells MW3, MW7, MW8, MW9, and MW10 come from gasoline additives such as MTBE. MTBE and total petroleum hydrocarbons as gasoline (TPHg) are the primary contaminants of concern at this site. The laboratory also noted that the gasoline value for the sample collected from monitoring well MW5 includes the reported gasoline components and additives as well as other peaks in the gasoline range.

For consistency of data evaluation, laboratory results from the current sampling event will be compared with historical sampling events exhibiting similar hydrologic conditions (December 2004). Since monitoring began at this site, there has been a significant lack of benzene, toluene, ethylbenzene, and total xylenes (BTEX), suggesting natural attenuation has been occurring at the source and down-gradient of the hydrocarbon plume.

Monitoring well MW1 has been removed from the quarterly sampling schedule with regulatory approval; however, the depth-to-water is still measured each sampling event. Analytical results reported for the shallow and deep monitoring wells sampled during the fourth quarter of 2005 generally fall within the range of previously reported sampling events.

Shallow Water Bearing Zone

Detected analytes in monitoring wells MW4, MW5, MW7, MW8, and MW9, (save for tert-amyl methyl ether (TAME) in monitoring well MW7), decreased in concentration, with the concentration of tert-butyl alcohol (TBA) in monitoring wells MW7, MW8, and MW9 decreasing one order of magnitude. This is also an indication of natural attenuation, as TBA is a degradation by-product of MTBE.

In the sample collected from monitoring well MW6, the concentrations of TPHg (69 µg/L), and benzene (0.80 µg/L) increased within the same order of magnitude. Concentrations of TPHg (420 µg/L), MTBE (370 µg/L), TBA (73 µg/L), and TAME (35 µg/L), reported in samples collected from monitoring well MW10, increased within the same order of magnitude.

As illustrated in Chart 1, the concentration of benzene in monitoring well MW5 has been decreasing, and should reach the North Coast Regional Water Quality Control Board (NCRWQCB) water quality objective (WQO) of 1 µg/L by the year 2007. Chart 2 illustrates the concentration of TPHg in monitoring well MW5. Using the data presented in Chart 2, the concentration of TPHg is estimated to decrease below the WQO (50 µg/L) by the year 2033.

Deep Water Bearing Zone

At monitoring well MW2, the concentration of MTBE (14 µg/L) is slightly above the NCRWQCB WQO of 13 µg/L, while the concentration of TAME (1.7 µg/L) decreased. For the sample collected from monitoring well MW3, detected analytes of TPHg (220 µg/L), MTBE (190 µg/L), and TAME (17 µg/L) all increased within the same order of magnitude.

Chart 3 indicates that the concentration trend of MTBE for monitoring well MW2 is increasing. This increasing trend corresponds to low groundwater elevations, suggesting that analytes within the groundwater were more concentrated at the time of sampling. It also appears that the MTBE plume is migrating offsite, in the direction of the hydraulic gradient. Chart 4 illustrates a decreasing concentration trend for MTBE detected in monitoring well MW3. If this trend continues, it is estimated that the concentration of MTBE will decrease below the WQOs in the year 2011.

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. Inversely, DO and ORP recordings below these thresholds generally indicate anaerobic conditions at a site. The recordings of DO and ORP obtained from deep monitoring wells MW2 and MW3, for this sampling event, exhibited ORP levels above the threshold, and DO readings below the threshold, suggesting marginal conditions exist at these locations. Monitoring wells MW4 and MW6 (shallow monitoring wells) also exhibit marginal aerobic/anaerobic conditions. Monitoring wells MW5, MW7, MW8, MW9, and MW10 (shallow monitoring wells) exhibited ORP and DO

readings below the thresholds, indicating that anaerobic conditions exist at the locations of these monitoring wells.

RECOMMENDATIONS

- The next sampling event is scheduled for March 2006.
- LACO is currently preparing a limited *Corrective Action Plan/Feasibility Study*, per HCDEH correspondence dated December 9, 2005.

LIMITATIONS

LACO ASSOCIATES has exercised a standard of care equal to that generated for this industry to ensure that the information contained in this report is current and accurate. LACO ASSOCIATES disclaims any and all liability for any errors, omissions, or inaccuracies in the information and data presented in this report and/or any consequences arising there from, whether attributable to inadvertence or otherwise. LACO ASSOCIATES makes no representations or warranties of any kind including, but not limited to, any implied warranties with respect to the accuracy or interpretations of the data furnished. LACO ASSOCIATES assumes no responsibility of any third party reliance on the data presented and that data generated for this report represents information gathered at that time and at the indicated locations. It should not be utilized by any third party to represent data for any other time or location. The report is valid solely for the purpose, site, and project described in this document. Any alteration, unauthorized distribution, or deviation from this description will invalidate this report.

LIST OF FIGURES, TABLES, CHARTS, AND ATTACHMENTS

Figure 1: Location Map
Figure 2: Site Map
Figure 3: Hydraulic Gradient - Shallow Aquifer (12/05/05)
Figure 4: Hydraulic Gradient - Deep Aquifer (12/05/05)
Figure 5: MTBE Concentration in Groundwater

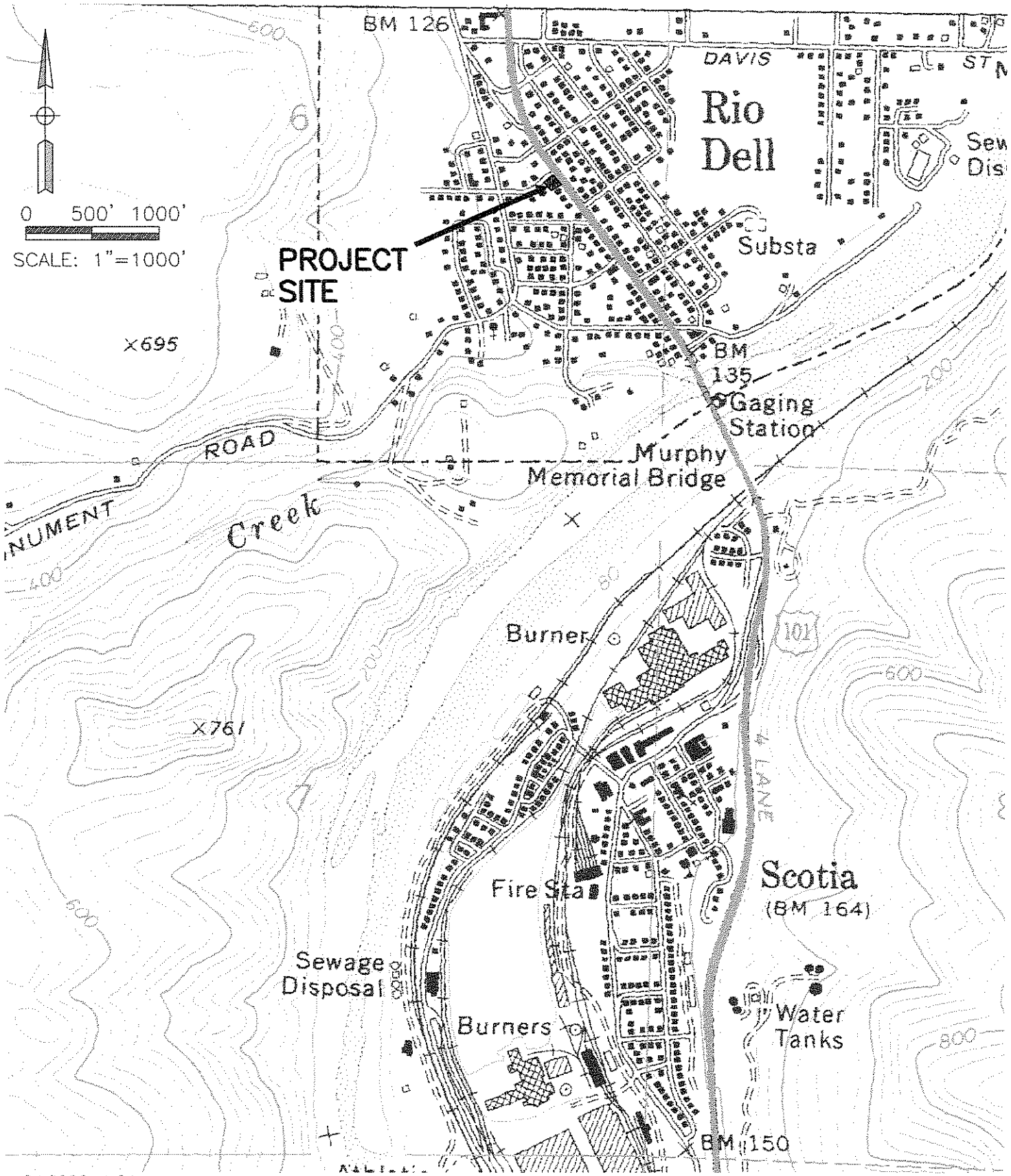
Table 1: Well Data and Groundwater Analytical Results
Table 2: Historical Hydraulic Gradient Data

Chart 1: Estimated Decay of Benzene at Monitoring Well MW5
Chart 2: Estimated Decay of TPHg at Monitoring Well MW5

Chart 3: Estimated Decay of MTBE at Monitoring Well MW2
Chart 4: Estimated Decay of MTBE at Monitoring Well MW3

