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LETTER OF TRANSMITTAL

TO: California Regional Water
Quality Control Board
5550 Skylane Blvd, Suite A
Santa Rosa, California 95403

ATTN: Ron Allen

DATE: April 5, 2005
JOB NO.: 5282.01
PROJECT: HPI Crescent City Shell

TRANSMITTED BY: ☒ Mail ☐ Delivered In Person ☐ Fax

No. Copies		Description
1	1.	Groundwater Monitoring Report; Fourth Quarter 2004
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REMARKS:

THIS MATERIAL SENT FOR: ☒ As Requested ☒ Information ☐ Approval ☐

cc: Leon Perrault, DNCEHD
Jim Seiler (electronically sent)

By: Christine S. Manhart

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GROUNDWATER MONITORING REPORT
FOURTH QUARTER 2004

Crescent City Shell
1006 N. Highway 101
Crescent City, California

CRWQCB NO. 1TDN026

Prepared for:
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April 5, 2005
Project No. 5282.01

GROUNDWATER MONITORING REPORT
FOURTH QUARTER 2004

Humboldt Petroleum, Incorporated; Crescent City Shell

1006 North Highway 101, Crescent City, California

CRWQCB Case No. 1TDN026; LACO Project No. 5282.01

EXECUTIVE SUMMARY

This report presents the results of fourth quarter 2004 groundwater monitoring for the Pay-for-Performance (PFP) project at the above-referenced site. A location map is included as Figure 1 and a site map is included as Figure 2. On October 19, 2004, groundwater samples were collected from observation and monitoring wells for performance and quarterly monitoring. Contaminants of concern (COCs) include total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethyl benzene, and total xylenes (BTEX), and total petroleum hydrocarbons as diesel (TPHd). Generally, all wells continue to exhibit decreasing COC trends.

INTRODUCTION

The goal of the PFP is to reduce the mass of the secondary source of the COCs through injection of ozone, thereby preventing discharge of TPHg, TPHd, BTEX, and the fuel oxygenate methyl tertiary butyl ether (MTBE) to shallow groundwater. Mass reduction of the secondary source is determined using dissolved-phase concentrations from key and perimeter monitoring wells as a proxy for sorbed-phase mass. During this quarter, groundwater samples were collected from key and perimeter monitoring wells to assess dissolved-phase contaminant concentrations and trends on site.

An updated site chronology outlining sampling dates, and operation and maintenance of the ozone system is included as Attachment 1.

SAMPLING

Groundwater samples were collected from key monitoring wells MW1, MW5, MW6, MW7, and perimeter monitoring wells MW2, MW4, MW8, OW3, OW4, and OW5 on October 19, 2004 (Table 1 and Table 2).

Prior to purging and sampling, depth-to-water (DTW) was measured for calculation of the hydraulic head elevation. The water level reached equilibrium with the atmosphere when a change of less than 0.02 feet was recorded for DTW measurements made not less than five minutes apart. Once the well equilibrated, water was purged from monitoring wells MW1 through MW5 using a down hole pump. Monitoring wells MW6 through MW8 were purged using a CAM pump. Observation wells OW3 through OW5 did not recharge and produced limited sample volume. Pumps were set at a flow rate of less than one liter per minute with the intake set approximately at the middle of the screened interval of the water column. The depths of the pump intake and purge methods are noted on the field sampling data form, included as Attachment 2.

Water quality indicator parameters dissolved oxygen (DO), temperature (T), pH, oxygen reduction potential (ORP), and electrical conductivity (ECw) were monitored by routing the pump discharge through a flow cell (Table 2). Formation water was sampled when indicator parameters stabilized within the accuracy range of the meters for three consecutive readings not less than one minute apart. The accuracy range of the DO, T, pH, ORP, and ECw meters are +/- 0.3 mg/L, +/- 0.5 °C, +/- 0.2 pH, +/- 2 mV, and +/- 20 μmhos, respectively. These parameters were not collected from observation wells OW3 through OW5 due to insufficient water in the wells. While keeping the same flow rate, sample containers were filled directly from the pump discharge.

Sampling equipment was decontaminated with Alconox before its use in the field and after each sample collected. The sample containers were placed in an ice-filled cooler to ensure the preservation of the analytes, and submitted to North Coast Laboratories (NCL) under standard chain-of-custody protocols for analysis of:

- TPHg by EPA Method 8260B
- TPHd by EPA Method 3510GCFID
- BTEX by EPA Method 8260B

- MTBE, Tertiary Amyl Methyl Ether (TAME), Ethyl Tertiary Butyl Ether (ETBE), Di-isopropyl Ether (DIPE), Tertiary Butyl Alcohol (TBA), and Tertiary Butyl Formate (TBF) by EPA method 8260B
- Dissolved chromium by EPA Method 200.7
- ICAP Metals with Acid Digestion by EPA method 200.7

HYDRAULIC GRADIENT

DTW measurements collected on October 19, 2004, were used to determine hydraulic head. Based on the well screen elevations onsite, separate gradients are generally determined using the monitoring wells (deeper screened intervals) and observation wells (shallow screened intervals). However, because some hydraulic head elevations may be influenced by subsurface anomalies (i.e., underground storage tank [UST] cavity, trenching, ozone sparging), the hydraulic head elevations may not be dependable. In addition, hydraulic gradients can vary across the site.

In the current sampling event, hydraulic gradient calculations were not performed for shallow wells due to insufficient recharge in observation wells OW1 and OW2. Hydraulic head elevations for the shallow wells are presented on Figure 3.

Anomalous hydraulic head elevations in the deeper monitoring wells have resulted in an irregular potentiometric surface. Therefore, a hydraulic gradient was not calculated for the deeper wells. Hydraulic head elevations for the deep wells are presented on Figure 4.

ANALYTICAL RESULTS

A summary of groundwater monitoring data with analytical results since implementation of the ozone sparge system is included as Table 1. Field and laboratory intrinsic analyses are included as Table 2. Historical groundwater monitoring data is included as Table 3. Table 4 presents historical chromium analysis data. Current and historical vapor analysis data is included as Table 5. Field sampling data forms are included as Attachment 2. Copies of current laboratory reports for this reporting period are included as Attachment 3. Charts 1 through 6 present concentration time trends in monitoring wells MW1, MW2, and MW5 through MW8.

DISCUSSION

The ozone distribution system's operation was set to a minimum run time of one minute per well per cycle, or 18 minutes per day, on April 29, 2004. At this rate, 1.5 grams of ozone per day is being injected. The system was set to a minimum run time to test for rebound in COC concentrations, and was approved by the California Regional Water Quality Control Board (CRWQCB) in correspondence dated April 27, 2004. On October 19, 2004, the system was reset to full capacity following a rebound of TPHd and total xylenes above active remediation goals (ARGs) in observation well OW3.

Contaminant concentrations at key monitoring wells generally maintained steady or decreasing trends during this quarter with the exception of monitoring well MW1, where slight concentration increases in TPHd and BTEX were observed (Chart 1). Such low concentration variations may be due to flow patterns or other fluctuations in site physiographic conditions.

Dissolved TPHg concentrations have decreased by 100 percent in key monitoring wells MW5 and MW6 and perimeter wells MW4 and MW8, from baseline concentrations. TPHg concentrations in key monitoring wells MW1 and MW7 have decreased by 99 and 95 percent, respectively, from baseline concentrations. TPHg concentrations in perimeter wells OW3 and OW4 have reported 95 and 89 percent reductions, respectively, from baseline concentrations.