Attachment 1: Key to Abbreviations
Attachment 2: Groundwater Sampling Field Data Sheets
Attachment 3: Laboratory Analytical Reports

LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT GROUNDWATER MONITORING REPORT	BY RJM	FIGURE 1
	CLIENT W & S ENVIRO	DATE 1/05/06	
	LOCATION 481 WILDWOOD AVE, RIO DELL	CHECK	JOB NO. 3577.02
	LOCATION MAP	SCALE 1"=1000'	



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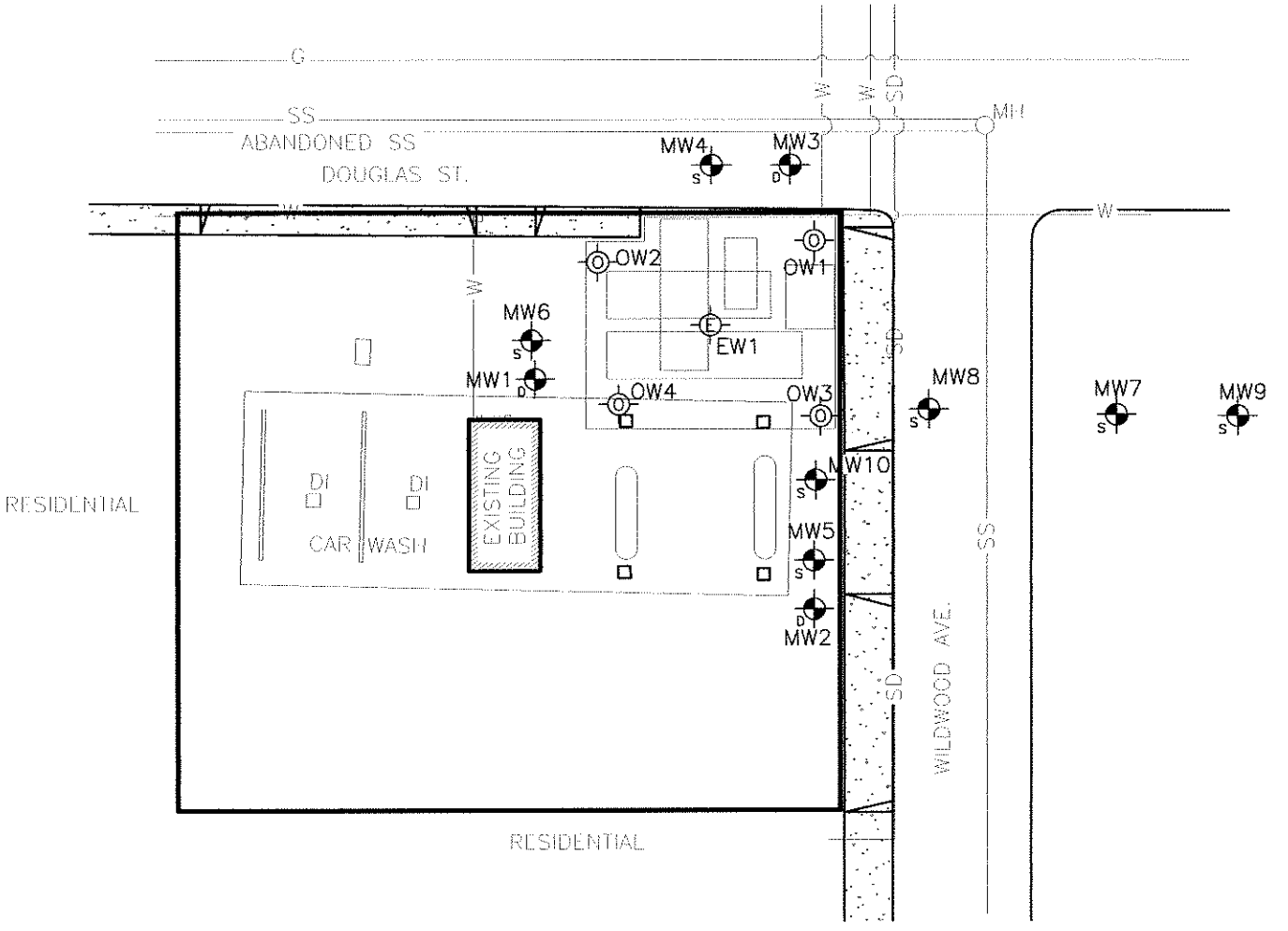
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT GROUNDWATER MONITORING REPORT	BY RJM	FIGURE 2
	CLIENT W & S ENVIRO	DATE 1/05/06	
	LOCATION 481 WILDWOOD AVE, RIO DELL	CHECK	JOB NO. 3577.02
	SITE MAP	SCALE 1"=30'	

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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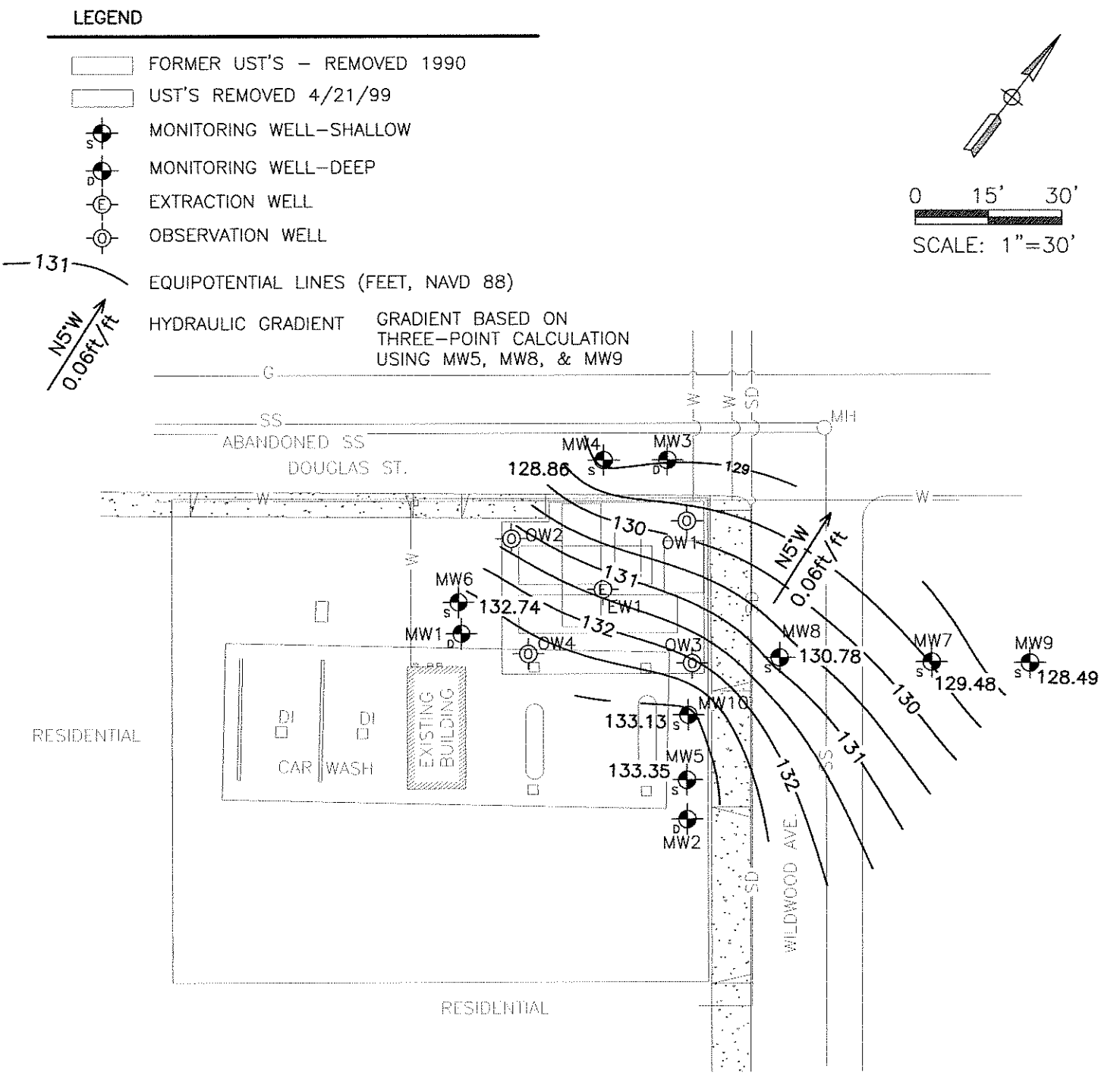
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT GROUNDWATER MONITORING REPORT	BY RJM	FIGURE 3
	CLIENT HUMBOLDT PETROLEUM INC	DATE 1/10/06	
	LOCATION 481 WILDWOOD AVE, RIO DELL	CHECK	JOB NO. 3577.02
	HYDRAULIC GRADIENT-SHALLOW AQUIFER (12/05/05)	SCALE 1"=30'	



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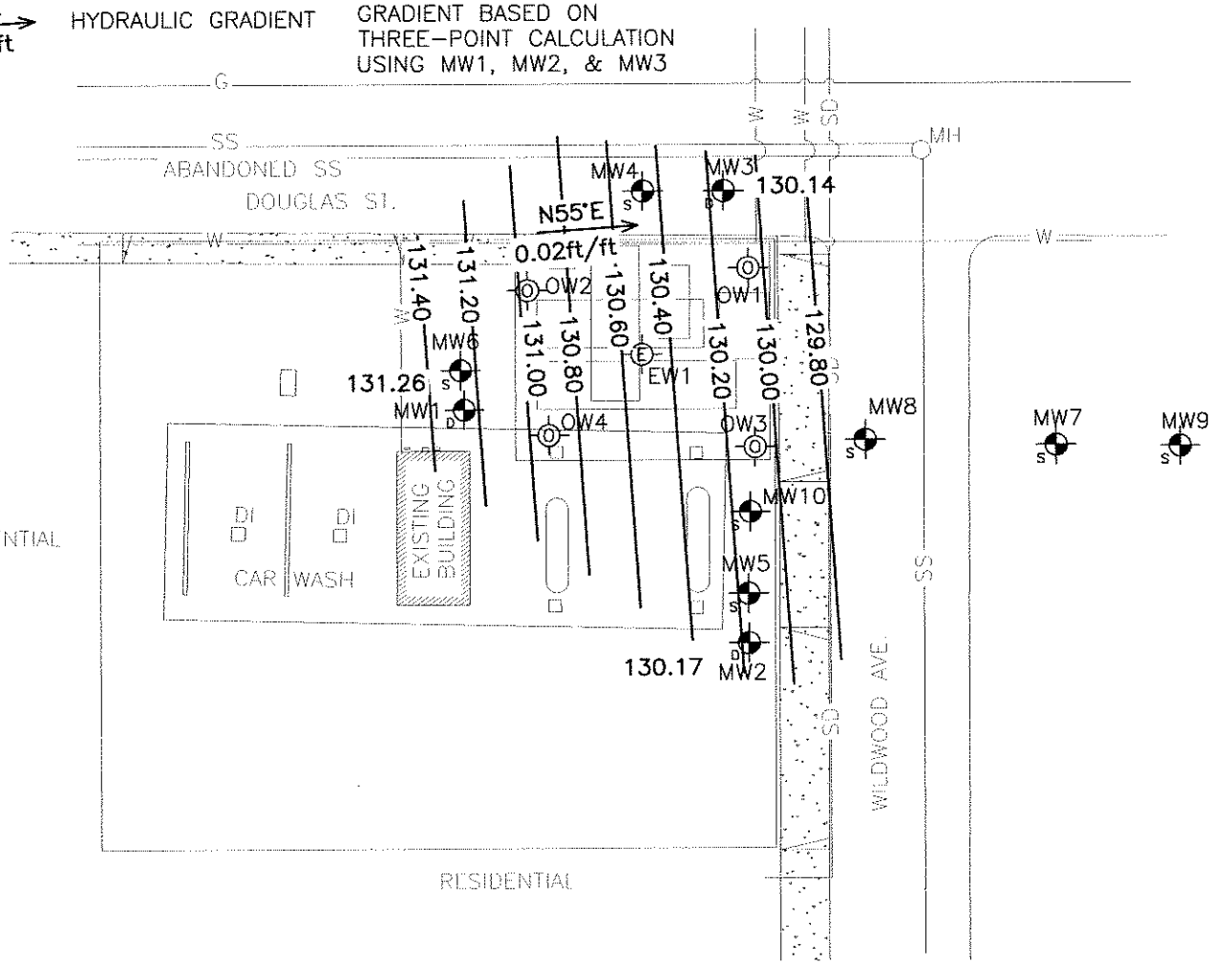
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT GROUNDWATER MONITORING REPORT	BY RJM	FIGURE 4
	CLIENT HUMBOLDT PETROLEUM INC	DATE 1/10/06	
	LOCATION 481 WILDWOOD AVE, RIO DELL	CHECK	JOB NO. 3577.02
	HYDRAULIC GRADIENT-DEEP AQUIFER (12/05/05)	SCALE 1"=30'	

LEGEND

- FORMER UST'S – REMOVED 1990
- UST'S REMOVED 4/21/99
- MONITORING WELL–SHALLOW
- MONITORING WELL–DEEP
- EXTRACTION WELL
- OBSERVATION WELL
- 130.20 — EQUIPOTENTIAL LINES (FEET, NAVD 88)
- N55°E 0.02ft/ft — HYDRAULIC GRADIENT — GRADIENT BASED ON THREE-POINT CALCULATION USING MW1, MW2, & MW3

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 5
	CLIENT W & S ENVIRO	DATE 1/10/06	
	LOCATION 481 WILDWOOD AVE, RIO DELL	CHECK	JOB NO. 3577.02
	MTBE CONCENTRATION IN GROUNDWATER	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
- ND BELOW DETECTION LIMITS
- NS NOT SAMPLED
- 510 ANALYTE CONCENTRATIONS IN GROUNDWATER

ALL RESULTS REPORTED IN MICROGRAMS PER LITER (μg/L)

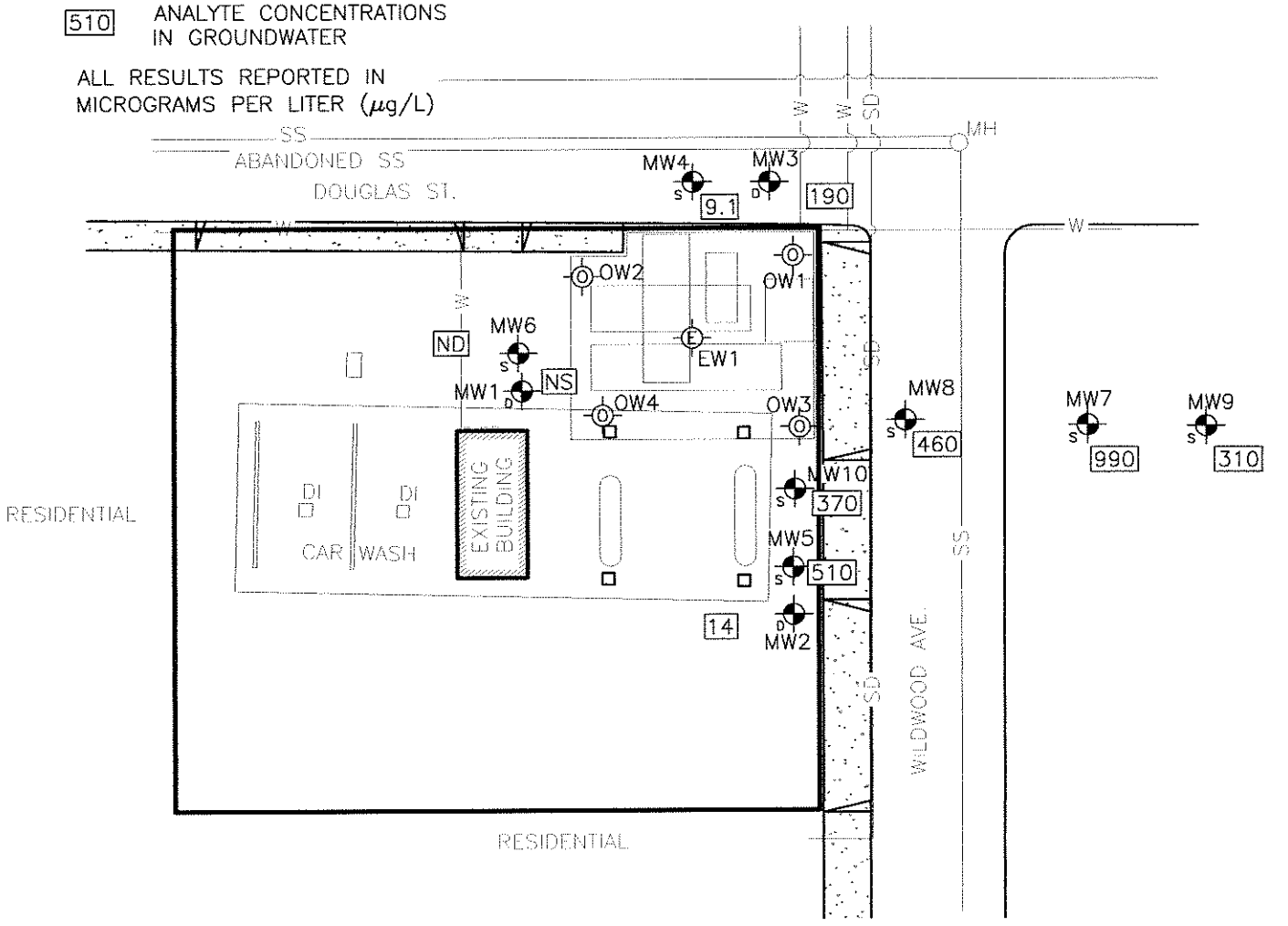

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TABLE 1: WELL DATA AND GROUNDWATER ANALYTICAL RESULTS
Former Rio Dell Shell, 481 Wildwood Avenue, Rio Dell, CA
LACO Project No. 3577.02; LOP No. 12261

Well ID	Sample Date	Screened Interval (feet bgs)	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**	**18-25**	**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		---	---	---	---	---	---	---	---	---	---	---
	9/22/2005			128.68	9.84		---	---	---	---	---	---	---	---	---	---	---
	12/5/2005			131.26	7.26		---	---	---	---	---	---	---	---	---	---	---