TPHd concentrations in a sample taken from observation well OW3 increased to 1,200 µg/l, more than twice the anticipated ARG. TPHd concentrations remain well below ARGs in all remaining monitoring and observation wells.

Dissolved BTEX concentrations in key monitoring wells MW1, MW5, MW6, and MW7 have decreased by nearly 100 percent from baseline concentrations since the initiation of ozone sparging. In addition, BTEX in perimeter wells MW2, OW3, and OW4 has reduced the well below anticipated ARGs, with 98 and 90 percent reductions in BTEX concentrations in observation wells OW3 and OW4, respectively, with the exception of total xylenes in observation well OW3. Perimeter wells OW5 and MW8 did not have significant BTEX

concentrations during baseline sampling; however, BTEX concentrations in these wells have consistently remained below standard detection limits.

MTBE concentrations are reduced by nearly 100 percent from baseline concentrations. Nearly 100 percent degradation of MTBE from baseline concentrations have been reported in perimeter monitoring wells MW4, MW8, OW3, and OW4.

Dissolved chromium concentrations in monitoring wells were reported either below the standard detection limit or within the range of pre-November 2003 sampling events. LACO attributes the overall decrease in dissolved chromium to the reduced oxidant supplied to the aquifer. This decrease in dissolved chromium also supports LACO's assertion that generation of dissolved chromium is transitory in nature. All laboratory results for chromium are presented in Table 4.

Vapor results to date indicate BTEX constituents in all vapor points have decreased by three to four orders of magnitude to near or below detection limits. Concentrations of toluene were detected slightly above the detection limit at all vapor points, except VP1. In the current sampling event, all BTEX or MTBE concentrations above the detection limit were less than one percent for the same perimeters analyzed in the initial November 2002 sampling event.

REMEDIATION SYSTEM OPERATION AND MAINTENANCE

Pressure test field forms are included as Attachment 4. On June 7, 2004, Unit 1 injection lines were connected with the Unit 2 injection lines, and the Unit 1 oxygen concentrator and sparge panel was removed. As of December 13, 2004, the Unit 2 ozone generator was operational for 8010.82 hours. To date, total ozone injection is approximately 78.8 kilograms.

On August 17, 2004, approximately 5 gallons of hydrogen peroxide at an average concentration of 7 percent was injected into the sparge wells, where they were diffused into the aquifer with compressed air.

CONCLUSIONS

Based on the current information, LACO concludes COCs for all key and perimeter wells are below the ARGs, except for a spike in TPHd and total xylenes at observation well OW3. This result is expected to be a transitory anomaly, and LACO will assess this development closely in future groundwater monitoring reports. Dissolved chromium concentrations in monitoring wells have decreased to below detection limits with the exception of monitoring well MW2, which is still exhibiting elevated concentrations. As this well is located approximately 60 feet downgradient of the treatment zone, the required travel time implies that we should not yet expect to see the results of the recent reduction in oxidation state. As all wells except observation well OW3 and monitoring well MW2 are below standard detection limits, we request discontinuing monitoring of dissolved chromium in all other wells in our third quarter report. We will continue to monitor dissolved chromium in observation well OW3 and monitoring well MW2, and we will add domestic well DW1 to the sampling schedule in order to verify that dissolved chromium reverts to its insoluble form prior to reaching the unused domestic well. There has been COC rebound, but so far it remains below most goals. The ARG for xylene in observation well OW3 is close to being reached, so we will continue to monitor before deciding to apply for the 100 percent attained milestone.

LIMITATIONS

LACO ASSOCIATES has conducted the services identified herein in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing in our area under similar conditions as this project. No other warranty or representation, express or implied, is included or intended for this document.

This report is an instrument of service of LACO ASSOCIATES and was prepared for, and intended for, the exclusive use of the client. The contents of this report may not be relied upon by any other party other than the client without express written permission of LACO ASSOCIATES.

This report's findings are based on conditions that existed on the dates indicated and in the specific locations where samples were taken. The findings herein should not be relied on to precisely represent conditions at any other time or location.

LIST OF FIGURES, TABLES, CHARTS, AND ATTACHMENTS

Figure 1: Location Map

Figure 2: Site Map

Figure 3: Deep-Hydraulic Head Elevation Map (10\19\04)

Figure 4: Observation - Hydraulic Gradient Map (10\19\04)