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	Screened Interval (feet bgs)	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	18-25	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	---
	9/22/2005			128.45	8.81		52	<0.50	<0.50	<0.50	<0.50	31	<10	3.5	<1.0	<1.0	---
	12/5/2005			130.17	7.09		<50	<0.50	<0.50	<0.50	<0.50	14	<10	1.7	<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	Screened Interval (feet bgs)	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	13-20	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	---
	9/22/2005			128.66	8.53		210	<0.50	<0.50	<0.50	<0.50	180	<10	14	<1.0	<1.0	---
	12/5/2005			130.14	7.05		220	<0.50	<0.50	<0.50	<0.50	190	<10	17	<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	Screened Interval (feet bgs)	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	7-12	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	---
	9/22/2005			128.62	8.71		<50	<0.50	<0.50	<0.50	<0.50	24	<10	3.2	<1.0	<1.0	---
	12/5/2005			128.86	8.47		<50	<0.50	<0.50	<0.50	<0.50	9.1	<10	1.3	<1.0	<1.0	---
MW-5	7/6/2001	5-12	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	---

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	Screened Interval (feet bgs)	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-5 Cont'd																	
	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	---
	9/22/2005			133.06	4.05		1,100	7.8	<0.50	0.85	<0.50	480	72	88	<1.0	<1.0	---
	12/5/2005			133.35	3.76		1,100	8.8	<0.50	0.77	<0.50	510	73	95	<1.0	<1.0	---
MW-6	7/6/2001	5-12	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	---
	9/22/2005			133.17	5.35		66	<0.50	<0.50	<0.50	<0.50	<1.0	<50	<1.0	<1.0	<1.0	---
	12/5/2005			132.74	5.78		69	0.80	<0.50	<0.50	<0.50	<1.0	<10	<1.0	<1.0	<1.0	---
MW-7	10/31/2002	5-12	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	---
	9/22/2005			129.19	7.89		1,100	<0.50	<0.50	<0.50	<0.50	990	58	97	5.2	<1.0	---
	12/5/2005			129.48	7.6		1,000	<0.50	<0.50	<0.50	<0.50	990	<60	97	5.0	<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	Screened Interval (feet bgs)	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-8	10/31/02	5-12	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	---
	9/22/2005			130.72	5.92		510	<0.50	<0.50	<0.50	<0.50	430	57	56	2.1	<1.0	---
	12/5/2005			130.75	5.89		530	<0.50	<0.50	<0.50	<0.50	460	58	53	2.7	<1.0	---
MW-9	10/31/02	5-12	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	---
	9/22/2005			128.52	7.94		370	<0.50	<0.50	<0.50	<0.50	320	77	<1.0	3.0	<1.0	---
	12/5/2005			128.49	7.97		350	<0.50	<0.50	<0.50	<0.50	310	87	<1.0	2.8	<1.0	---
MW-10	6/23/2004	5-12	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	---
	9/22/2005			132.68	4.84		400	<0.50	<0.50	<0.50	<0.50	330	62	34	<2.0	<1.0	---
	12/5/2005			133.13	4.39		420	<0.50	<0.50	<0.50	<0.50	370	73	35	<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	Screened Interval (feet bgs)	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)
Field Duplicate																	
MW-5	**12/5/2005**	**5-12**	---	---	---		**1,100**	**10**	<0.50	**0.80**	<0.50	**500**	**74**	**93**	<1.0	<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 interfernce.

[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: HISTORICAL 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 (ft/ft)**	**Direction**	**Slope (ft/ft)**
12/28/1999	---	---	S49°E	0.01
2/24/2000	---	---	S61°E	0.02
3/21/2000	---	---	S57°E	0.01
4/18/2000	---	---	S58°E	0.01
5/26/2000	---	---	S46°E	0.01
6/30/2000	---	---	S55°E	0.01
7/31/2000	---	---	S46°E	0.01
8/28/2000	---	---	S43°E	0.01
9/22/2000	---	---	S43°E	0.01
10/26/2000	---	---	S5°E	<0.01
1/12/2001	---	---	S45°E	0.01
5/2/2001	---	---	S59°E	<0.01
6/1/2001	**shallow wells installed**		**deep wells reconstructed**	
7/6/2001	N73°E	0.05	S11°W	0.01
9/4/2001	S31°W	0.06	S20°W	0.01
10/18/2001	S87°W	0.03	N56°W	<0.01
11/29/2001	S45°W	0.04	N35°W	0.01
1/2/2002	S35°W	0.02	N50°W	0.01
1/21/2002	N89°E	<0.01	N76°W	<0.01
2/27/2002	S20°W	0.05	N1°W	<0.01
3/13/2002	S54°W	0.05	N27°W	<0.01
4/19/2002	N85°E	0.01	N14°W	<0.01
5/20/2002	N49°E	<0.01	S41°E	<0.01
6/13/2002	N21°W	0.01	S52°W	<0.01
10/31/2002	N46°E	0.06	N77°W	0.10
1/3/2003	S85°W	0.04	N61°W	<0.01
3/18/2003	N9°W	0.04	N50°E	0.06
6/24/2003	N20°W	0.04	S77°E	<0.01
9/18/2003	N40°W	0.06	N79°E	<0.01
12/9/2003	N21°E	0.01	S52°E	<0.01
3/4/2004	N73°W	0.04	N50°E	<0.01
6/23/2004	N57°W	0.05	S77°E	<0.01
9/14/2004	N34°E	0.07	S77°E	<0.01
12/16/2004	N3°E	0.11	N72°E	<0.01
3/15/2005	N8°W	0.08	N55°E	<0.01
6/8/2005	N33°W	0.06	N75°W	0.01
9/22/2005	N3°W	0.1	S83°W	<0.01
12/5/2005	N5°W	0.06	N55°E	0.02

CHART 1: ESTIMATED DECAY OF BENZENE AT MONITORING WELL MW5
Former Rio Dell Shell, 481 Wildwood Avenue, Rio Dell, CA
LACO Project No. 3577.02; LOP No. 12261

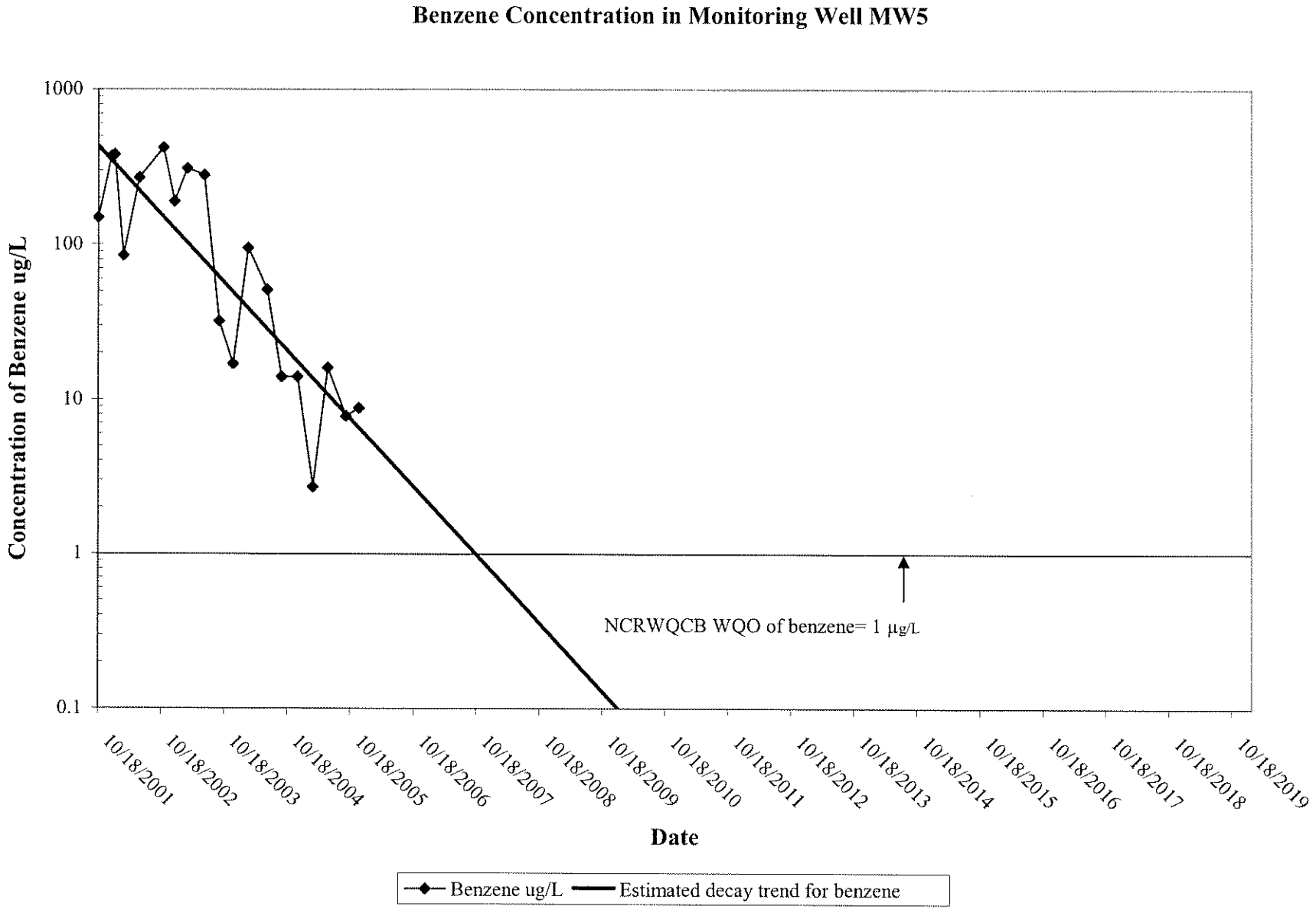


CHART 2: ESTIMATED DECY FOR TPHg AT MONITORING WELL MW5
Former Rio Dell Shell, 481 Wildwood Avenue, Rio Dell, CA
LACO Project No. 3577.02; LOP No. 12261