Table 1: Performance Monitoring Sampling Results

Table 2 Intrinsics Analyses Monitoring Results

Table 3: Groundwater Elevation Data and Groundwater Analytical Results

Table 4: Chromium Analyses Results

Table 5: Results of Vapor Sample Analysis

Chart 1: Combined TPH, Benzene, and MTBE Concentrations in Groundwater in MW1

Chart 2: TPHg, TPHd, Benzene, and MTBE Concentrations in Groundwater in MW2

Chart 3: TPHg, Benzene, and MTBE Concentrations in Groundwater in MW5

Chart 4: TPHg, TPHd, Benzene, and MTBE Concentrations in Groundwater in MW6

Chart 5 : TPHg, Benzene, and MTBE Concentrations in Groundwater in MW7

Chart 6: TPHg and MTBE Concentrations in Groundwater in MW8

Attachment 1: Project Chronology

Attachment 2: Field Forms

Attachment 3: Current Laboratory Reports

Attachment 4: Ozone System Pressure Test Field Forms

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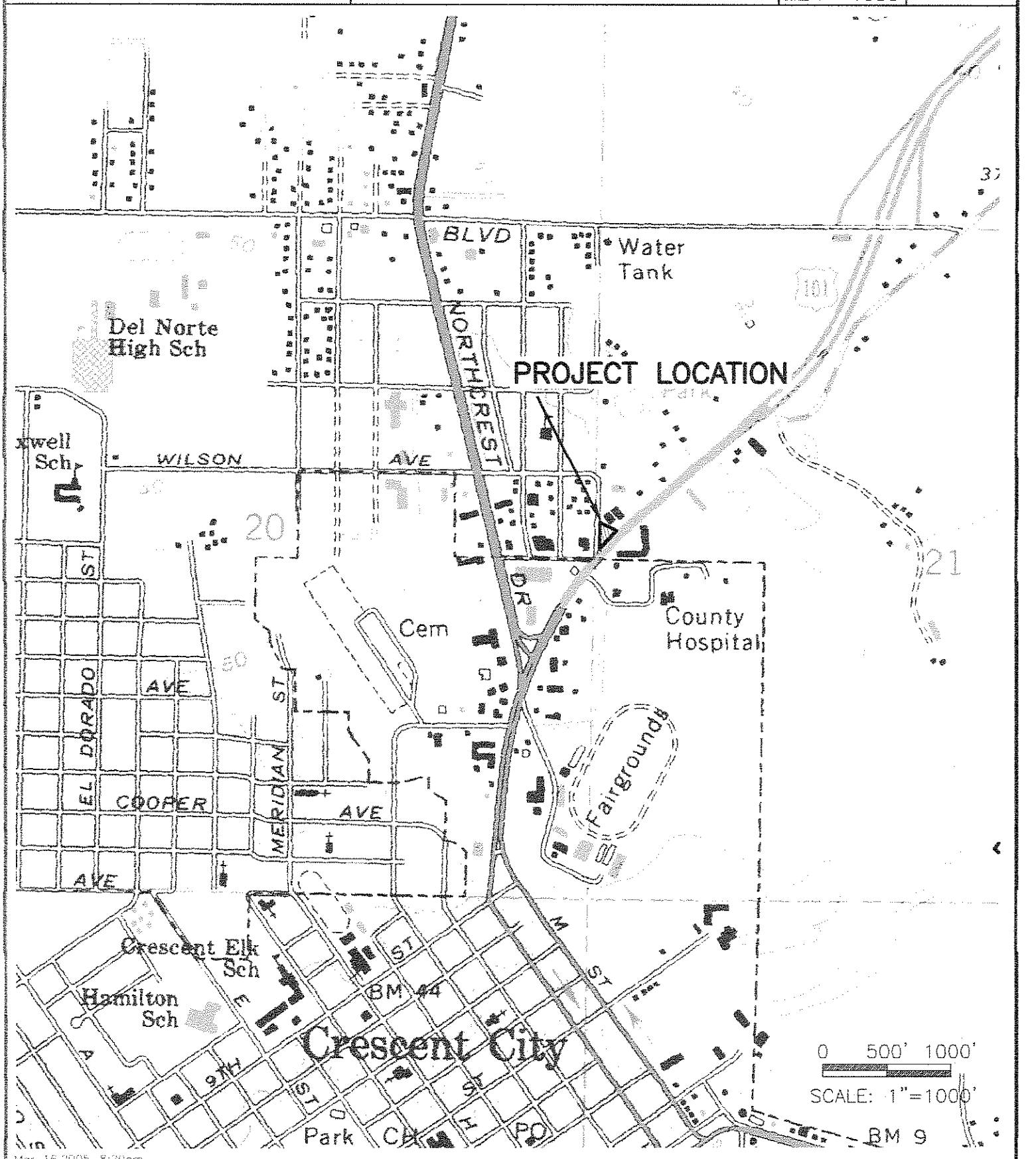
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT	GROUNDWATER MONITORING REPORT	BY	RJM	FIGURE
	CLIENT	HUMBOLDT PETROLEUM, INC.	DATE	3/16/05	1
	LOCATION	CRESCENT CITY SHELL	CHECK		JOB NO.
		LOCATION MAP	SCALE	1"=1000'	5282.01



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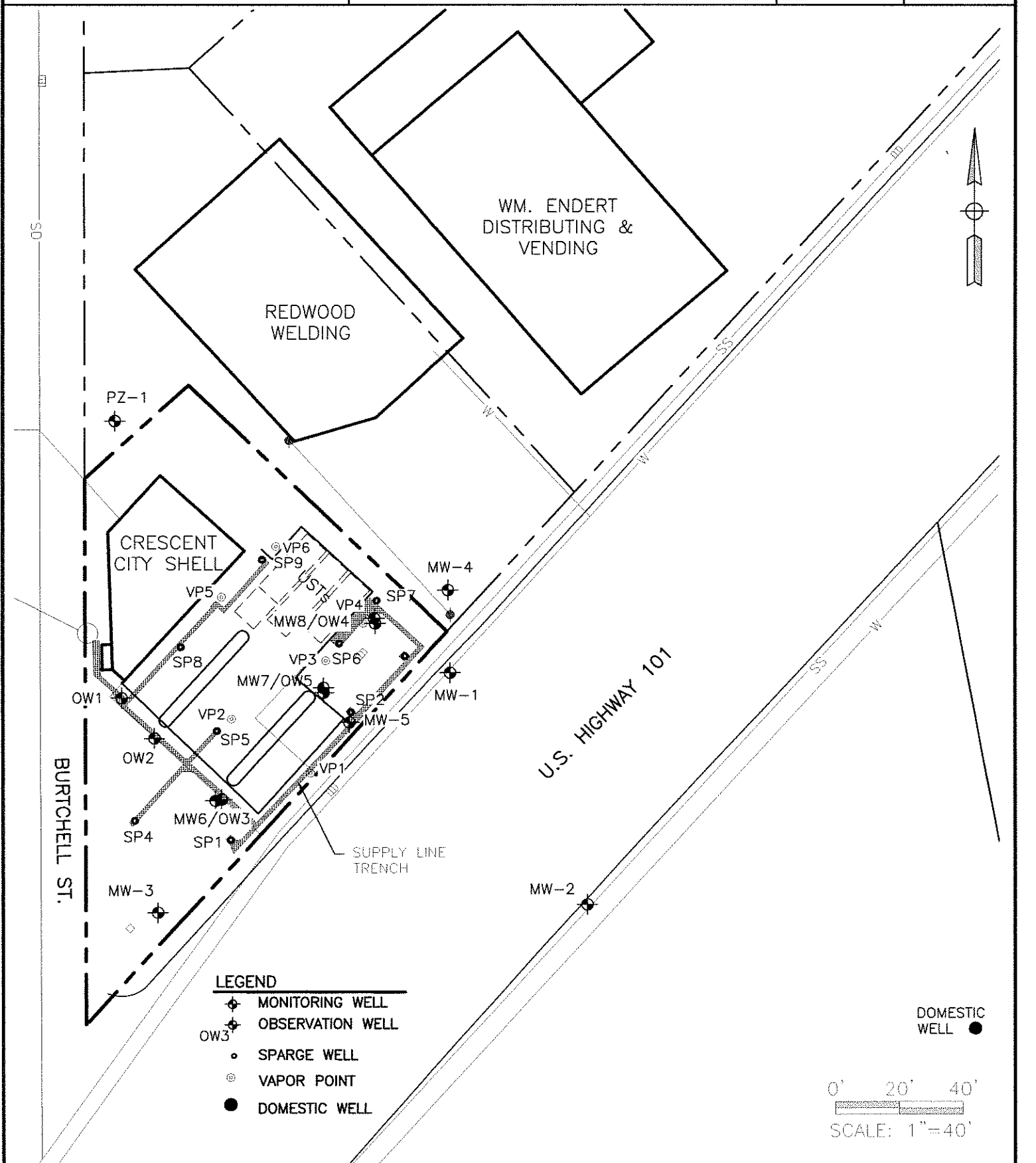
LACO ASSOCIATES CONSULTING ENGINEERS 21 W 4TH ST. EUREKA, CA 95501 (707)443-5054	PROJECT	GROUNDWATER MONITORING REPORT	BY	RJM	FIGURE
	CLIENT	HUMBOLDT PETROLEUM, INC	DATE	3/16/05	2
	LOCATION	CRESCENT CITY SHELL	CHECK		JOB NO.
		SITE MAP	SCALE	1"=40'	5282.01