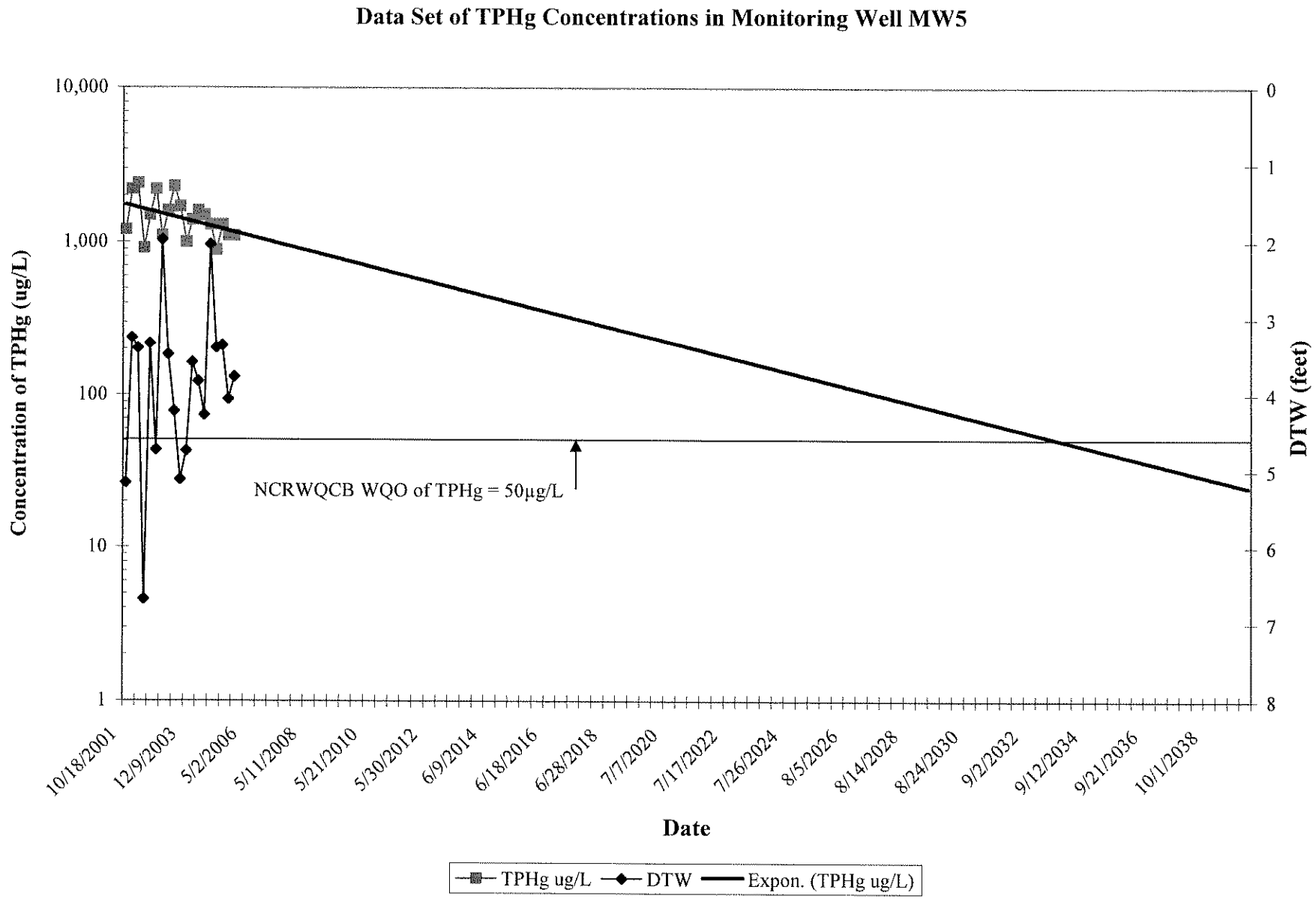


CHART 3: ESTIMATED DECAY OF MTBE AT MONITORING WELL MW2
Former Rio Dell Shell, 481 Wildwood Avenue, Rio Dell, CA
LACO Project No. 3577.02; LOP No. 12261

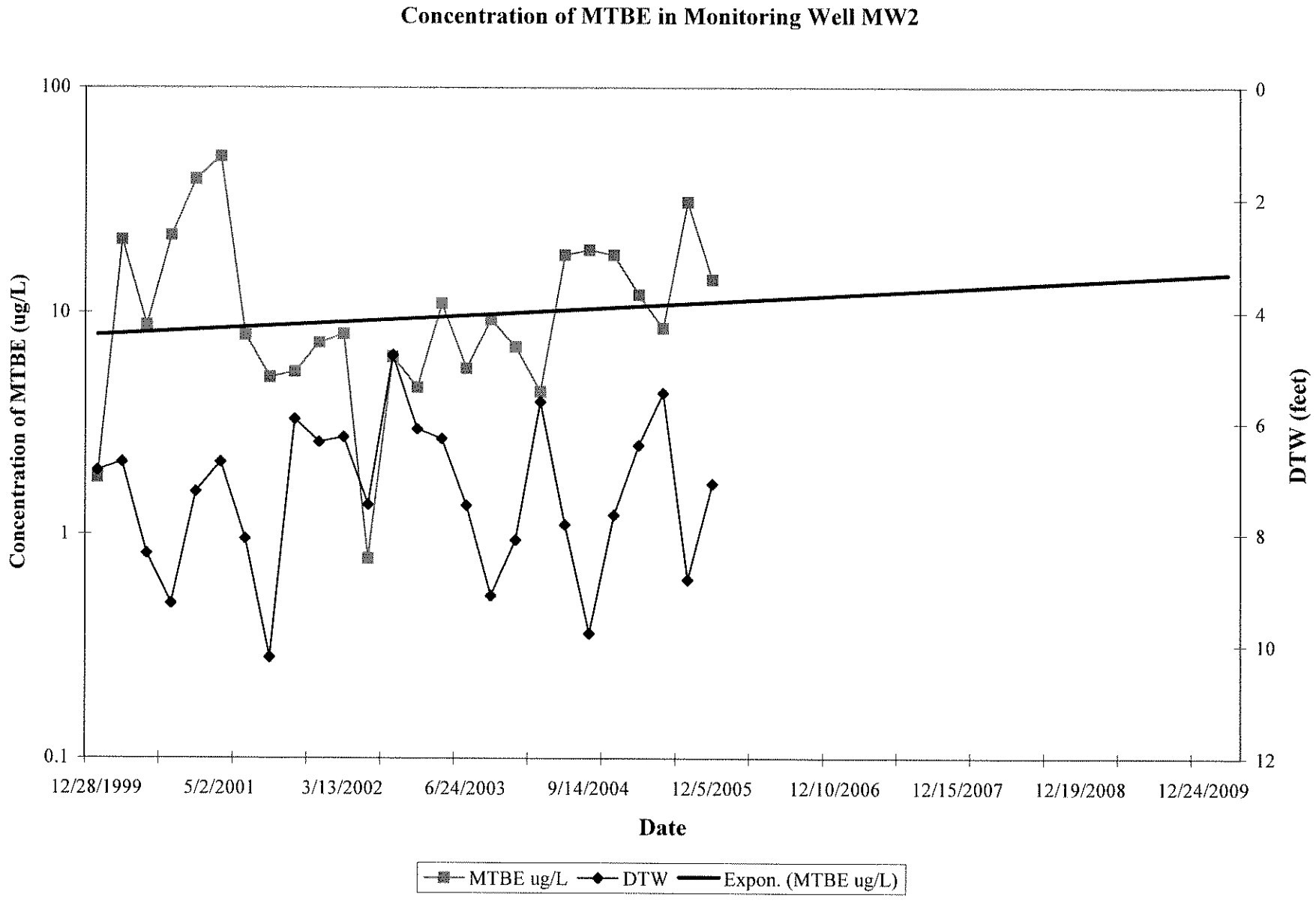
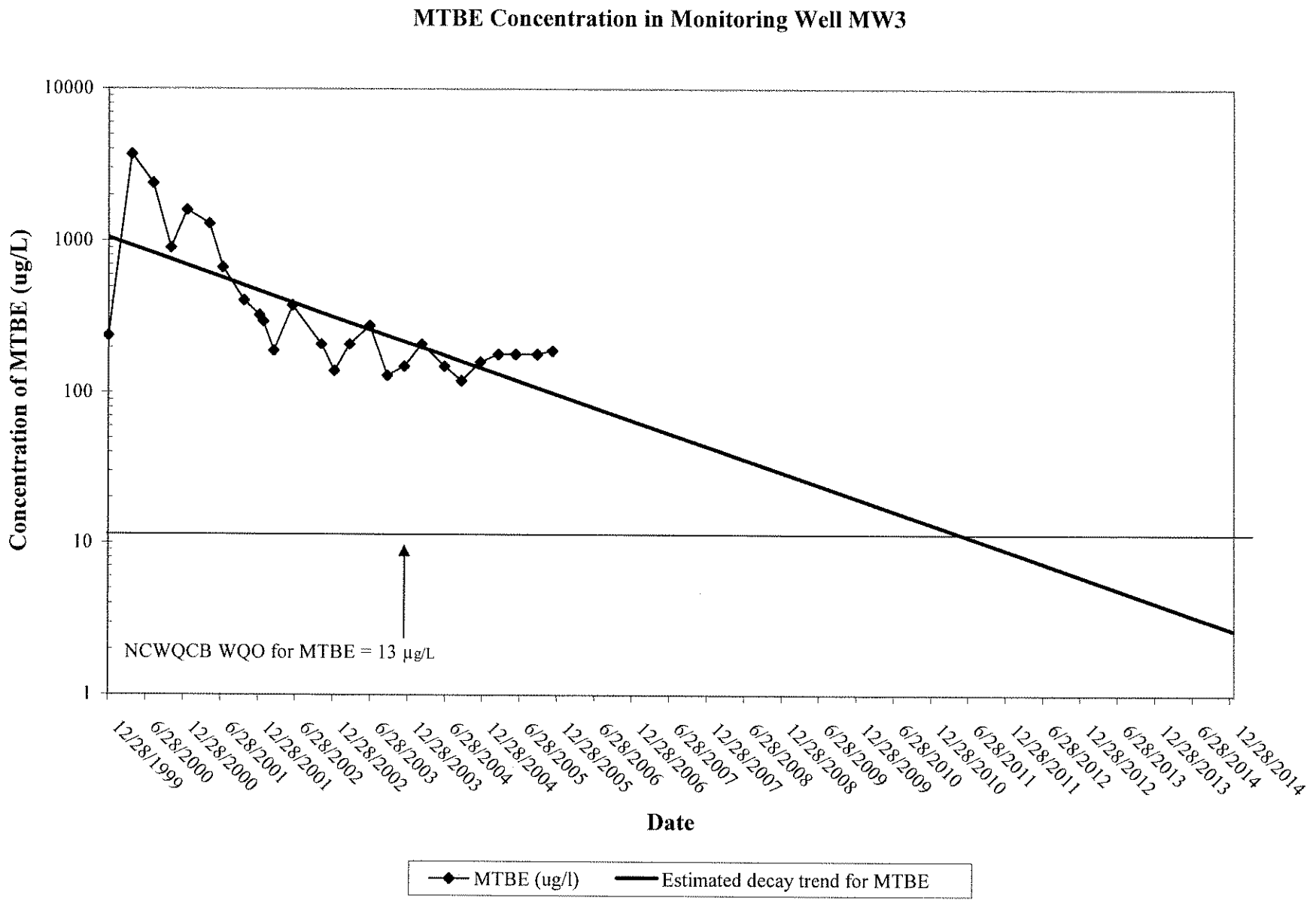


CHART 4: ESTIMATED DECAY TREND OF MTBE IN MONITORING WELL MW3
Former Rio Dell Shell, 481 Wildwood Avenue, Rio Dell, CA
LACO Project No. 3577.02, LOP No. 12261



Attachment 1

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

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: 12-5-05
Golbal ID No.: T0602300194
PM: TDN

Tech: SJD
Mob/Demob time: 1.50/1.25
Travel time: 1.25
Time on site: 8:30
Time off site: 2:10
Mileage: 55

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)	7.26		7.09		7.05		8.47		5.78	
	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)			64	57	35	51	53	54	58	50
FIELD INTRINSICS: DO (mg/L)			0.87	0.48	1.29	0.47	1.45	0.56	1.75	0.53
FIELD INTRINSICS: OTHER (units)			—		—		—		—	
PURGE: TIME			9:27	9:37	9:58	10:06	10:40	10:46	11:04	11:10
PURGE: METHOD (DHP/CB/B)			DHP		DHP		DHP		DHP	
PURGE: RATE (Lpm)			0.20		0.19		0.20		0.20	
PURGE: VOLUME (L)			2.0		1.50		1.25		1.25	
PURGE: COLOR			CLEAR	CLOUDY	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
PURGE: ODOR			MED. SULFUR		MED. SULFUR / SLIGHT SWEET		MED. SULFUR		MED. SULFUR	
PURGE: INTAKE DEPTH (FEET)			20.0		16.0		11.0		10.0	
SAMPLE: TIME			9:38		10:07		10:47		11:11	
SAMPLE: METHOD (DHP/CB/B)			DHP		DHP		DHP		DHP	
SAMPLE: ANALYTES	MEASURE ONLY		8260 list 1		8260 list 1		8260 list 1		8260 list 1	
SAMPLE: TOTAL DRAWDOWN (FEET)			0.06		0.09		0.81		0.71	
SAMPLE: REMARKS			—		—		—		—	
WELL CONDITION	good		good		good		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
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: 12-5-05
Golbal ID No.: T0602300252
PM: TDN

Tech: SJD
Mob/Demob time: .50/1.25
Travel time: 1.25
Time on site: 8:30
Time off site: 2:10
Mileage: 55

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)	7.97		5.89		7.60		3.76		4.39	
	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)	39	30	1	10	14	19	5	6	-8	-1
FIELD INTRINSICS: DO (mg/L)	1.35	0.53	1.10	0.60	1.29	0.36	1.38	0.49	1.15	0.49
FIELD INTRINSICS: OTHER (units)	—		—		—		—		—	
PURGE: TIME	11:33	11:39	12:01	12:07	12:27	12:33	12:52	1:00	1:21	1:27
PURGE: METHOD (DHP/CB/B)	DHP		DHP		DHP		DHP		DHP	
PURGE: RATE (Lpm)	0.20		0.20		0.20		0.20		0.20	
PURGE: VOLUME (L)	1.25		1.20		1.25		1.60		1.20	
PURGE: COLOR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	SLIGHT GREY TINT
PURGE: ODOR	MED. SULFUR		LIGHT SULFUR/SWEET		LIGHT SULFUR/SWEET		STRONG RUBBER / SLIGHT FUEL		MED. SULFUR / LIGHT SWEET	
PURGE: INTAKE DEPTH (FEET)	10.0		10.0		10.0		10.0		10.0	
SAMPLE: TIME	11:40		12:08		12:34		1:03		1:28	
SAMPLE: METHOD (DHP/CB/B)	DHP		DHP		DHP		DHP		DHP	
SAMPLE: ANALYTES	8260 list 1		8260 list 1		8260 list 1		8260 list 1		8260 list 1	
SAMPLE: TOTAL DRAWDOWN (FEET)	0.73		0.66		0.76		0.86		1.14	
SAMPLE: REMARKS	2 BORINGS NEXT TO WELL HEAD		—		—		FD - MB		—	
WELL CONDITION	good		good		good		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
CONSULTING ENGINEERS

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TEL 707.443.5054
FAX 707.443.0553

Project Name: HPI - RIO DELL SHELL
Project No.: 2577.02

Tech: SJD
Date: 12-5-05

WELL ID:	METER ACCURACY RANGE				
MW2	+/- 0.2 pH	+/- 0.5 °C	+/- 20 µmohs	+/- 2 mv	+/- 0.3 mg/L
TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
9:29	~	~	~	71	0.77
9:31	~	~	~	67	0.48
9:33	~	~	~	63	0.43
9:35	~	~	~	58	0.53
9:37	~	~	~	57	0.48

WELL ID: MW3

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
10:00	~	~	~	38	0.92
10:02	~	~	~	48	0.50
10:04	~	~	~	51	0.52
10:06	~	~	~	51	0.47

WELL ID: MW4

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
10:42	~	~	~	51	1.31
10:44	~	~	~	54	0.64
10:46	~	~	~	54	0.56

WELL ID: MW6

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
11:06	~	~	~	54	1.50
11:08	~	~	~	51	0.54
11:10	~	~	~	50	0.53

WELL ID: MW9

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
11:35	~	~	~	36	0.73
11:37	~	~	~	31	0.56
11:39	~	~	~	30	0.53

WELL ID: MW8

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
12:03	~	~	~	8	0.84
12:05	~	~	~	11	0.59
12:07	~	~	~	10	0.60

LACO ASSOCIATES
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TEL 707.443.5054
FAX 707.443.0553

Project Name: HPI - RIO DELL SHELL

Project No.: 3577.02

Tech: SJD

Date: 12-5-05

METER ACCURACY RANGE

WELL ID: MW7	+/- 0.2 pH	+/- 0.5 °C	+/- 20 µmohs	+/- 2 mv	+/- 0.3 mg/L
TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
12:29	~	~	~	17	1.01
12:31	~	~	~	19	0.48
12:33	~	~	~	19	0.36

WELL ID: MW5

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
12:54	~	~	~	6	1.01
12:56	~	~	~	7	0.60
12:58	~	~	~	7	0.50
1:00	~	~	~	6	0.49

WELL ID: MW10

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
1:23	~	~	~	-4	1.07
1:25	~	~	~	-1	0.58
1:27	~	~	~	-1	0.49

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)

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
Date: 12-5-09

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)
8:49	7.26	8:53	7.09	8:55	7.05	8:58	8.47	9:01	3.76	8:51	5.78
10:18	7.26	9:14	7.09	9:16	7.05	9:19	8.47	10:22	3.76	10:20	5.78

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)
9:10	7.60	9:04	5.89	9:07	7.97	9:03	4.39	1:35	2.44	1:37	2.67
10:30	7.60	10:24	5.89	10:27	7.97	10:33	4.39	1:45	2.44	1:47	2.67

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)
1:39	1.61	1:41	1.88								
1:49	1.61	1:51	1.88								

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; Chris Watt

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 - 3031

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	PRESERVATIVE	CONTAINER	ANALYSIS 8260 List 1	SAMPLE CONDITION/SPECIAL INSTRUCTIONS
	3577-MW2-W	12-5-05	AM	GW	b	9	3	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	↓	PM	↓			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

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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; Chris Watt
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 - 3051

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	PRESERVATIVE	CONTAINER	ANALYSIS: 8260 List 1	SAMPLE CONDITION/SPECIAL INSTRUCTIONS
	3577-QCMB-W	12-5-05	PM	GW	b	9	3	GEOTRACKER
	3577-QCFD-W	↓	↓	↓			3	

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

Attachment 3

NORTH COAST
LABORATORIES LTD.