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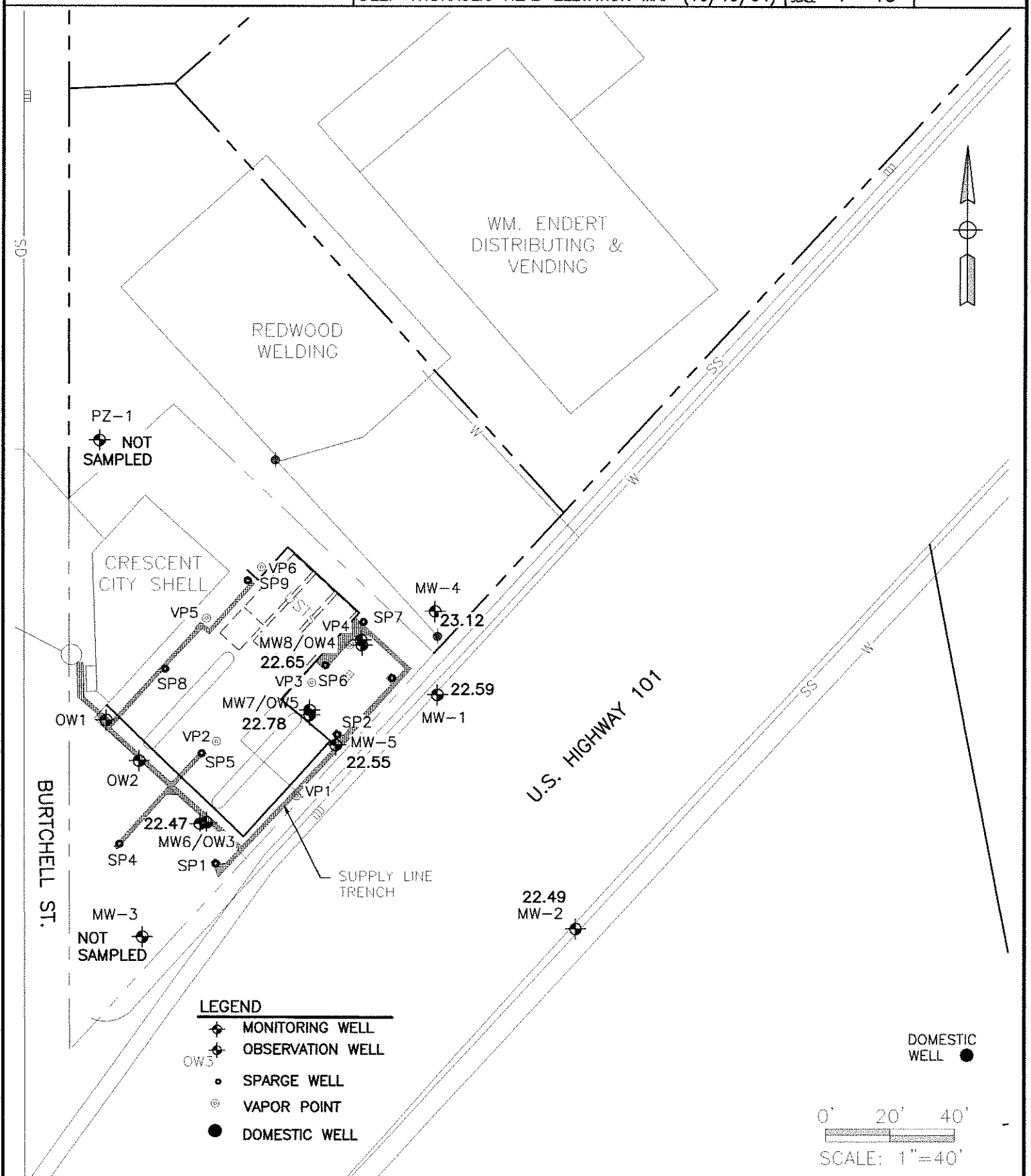
	CLIENT	HUMBOLDT PETROLEUM, INC	DATE	3/16/05	3
	LOCATION	CRESCENT CITY SHELL	CHECK		JOB NO.
		DEEP-HYDRAULIC HEAD ELEVATION MAP (10/19/04)	SCALE	1"=40'	5282.01



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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 3/16/05	
	LOCATION CRESCENT CITY SHELL	CHECK	JOB NO. 5282.01
	OBSERVATION-HYDRAULIC HEAD ELEVATION MAP (10/19/04)	SCALE 1"=40'	

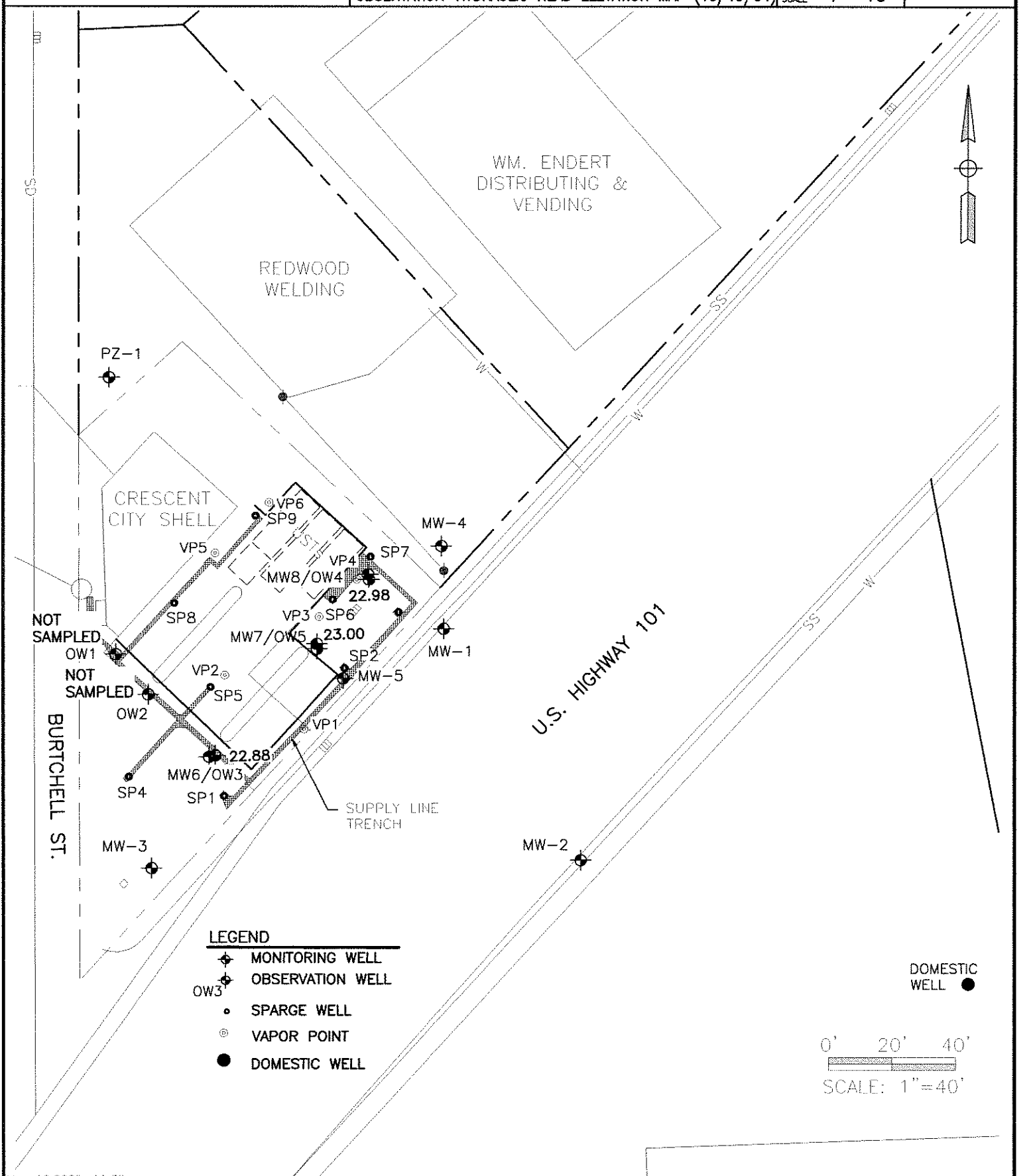

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TABLE 1: PERFORMANCE MONITORING SAMPLING RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