DEC 1 9 2005
BY: JB

December 08, 2005

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

Attn: Accounts Payable

RE: 3577.02, HPI Rio Dell Shell

Order No.: 0512139
Invoice No.: 54870
PO No.: TASK-3031
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
11A	3577-QCMB-W
12A	3577-QCFD-W

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

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

LMO
DRG
DNL
GH
GEO
HPI
FRB
TDN 12-14-05

File
Project # 3577

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:** *09-Dec-05*

CLIENT: LACO Associates
Project: 3577.02, HPI Rio Dell Shell
Lab Order: 0512139

CASE NARRATIVE

Gasoline Components/Additives:
Sample 3577-MW6-W does not present a peak pattern consistent with that of gasoline. The reported result represents the amount of material in the gasoline range.

The gasoline values for samples 3577-MW5-W and 3577-QCFD-W include the reported gasoline components and additives in addition to other peaks in the gasoline range.

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

The TBA reporting limit was raised for samples 3577-MW7-W and 3577-QCMB-W due to matrix interference.

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Date: 08-Dec-05
WorkOrder: 0512139

ANALYTICAL REPORT

Client Sample ID: 3577-MW2-W **Received:** 12/5/05 **Collected:** 12/5/05 0:00
Lab ID: 0512139-01A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	14	1.0	µg/L	1.0		12/6/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		12/6/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		12/6/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		12/6/05
Benzene	ND	0.50	µg/L	1.0		12/6/05
Tert-amyl methyl ether (TAME)	1.7	1.0	µg/L	1.0		12/6/05
Toluene	ND	0.50	µg/L	1.0		12/6/05
Ethylbenzene	ND	0.50	µg/L	1.0		12/6/05
m,p-Xylene	ND	0.50	µg/L	1.0		12/6/05
o-Xylene	ND	0.50	µg/L	1.0		12/6/05
Surrogate: 1,4-Dichlorobenzene-d4	108	80.8-139	% Rec	1.0		12/6/05

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		12/6/05

Client Sample ID: 3577-MW3-W **Received:** 12/5/05 **Collected:** 12/5/05 0:00
Lab ID: 0512139-02A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	190	50	µg/L	50		12/7/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		12/7/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		12/7/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		12/7/05
Benzene	ND	0.50	µg/L	1.0		12/7/05
Tert-amyl methyl ether (TAME)	17	1.0	µg/L	1.0		12/7/05
Toluene	ND	0.50	µg/L	1.0		12/7/05
Ethylbenzene	ND	0.50	µg/L	1.0		12/7/05
m,p-Xylene	ND	0.50	µg/L	1.0		12/7/05
o-Xylene	ND	0.50	µg/L	1.0		12/7/05
Surrogate: 1,4-Dichlorobenzene-d4	107	80.8-139	% Rec	1.0		12/7/05

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	220	50	µg/L	1.0		12/7/05

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Date: 08-Dec-05
WorkOrder: 0512139

ANALYTICAL REPORT

Client Sample ID: 3577-MW4-W **Received:** 12/5/05 **Collected:** 12/5/05 0:00
Lab ID: 0512139-03A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	9.1	1.0	µg/L	1.0		12/6/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		12/6/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		12/6/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		12/6/05
Benzene	ND	0.50	µg/L	1.0		12/6/05
Tert-amyl methyl ether (TAME)	1.3	1.0	µg/L	1.0		12/6/05
Toluene	ND	0.50	µg/L	1.0		12/6/05
Ethylbenzene	ND	0.50	µg/L	1.0		12/6/05
m,p-Xylene	ND	0.50	µg/L	1.0		12/6/05
o-Xylene	ND	0.50	µg/L	1.0		12/6/05
Surrogate: 1,4-Dichlorobenzene-d4	108	80.8-139	% Rec	1.0		12/6/05

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		12/6/05

Client Sample ID: 3577-MW5-W **Received:** 12/5/05 **Collected:** 12/5/05 0:00
Lab ID: 0512139-04A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	510	50	µg/L	50		12/7/05
Tert-butyl alcohol (TBA)	73	10	µg/L	1.0		12/7/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		12/7/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		12/7/05
Benzene	8.8	0.50	µg/L	1.0		12/7/05
Tert-amyl methyl ether (TAME)	95	50	µg/L	50		12/7/05
Toluene	ND	0.50	µg/L	1.0		12/7/05
Ethylbenzene	0.77	0.50	µg/L	1.0		12/7/05
m,p-Xylene	ND	0.50	µg/L	1.0		12/7/05
o-Xylene	ND	0.50	µg/L	1.0		12/7/05
Surrogate: 1,4-Dichlorobenzene-d4	104	80.8-139	% Rec	1.0		12/7/05

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		12/7/05

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Date: 08-Dec-05
WorkOrder: 0512139

ANALYTICAL REPORT

Client Sample ID: 3577-MW6-W **Received:** 12/5/05 **Collected:** 12/5/05 0:00
Lab ID: 0512139-05A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1.0		12/6/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		12/6/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		12/6/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		12/6/05
Benzene	0.80	0.50	µg/L	1.0		12/6/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		12/6/05
Toluene	ND	0.50	µg/L	1.0		12/6/05
Ethylbenzene	ND	0.50	µg/L	1.0		12/6/05
m,p-Xylene	ND	0.50	µg/L	1.0		12/6/05
o-Xylene	ND	0.50	µg/L	1.0		12/6/05
Surrogate: 1,4-Dichlorobenzene-d4	107	80.8-139	% Rec	1.0		12/6/05

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	69	50	µg/L	1.0		12/6/05

Client Sample ID: 3577-MW7-W **Received:** 12/5/05 **Collected:** 12/5/05 0:00
Lab ID: 0512139-06A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	990	50	µg/L	50		12/7/05
Tert-butyl alcohol (TBA)	ND	60	µg/L	1.0		12/7/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		12/7/05
Ethyl tert-butyl ether (ETBE)	5.0	1.0	µg/L	1.0		12/7/05
Benzene	ND	0.50	µg/L	1.0		12/7/05
Tert-amyl methyl ether (TAME)	97	1.0	µg/L	1.0		12/7/05
Toluene	ND	0.50	µg/L	1.0		12/7/05
Ethylbenzene	ND	0.50	µg/L	1.0		12/7/05
m,p-Xylene	ND	0.50	µg/L	1.0		12/7/05
o-Xylene	ND	0.50	µg/L	1.0		12/7/05
Surrogate: 1,4-Dichlorobenzene-d4	107	80.8-139	% Rec	1.0		12/7/05

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	1,000	50	µg/L	1.0		12/7/05

NORTH COAST LABORATORIES
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Date: 08-Dec-05
WorkOrder: 0512139

ANALYTICAL REPORT

Client Sample ID: 3577-MW8-W **Received:** 12/5/05 **Collected:** 12/5/05 0:00
Lab ID: 0512139-07A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	460	50	µg/L	50		12/7/05
Tert-butyl alcohol (TBA)	58	10	µg/L	1.0		12/7/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		12/7/05
Ethyl tert-butyl ether (ETBE)	2.7	1.0	µg/L	1.0		12/7/05
Benzene	ND	0.50	µg/L	1.0		12/7/05
Tert-amyl methyl ether (TAME)	53	1.0	µg/L	1.0		12/7/05
Toluene	ND	0.50	µg/L	1.0		12/7/05
Ethylbenzene	ND	0.50	µg/L	1.0		12/7/05
m,p-Xylene	ND	0.50	µg/L	1.0		12/7/05
o-Xylene	ND	0.50	µg/L	1.0		12/7/05
Surrogate: 1,4-Dichlorobenzene-d4	108	80.8-139	% Rec	1.0		12/7/05

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	530	50	µg/L	1.0		12/7/05

Client Sample ID: 3577-MW9-W **Received:** 12/5/05 **Collected:** 12/5/05 0:00
Lab ID: 0512139-08A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	310	50	µg/L	50		12/7/05
Tert-butyl alcohol (TBA)	87	10	µg/L	1.0		12/7/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		12/7/05
Ethyl tert-butyl ether (ETBE)	2.8	1.0	µg/L	1.0		12/7/05
Benzene	ND	0.50	µg/L	1.0		12/7/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		12/7/05
Toluene	ND	0.50	µg/L	1.0		12/7/05
Ethylbenzene	ND	0.50	µg/L	1.0		12/7/05
m,p-Xylene	ND	0.50	µg/L	1.0		12/7/05
o-Xylene	ND	0.50	µg/L	1.0		12/7/05
Surrogate: 1,4-Dichlorobenzene-d4	108	80.8-139	% Rec	1.0		12/7/05