		Contaminants of Concern						Fuel Oxygenates					
	Date	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	TAME	TBA	ETBE	DIPE	TBF
PARGs		12,500	500	500	300	300	300	---	---	---	---	---	---
MW-1													
Baseline Data	10/9/02-11/4/02	56,000	270,000	2,700	1,200	2,900	5,280	1,200	220	220	ND<20	ND<20	---
	11/12/02	7,000	490	58	ND<25	ND<25	242	1,100	98	1,000	ND<50	ND<50	---
	11/27/02	870	970	ND<0.50	ND<0.50	2.0	2.0	740	57	460	1.4	ND<1.0	ND<2.0
	12/10/02	4,800	560	8.2	2.8	75	66	690	32	430	ND<5.0	ND<5.0	ND<2.0
	12/23/02	3,100	62	11.0	4.9	63	88	540	43	ND<100	1.2	ND<1.0	ND<2.0
	1/9/03	780	160	1.7	1.1	8.6	18	540	53	42	ND<1.0	ND<1.0	---
	1/30/03	200	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	310	18	ND<20	ND<1.0	ND<1.0	ND<2.0
	2/12/03	140	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	190	9.4	ND<20	ND<1.0	ND<1.0	ND<2.0
	3/12/03	100	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	160	8.8	ND<20	ND<1.0	ND<1.0	ND<2.0
	4/17/03	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	42	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	5/14/03	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	10	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	6/10/03	1,200	380	15	4.4	16	184	72	17	26	ND<1.0	ND<1.0	ND<2.0
	7/16/03	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	8/15/03	ND<50	ND<50	ND<0.50	ND<0.50	1.3	1.1	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	9/16/03	ND<50	ND<50	ND<0.50	ND<0.50	0.5	1.1	ND <1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	10/15/03	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND <1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	11/19/03	2,200	140	110	11	18	95	75	18	45	ND<1.0	ND<1.0	---
	12/11/03	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.1	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	1/14/04	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.5	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	2/9/04	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	4.9	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	3/10/04	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	0.53	1.6	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	4/14/04	190	50	ND<0.50	ND<0.50	0.96	10.3	4.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	5/13/04	ND<50	ND<50	ND<0.50	ND<0.50	0.64	1.4	4.3	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	6/24/04	1,300	93	120	12	11	148	59	31	31	ND<1.0	ND<1.0	---
	7/27/04	4,900	380	440	69	91	530	72	24	46	ND<1.0	ND<1.0	---
	9/21/04	590	67	27	6.4	8.7	85	34	9.4	ND<10	ND<1.0	ND<1.0	---
	10/19/04	570	78	40	8	13	78	27	5.2	ND<10	ND<1.0	ND<1.0	---

MW-2													
Baseline Data	10/9/02-11/4/02	2,000	90	320	0.73	ND<0.50	0.57	1,700	110	170	1.5	1.1	---
	11/12/02	5,700	75	1,500	1.7	ND<0.50	5.0	3,500	240	770	3.2	ND<10	---
	11/27/02	5,000	92	1,200	0.64	ND<0.50	2.4	3,300	200	850	3.1	ND<10	ND
	12/10/02	5,700	76	1,000	4.2	ND<2.5	5.3	3,100	190	600	ND<5.0	ND<5.0	ND<2.0
	12/23/02	430	ND<50	8.8	ND<0.50	0.61	0.82	90	4.9	ND<20	ND<1.0	ND<1.0	ND<2.0
	1/9/03	340	ND<50	1.3	ND<0.50	ND<0.50	ND<0.50	42	2.7	ND<20	ND<1.0	ND<1.0	---
	1/30/03	470	ND<50	1.0	ND<0.50	ND<0.50	0.59	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	2/12/03	580	ND<50	1.4	ND<0.50	ND<0.50	0.52	2.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	3/12/03	200	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<10	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	4/17/03	200	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	5/14/03	84	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	6/10/03	77	ND<50	1.1	0.66	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	7/16/03	65	ND<50	1.1	ND<0.50	ND<0.50	0.6	3.9	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	8/15/03	84	ND<50	7.6	ND<0.50	ND<0.50	ND<0.50	27	1.4	ND<20	ND<1.0	ND<1.0	ND<2.0
	9/16/03	650	ND<50	20	ND<0.50	0.63	2.16	390	17	47	ND<1.0	ND<1.0	---
	10/15/03	2,200	75	63	1.6	2.3	7.3	1,800	95	200	ND<1.0	ND<1.0	---
	11/19/03	1,200	ND<50	2.3	ND<0.50	ND<0.50	ND<0.50	1,200	61	47	ND<1.0	ND<1.0	---
	12/11/03	120	ND<50	3.0	ND<0.50	ND<0.50	ND<0.50	150	8.8	ND<20	ND<1.0	ND<1.0	---
	1/14/04	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	36	2.0	ND<20	ND<1.0	ND<1.0	---
	2/9/04	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	16	1.1	ND<20	ND<1.0	ND<1.0	---
	3/10/04	ND <50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	9.2	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	4/14/04	ND <50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	10	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	5/13/04	ND <50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	6.8	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	6/24/04	210	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	160	14	ND<10	ND<1.0	ND<1.0	---
	7/27/04	160	ND<50	6.0	ND<0.50	ND<0.50	1.13	97	6.1	ND<10	ND<1.0	ND<1.0	---
	9/21/04	930	ND<50	94	ND<0.50	ND<0.50	ND<0.50	620	63	68	ND<1.0	ND<1.0	---
	10/19/2004	680	ND<50	26	ND<0.50	ND<0.50	ND<0.50	680	77	ND<10	ND<1.0	ND<1.0	---

TABLE 1: PERFORMANCE MONITORING SAMPLING RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

		Contaminants of Concern						Fuel Oxygenates					
	Date	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	TAME	TBA	ETBE	DIPE	TBF
PARGs		12,500	500	500	300	300	300	---	---	---	---	---	---
MW-4													
Baseline Data	10/9/02-11/4/02	330	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	440	35	12	ND<1.0	ND<1.0	---
	10/9/02	ND<50	ND<50	ND<0.50	ND<50	ND<50	ND<50	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	---
	11/12/02	ND<50	ND<50	ND<0.50	ND<50	ND<50	ND<50	66	3.7	ND<20	ND<1.0	ND<1.0	---
	11/27/02	ND<50	ND<50	1.3	ND<50	ND<50	ND<50	37	1.6	ND<20	ND<1.0	ND<1.0	ND<2.0
	12/10/02	ND<50	ND<50	0.76	ND<50	ND<50	ND<50	13	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	12/23/02	ND<50	ND<50	ND<0.50	ND<50	ND<50	ND<50	2.2	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	1/9/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	1/30/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	2/12/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	3/12/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	4/17/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	1.7	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	5/14/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	5.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	6/10/03	89	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	86	1.2	ND<20	ND<1.0	ND<1.0	ND<2.0
	7/16/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	4.7	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	8/15/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	11	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	9/16/03	ND <0.50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	4.1	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	10/15/03	ND <0.50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND< 1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	11/19/03	ND <0.50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	12	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	12/11/03	ND <0.50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND< 1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	1/14/03	ND <0.50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND< 1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	2/9/04	ND <0.50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND< 1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	3/10/04	ND <0.50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1.7	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	4/14/04	66	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	6.6	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	5/13/04	ND <0.50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	11	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	6/24/04	ND <0.50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	7.9	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	7/27/04	ND <0.50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	4.4	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	9/21/04	ND <0.50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	7.7	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	10/19/04	ND <0.50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	13	ND<1.0	ND<10	ND<1.0	ND<1.0	---
MW-5													
Baseline Data	10/9/02-11/4/02	9,000	120	470	ND<0.50	ND<0.50	ND<0.50	10,000	580	530	ND<20	ND<20	---
	11/12/02	2,400	ND<50	4,700	ND<0.50	ND<0.50	ND<0.50	4,700	0.97	750	4.7	ND<10	---
	11/27/02	2,400	ND<50	2.3	ND<0.50	ND<0.50	ND<0.50	4,800	260	610	16	ND<10	ND<10
	12/10/02	2,000	ND<50	ND<2.5	ND<0.50	ND<0.50	ND<0.50	3,400	190	760	10	ND<5.0	ND<5.0
	12/23/02	1,100	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1,600	89	140	5.6	ND<1.0	ND<5.0
	1/9/03	240	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	280	8.2	22	1.8	ND<1.0	---
	1/30/03	71	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	79	3.2	ND<20	ND<1.0	ND<1.0	ND<2.0
	2/12/03	110	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	87	ND<1.0	ND<20	4.8	ND<1.0	ND<2.0
	3/12/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	4/17/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	5/14/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	6/10/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	7/16/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	8/15/03	ND<50	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	1.3	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	9/16/03	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	10/15/03	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	11/19/03	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	12/11/03	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	1/14/04	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	2/9/04	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	3/10/04	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	4/14/04	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	5/13/04	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	6/24/04	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1.1	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	7/27/04	51	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	26	2.9	ND<10	ND<1.0	ND<1.0	---
	9/21/04	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1.2	ND<10	ND<10	ND<1.0	ND<1.0	---
	10/19/04	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---

TABLE 1: PERFORMANCE MONITORING SAMPLING RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

		Contaminants of Concern						Fuel Oxygenates					
	Date	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	TAME	TBA	ETBE	DIPE	TBF
PARGs		**12,500**	**500**	**500**	**300**	**300**	**300**	---	---	---	---	---	---
OW-3													
Baseline Data	**10/9/02**	**59,000**	---	**4,200**	**4,100**	**1,900**	**8,100**	29,000	2,800	2,200	ND<40	ND<40	---
	12/23/02	4,700	51	76	96	31	320	2,600	240	ND<1000	ND<50	ND<50	ND<2.0
	1/9/03	2,600	120	9.9	17	9.8	150	890	94	1,500	ND<1.0	ND<1.0	---
	1/30/03	4,800	460	19	28	41	281	470	52	730	ND<1.0	ND<1.0	ND<2.0
	2/12/03	3,000	490	21	32	29	330	440	43	1,100	ND<5.0	ND<5.0	ND<2.0
	3/12/03	5,900	710	21	42	56	530	210	28	480	ND<1.0	ND<1.0	ND<2.0
	4/17/03	4,200	250	15	30	53	500	110	18	340	ND<1.0	ND<1.0	ND<2.0
	5/14/03	1,300	110	3.1	2.1	12	57	52	6.8	140	ND<1.0	ND<1.0	ND<2.0
	6/10/03	2,600	150	14	2.5	23	92	1,500	110	1,900	ND<1.0	ND<1.0	ND<2.0
	7/16/03	4,900	180	8.1	3.2	27	106	490	43	620	ND<1.0	ND<1.0	ND<2.0
	8/15/03	3,300	---	62	51.0	42	164	1,900	220	1,200	ND<1.0	ND<1.0	ND<2.0
	9/16/03	4,600	---	130	140	50	233	1,200	190	440	ND<1.0	ND<1.0	---
	10/15/03	3,600	---	69	85	17	158	720	230	260	ND<1.0	ND<1.0	---
	11/19/03	2,700	---	27	39	10	90	530	75	170	ND<1.0	ND<1.0	---
	12/11/03	3,600	180	49	160	39	272	ND<150	30	57	ND<1.0	ND<1.0	---
	1/14/04	4,300	160	35	160	66	540	48	18	ND<70	ND<1.0	ND<1.0	---
	2/9/2004	3,700	160	7	25	18	200	61	14	250	ND<1.0	ND<1.0	---
	3/10/04	2,100	93	3.7	18	12	127	28	6.7	50	ND<1.0	ND<1.0	---
	4/14/04	4,300	150	18	52	45	300	96	29	120	ND<1.0	ND<1.0	---
	5/13/04	3,200	190	11	39	36	269	62	17	67	ND<1.0	ND<1.0	---
	6/24/04	2,300	280	27	45	30	262	440	100	1,200	ND<1.0	ND<1.0	---
	7/27/04	3,400	220	53	39	30	203	720	140	1,400	ND<1.0	ND<1.0	---
	9/21/04	2,700	---	70	73	43	277	180	58	ND<10	ND<1.0	ND<1.0	---
	10/19/04	3,600	1,200	74	59	43	620	71	35	ND<10	ND<1.0	ND<1.0	---
MW-6													
Baseline Data	**11/12/02**	**18,000**	**260**	**160**	**690**	**480**	**3,070**	3,200	420	ND<200	ND<20	ND<20	---
	11/27/02	2,400	ND<50	2.3	ND<0.50	ND<0.50	ND<0.50	4,800	260	610	16	ND<10	ND<10
	12/10/02	6,800	ND<50	18	37	28	650	2,500	320	420	ND<5.0	ND<5.0	ND<10
	12/23/02	2,300	84	2.7	5.5	2.9	121	580	82	78	ND<1.0	ND<1.0	ND<2.0
	1/9/03	2,900	190	1.6	3.9	1.4	81	790	97	470	ND<1.0	ND<1.0	---
	1/30/03	1,900	81	1.5	3.4	3.4	87	1,000	130	290	ND<1.0	ND<1.0	ND<2.0
	2/12/03	1,300	56	1.5	1.7	ND<0.50	49	700	65	220	ND<1.0	ND<1.0	ND<2.0
	3/12/03	210	ND<50	ND<0.50	ND<0.50	ND<0.50	7.2	84	11	47	ND<1.0	ND<1.0	ND<2.0
	4/17/03	510	58	ND<0.50	1.5	2.2	36	ND<10	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	5/14/03	510	ND<50	ND<0.50	1.4	ND<5.0	15.5	ND<5.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	6/10/03	1,100	98	0.6	3.2	ND<5.0	25.3	ND<5.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	7/16/03	430	ND<50	ND<0.50	1.1	ND<5.0	17.2	5.2	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	8/15/03	280	ND<50	ND<0.50	0.8	ND<5.0	12.0	ND<5.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	9/16/03	150	ND<50	ND<0.50	ND<5.0	ND<5.0	2.5	4.1	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	10/15/03	370	ND<50	ND<0.50	0.57	ND<5.0	3.2	ND<10	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	11/19/03	150	ND<50	ND<0.50	ND<5.0	ND<5.0	1.4	ND<10	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	12/11/03	470	ND<50	ND<0.50	0.78	0.52	8.7	ND<5.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	1/14/03	650	ND<50	ND<0.50	ND<0.50	0.52	8.0	ND<3.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	2/9/04	560	53	ND<0.50	ND<0.50	ND<5.0	5.4	ND<8.0	1.0	ND<20	ND<1.0	ND<1.0	---
	3/10/04	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	4/14/04	240	ND<50	ND<0.50	ND<0.50	ND<0.51	1.9	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	5/13/04	370	ND<50	ND<0.50	ND<0.50	ND<0.51	1.4	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	6/24/04	83	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.1	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	7/27/04	130	ND<50	ND<0.50	ND<0.50	ND<0.50	1.51	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	9/21/04	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	10/19/04	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	4.6	ND<1.0	ND<10	ND<1.0	ND<1.0	---