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	350	50	µg/L	1.0		12/7/05

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Date: 08-Dec-05
WorkOrder: 0512139

ANALYTICAL REPORT

Client Sample ID: 3577-MW10-W **Received:** 12/5/05 **Collected:** 12/5/05 0:00
Lab ID: 0512139-09A **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		12/7/05
Tert-butyl alcohol (TBA)	73	10	µg/L	1.0		12/7/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		12/7/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		12/7/05
Benzene	ND	0.50	µg/L	1.0		12/7/05
Tert-amyl methyl ether (TAME)	35	1.0	µg/L	1.0		12/7/05
Toluene	ND	0.50	µg/L	1.0		12/7/05
Ethylbenzene	ND	0.50	µg/L	1.0		12/7/05
m,p-Xylene	ND	0.50	µg/L	1.0		12/7/05
o-Xylene	ND	0.50	µg/L	1.0		12/7/05
Surrogate: 1,4-Dichlorobenzene-d4	107	80.8-139	% Rec	1.0		12/7/05

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		12/7/05

Client Sample ID: 3577-QCTB-W **Received:** 12/5/05 **Collected:** 12/5/05 0:00
Lab ID: 0512139-10A **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		12/6/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		12/6/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		12/6/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		12/6/05
Benzene	ND	0.50	µg/L	1.0		12/6/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		12/6/05
Toluene	ND	0.50	µg/L	1.0		12/6/05
Ethylbenzene	ND	0.50	µg/L	1.0		12/6/05
m,p-Xylene	ND	0.50	µg/L	1.0		12/6/05
o-Xylene	ND	0.50	µg/L	1.0		12/6/05
Surrogate: 1,4-Dichlorobenzene-d4	107	80.8-139	% Rec	1.0		12/6/05

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		12/6/05

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Date: 08-Dec-05
WorkOrder: 0512139

ANALYTICAL REPORT

Client Sample ID: 3577-QCMB-W **Received:** 12/5/05 **Collected:** 12/5/05 0:00
Lab ID: 0512139-11A **Matrix:** Groundwater

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		12/6/05
Tert-butyl alcohol (TBA)	ND	20	µg/L	1.0		12/6/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		12/6/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		12/6/05
Benzene	ND	0.50	µg/L	1.0		12/6/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		12/6/05
Toluene	ND	0.50	µg/L	1.0		12/6/05
Ethylbenzene	ND	0.50	µg/L	1.0		12/6/05
m,p-Xylene	ND	0.50	µg/L	1.0		12/6/05
o-Xylene	ND	0.50	µg/L	1.0		12/6/05
Surrogate: 1,4-Dichlorobenzene-d4	107	80.8-139	% Rec	1.0		12/6/05

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		12/6/05

Client Sample ID: 3577-QCFD-W **Received:** 12/5/05 **Collected:** 12/5/05 0:00
Lab ID: 0512139-12A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	500	50	µg/L	50		12/7/05
Tert-butyl alcohol (TBA)	74	10	µg/L	1.0		12/7/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		12/7/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		12/7/05
Benzene	10	0.50	µg/L	1.0		12/7/05
Tert-amyl methyl ether (TAME)	93	50	µg/L	50		12/7/05
Toluene	ND	0.50	µg/L	1.0		12/7/05
Ethylbenzene	0.80	0.50	µg/L	1.0		12/7/05
m,p-Xylene	ND	0.50	µg/L	1.0		12/7/05
o-Xylene	ND	0.50	µg/L	1.0		12/7/05
Surrogate: 1,4-Dichlorobenzene-d4	104	80.8-139	% Rec	1.0		12/7/05

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		12/7/05

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North Coast Laboratories, Ltd.

Date: 08-Dec-05

CLIENT: LACO Associates
Work Order: 0512139
Project: 3577.02, HPI Rio Dell Shell

QC SUMMARY REPORT

Method Blank

Sample ID: **MB-12/6/05** Batch ID: **R38446** Test Code: **8260OXYW** Units: **µg/L** Analysis Date: **12/6/05 8:48:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_051206B** SeqNo: **553751**

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	ND	0.50									
m,p-Xylene	ND	0.50									
o-Xylene	ND	0.50									
1,4-Dichlorobenzene-d4	1.07	0.10	1.00	0	107%	81	139	0			

Sample ID: **MB-12/6/05** Batch ID: **R38445** Test Code: **GASW-MS** Units: **µg/L** Analysis Date: **12/6/05 8:48:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_051206A** SeqNo: **553729**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	26.99	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: 08-Dec-05

CLIENT: LACO Associates
Work Order: 0512139
Project: 3577.02, HPI Rio Dell Shell

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID: **LCS-05775** Batch ID: **R38446** Test Code: **8260OXYW** Units: **µg/L** Analysis Date: **12/6/05 6:15:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_051206B** SeqNo: **553749**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	18.89	1.0	20.0	0	94.5%	80	120	0			
Tert-butyl alcohol (TBA)	388.3	10	400	0	97.1%	25	162	0			
Di-isopropyl ether (DIPE)	19.03	1.0	20.0	0	95.2%	80	120	0			
Ethyl tert-butyl ether (ETBE)	18.49	1.0	20.0	0	92.5%	77	120	0			
Benzene	20.58	0.50	20.0	0	103%	78	117	0			
Tert-amyl methyl ether (TAME)	18.16	1.0	20.0	0	90.8%	64	136	0			
Toluene	20.75	0.50	20.0	0	104%	80	120	0			
Ethylbenzene	19.67	0.50	20.0	0	98.4%	80	120	0			
m,p-Xylene	40.43	0.50	40.0	0	101%	80	120	0			
o-Xylene	18.48	0.50	20.0	0	92.4%	80	120	0			
1,4-Dichlorobenzene-d4	1.11	0.10	1.00	0	111%	81	139	0			

Sample ID: **LCSD-05775** Batch ID: **R38446** Test Code: **8260OXYW** Units: **µg/L** Analysis Date: **12/7/05 1:02:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS3_051206B** SeqNo: **553761**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	19.07	1.0	20.0	0	95.3%	80	120	18.9	0.901%	20	
Tert-butyl alcohol (TBA)	397.0	10	400	0	99.3%	25	162	388	2.23%	20	
Di-isopropyl ether (DIPE)	19.25	1.0	20.0	0	96.3%	80	120	19.0	1.15%	20	
Ethyl tert-butyl ether (ETBE)	18.33	1.0	20.0	0	91.7%	77	120	18.5	0.868%	20	
Benzene	20.72	0.50	20.0	0	104%	78	117	20.6	0.661%	20	
Tert-amyl methyl ether (TAME)	17.92	1.0	20.0	0	89.6%	64	136	18.2	1.32%	20	
Toluene	21.08	0.50	20.0	0	105%	80	120	20.8	1.58%	20	
Ethylbenzene	19.71	0.50	20.0	0	98.5%	80	120	19.7	0.201%	20	
m,p-Xylene	40.61	0.50	40.0	0	102%	80	120	40.4	0.455%	20	
o-Xylene	18.49	0.50	20.0	0	92.5%	80	120	18.5	0.0534%	20	
1,4-Dichlorobenzene-d4	1.11	0.10	1.00	0	111%	81	139	1.11	0.0599%	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: 0512139
Project: 3577.02, HPI Rio Dell Shell

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID: **LCS-05776** Batch ID: **R38445** Test Code: **GASW-MS** Units: **µg/L** Analysis Date: **12/6/05 7:32:00 AM** Prep Date:
Client ID: Run ID: **ORGCMS3_051206A** SeqNo: **553728**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	911.4	50	1,000	0	91.1%	80	120	0			

Sample ID: **LCSD-05776** Batch ID: **R38445** Test Code: **GASW-MS** Units: **µg/L** Analysis Date: **12/7/05 1:28:00 AM** Prep Date:
Client ID: Run ID: **ORGCMS3_051206A** SeqNo: **553737**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	906.3	50	1,000	0	90.6%	80	120	911	0.562%	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

NORTH COAST LABORATORIES LTD.
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707-822-4649 Fax 707-822-6831

Chain of Custody

LABORATORY NUMBER: 0512139

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; Chris Watt
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 - 3031

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	PRESERVATIVE	CONTAINER	ANALYSIS
	3577-MW2-W	12-5-05	AM	GW	b	9	8260 List 1
	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	↓	PM	↓			1

SAMPLE CONDITION/SPECIAL INSTRUCTIONS
GEOTRACKER

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
STEVE DAVIS	12-5-05 4:47 pm	Kelley Thompson	12/5/05 1647

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.
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Chain of Custody

05/2139

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; Chris Watt
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 - 3031

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	CONTAINER	PRESERVATIVE	ANALYSIS
	3577-QCMB-W	12-5-05	PM	GW	9	b	8260 List 1
	3577-QCFD-W	↓	↓	↓	3		
					3		

SAMPLE CONDITION/SPECIAL INSTRUCTIONS
GEOTRACKER

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
STEVE DAVIS	12-5-05 4:47pm	Kelley Thompson	12/5/05 1647

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