TABLE 1: PERFORMANCE MONITORING SAMPLING RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1066 N. Highway 101, Crescent City, CA; Case No. 1TDN026

		Contaminants of Concern						Fuel Oxygenates					
	Date	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	TAME	TBA	ETBE	DIPE	TBF
PARGs		**12,500**	**500**	**500**	**300**	**300**	**300**	---	---	---	---	---	---
OW-5													
	11/12/2002	---	---	---	---	---	---	---	---	---	---	---	---
	1/9/2003	390	77	3.5	1.0	1.7	3.5	150	20	82	ND<1.0	ND<1.0	---
	1/30/2003	3,000	230	4.7	ND <0.50	0.56	0.63	4,400	730	210	1.4	ND<1.0	ND<2.0
	2/12/2003	2,200	ND<50	ND<0.50	ND <0.50	0.76	ND<0.50	4,400	730	210	1.4	ND<1.0	ND<2.0
	3/12/2003	1,000	120	ND<0.50	ND <0.50	0.94	ND<0.50	1,900	99	22	ND<1.0	ND<1.0	ND<4.0
	4/17/2003	800	91	8.6	ND <0.50	15	2.0	1,100	98	35	ND<1.0	ND<1.0	ND<2.0
	5/14/2003	210	56	2.5	ND <0.50	1.7	1.3	440	27	ND<20	ND<1.0	ND<1.0	ND<2.0
	6/10/2003	450	ND<50	11	ND <0.50	1.5	ND<0.50	330	25	39	ND<1.0	ND<1.0	ND<2.0
	7/16/2003	170	ND<50	2.7	ND <0.50	2.4	ND<0.50	95	7.4	36	ND<1.0	ND<1.0	ND<2.0
	8/15/2003	210	---	ND<0.50	ND <0.50	ND<0.50	0.51	210	14	140	ND<1.0	ND<1.0	ND<2.0
	9/16/03	---	---	---	---	---	---	---	---	---	---	---	---
	10/15/03	---	---	---	---	---	---	---	---	---	---	---	---
	11/19/03	---	---	---	---	---	---	---	---	---	---	---	---
	12/11/03	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.5	6.7	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	1/14/04	52	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.5	64	1.5	ND<20	ND<1.0	ND<1.0	---
	2/9/2004	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.5	1.4	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	3/10/04	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	4/14/04	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1.4	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	5/13/04	ND <50	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	6/24/04	ND <50	ND <50	0.60	ND <0.50	ND <0.50	ND <0.50	5.5	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	7/27/04	ND <50	ND <50	0.65	ND <0.50	ND <0.50	ND <0.50	18	2.2	68	ND<1.0	ND<1.0	---
	9/21/04					dry well							
	10/19/04	62	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	4.3	ND<1.0	ND<10	ND<1.0	ND<1.0	---
MW-7													
Baseline Data	**11/12/02**	**5,600**	**160**	**83**	ND<0.50	**14**	**130**	5,800	550	200	ND<10	ND<10	---
	11/27/02	1,900	ND<50	0.90	ND<0.50	0.91	3.1	3,000	220	380	6.2	ND<1.0	ND<20
	12/10/02	1,600	ND<50	28	ND<2.5	7.0	ND<2.5	3,700	180	360	5.6	ND<5.0	ND<10
	12/23/02	2,900	ND<50	0.58	ND<5.0	0.9	0.6	6,000	350	750	6.1	ND<1.0	ND<10
	1/9/03	3,200	ND<50	ND<5.0	ND<5.0	ND<5.0	ND<5.0	6,700	330	1,000	6.7	ND<1.0	---
	1/30/03	3,000	ND<50	ND<2.5	ND<2.5	ND<2.5	ND<2.5	5,400	270	2,000	6.7	ND<5.0	2.9
	2/12/03	3,100	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	3,300	84	200	5.3	ND<5.0	ND<2.0
	3/12/03	1,000	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	2,000	ND<1.0	31	2.7	ND<1.0	ND<2.0
	4/17/03	590	ND<50	2.1	ND<0.50	ND<0.50	3.1	860	47	ND<20	2.0	ND<1.0	ND<2.0
	5/14/03	450	ND<50	1.4	ND<0.50	0.53	0.82	1,500	79	ND<20	2.6	ND<1.0	ND<2.0
	6/10/03	200	ND<50	0.54	ND<0.50	ND<0.50	ND<0.50	190	11	ND<20	ND<1.0	ND<1.0	ND<2.0
	7/16/03	87	ND<50	1.6	ND<0.50	ND<0.50	ND<0.50	97	5	ND<20	ND<1.0	ND<1.0	ND<2.0
	8/15/03	130	ND<50	ND<0.50	ND <0.50	ND<0.50	ND <0.50	170	10	ND<20	ND<1.0	ND<1.0	ND<2.0
	9/16/03	140	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	89	4.7	ND<20	ND<1.0	ND<1.0	---
	10/15/03	230	ND<50	2.2	ND<0.50	0.5	ND<0.50	170	13	ND<20	ND<1.0	ND<1.0	---
	11/19/03	61	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	28	1.7	ND<20	ND<1.0	ND<1.0	---
	12/11/03	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	42	2.9	ND<20	ND<1.0	ND<1.0	---
	1/14/04	52	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	62	4.3	ND<20	ND<1.0	ND<1.0	---
	2/9/04	81	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	51	3.5	ND<10	ND<1.0	ND<1.0	---
	3/10/04	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	46	2.4	ND<10	ND<1.0	ND<1.0	---
	4/14/04	55	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	35	2.7	ND<10	ND<1.0	ND<1.0	---
	5/13/04	88	ND<50	1.4	ND<0.50	ND<0.50	ND<0.50	95	6.7	ND<10	ND<1.0	ND<1.0	---
	6/24/04	180	ND<50	0.63	ND<0.50	ND<0.50	ND<0.50	190	18	ND<10	ND<1.0	ND<1.0	---
	7/27/04	120	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	140	11	ND<10	ND<1.0	ND<1.0	---
	9/21/04	270	ND<50	0.54	ND<0.50	ND<0.50	ND<0.50	280	38	ND<10	ND<1.0	ND<1.0	---
	10/19/04	65	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	90	7.0	ND<10	ND<1.0	ND<1.0	---

TABLE 1: PERFORMANCE MONITORING SAMPLING RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

		Contaminants of Concern						Fuel Oxygenates					
	Date	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	TAME	TBA	ETBE	DIPE	TBF
PARGs		12,500	500	500	300	300	300	---	---	---	---	---	---
OW-4													
Baseline Data	10/9/02	18,000	---	250	88	2,500	479	220	52	ND<100	ND<10	ND<10	---
	12/23/02	560	ND<50	ND<0.50	ND<0.50	29	22	260	11	ND<100	3	ND<1.0	ND<2.0
	1/9/03	2,800	590	7.6	4.0	83	86	150	19	310	1.4	ND<1.0	---
	1/30/03	190	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	130	3.9	1,100	1.5	ND<1.0	ND<2.0
	2/12/03	2,000	170	ND<0.50	ND<0.50	13	16	100	1.4	ND<20	1.1	ND<1.0	ND<2.0
	3/12/03	1,800	300	ND<0.50	ND<0.50	30	27	7.9	ND<1.0	72	ND<1.0	ND<1.0	ND<2.0
	4/17/03	2,200	390	ND<0.50	0.60	91	90	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	5/14/2003	290	ND<50	ND<0.50	ND <0.50	3.5	3.7	4.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	6/10/2003	6,400	1,600	0.88	2.8	160	182	ND<5.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	7/16/2003	1,900	170	ND<0.50	1.30	110	97	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	8/15/2003	560	---	ND<0.50	ND <0.50	47	16.98	ND<5.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	9/16/03	---	---	---	---	---	---	---	---				
	10/15/03	---	---	---	---	---	---	---	---				
	11/19/03	---	---	---	---	---	---	---	---				
	12/11/03	1,600	270	6.2	0.99	51	38	ND<50	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	1/14/04	2,000	110	ND<0.50	0.52	100	54	35	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	2/9/2004	2,500	190	ND<0.50	ND<0.50	83	61	ND<4.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	3/10/04	790	80	ND<0.50	ND<0.50	43	20	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	4/14/04	4,700	370	ND<0.50	ND<0.50	160	124	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	5/13/04	1,500	ND<50	ND<0.50	ND<0.50	81	36	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	6/24/04	2,100	160	ND<0.50	1.2	94	47	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	7/27/04	2,100	150	ND<0.50	ND<0.50	100	47	2.3	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	9/21/04					dry well							
	10/19/04	500	180	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
MW-8													
Baseline Data	11/12/02	2,700	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	4,900	380	1,200	14	ND<10	---
	11/27/02	830	ND<50	4.20	ND<0.50	0.92	ND<0.50	1,200	73	710	6.0	ND<1.0	ND<2.0
	12/23/02	280	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1,300	14	ND<160	3.9	ND<1.0	ND<2.0
	1/9/03	120	ND<50	ND<5.0	ND<5.0	ND<5.0	ND<5.0	170	8.5	56	1.7	ND<1.0	---
	1/30/03	140	ND<50	5.0	ND<2.5	ND<2.5	ND<2.5	190	5.0	57	2.3	ND<1.0	ND<2.0
	2/12/03	76	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	140	2.8	ND<20	2.0	ND<1.0	ND<2.0
	3/12/03	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	4.8	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	4/17/03	75	ND<50	ND<0.50	ND<0.50	0.99	1.7	3.6	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	5/14/03	56	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	3.8	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	6/10/03	330	59	ND<0.50	ND<0.50	ND<0.50	9.3	1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	7/16/03	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	8/15/03	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<2.0
	9/16/03	ND <50	ND <50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.7	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	10/15/03	ND <50	ND <50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.5	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	11/19/03	96	ND <50	ND<0.50	ND<0.50	ND<0.50	0.51	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	12/11/03	ND <50	ND <50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	9.3	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	1/14/04	ND <50	ND <50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	49	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	2/9/04	ND <50	ND <50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	3.7	ND<1.0	ND<20	ND<1.0	ND<1.0	---
	3/10/04	ND <50	ND <50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	4/14/04	210	ND <50	ND<0.50	ND<0.50	0.66	4.5	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	5/13/04	ND <50	ND <50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	6/24/04	ND <50	ND <50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	7/27/04	62	ND <50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	3.7	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	9/21/04	ND <50	ND <50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.3	ND<1.0	ND<10	ND<1.0	ND<1.0	---
	10/19/04	ND <50	ND <50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.3	ND<1.0	ND<10	ND<1.0	ND<1.0	---

Note: "---" indicates that an analyte was not sampled for.
ND indicates results below the laboratory detection limits.

TABLE 2: INTRINSICS ANALYSES MONITORING RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

	Field Analyses				
WELL/ Sample Date	Temperature (Celsius)	pH	Conductivity (µmohs)	ORP (mV)	Dissolved Oxygen (mg/l)
MW-1					
8/18/1999	15.7	6.22	820	-26	3.50
12/12/1999	16.2	6.99	800	-183	0.50
2/15/2000	15.0	6.68	870	-134	0.60
5/30/2000	15.6	6.78	730	-119	1.00
8/29/2000	18.8	6.82	770	115	1.00
11/8/2000	18.1	---	700	-105	3.20
2/7/2001	13.6	---	710	-79	---
4/24/2001	13.8	6.91	330	-90	0.60
8/8/2001	---	---	---	---	---
11/13/2001	---	---	790	-101	0.00
2/5/2002	Not sampled due to the presence of free product.				---
5/7/2002	Not sampled due to the presence of free product.				
8/14/2002	Not sampled due to the presence of free product.				
12/23/2002	---	---	---	-41	6.50
1/9/2003	---	---	---	7	7.30
1/30/2003	---	---	---	-43	12.63
2/12/2003	---	---	---	49	13.13
3/12/2003	13.6	7.24	315	25	8.00
4/17/2003	14.9	7.08	389	172	11.38
5/14/2003	15.3	7.23	303	75	11.18
6/10/2003	17.2	7.40	29	76	7.34
7/16/2003	18.5	7.80	71	101	10.30
8/15/2003	19.8	7.40	263	92	9.59
9/16/2003	18.7	7.26	321	60	10.09
10/15/2003	17.7	6.97	318	163	10.27
11/19/2003	16.2	6.70	542	-13	5.85
12/11/2003	15.6	7.83	392	135	6.62
1/14/2004	---	---	---	---	---
2/9/2004	13.8	6.59	404	52	11.42
3/10/2004	15.5	7.40	326	23	10.29
4/14/2004	13.8	7.60	455	47	7.93
5/13/2004	17.6	7.50	399	150	8.17
6/24/2004	18.7	7.12	420	86	7.28
7/27/2004	19.4	7.10	391	32	3.12
8/26/2004	20.1	7.80	395	-8	6.74
9/21/2004	19.5	7.40	365	-26	6.74
10/16/2004	17.2	7.40	342	24	6.86
MW-2					
8/18/1999	14.5	6.32	280	160	4.40
12/12/1999	16.5	6.45	220	72	5.00
2/15/2000	14.0	6.50	120	57	5.10
5/30/2000	15.8	6.99	150	210	7.80
8/29/2000	18.4	6.76	230	210	2.30
11/8/2000	18.6	---	440	20	1.50
2/7/2001	13.4	---	100	270	---
4/24/2001	13.9	7.86	---	265	6.30
8/8/2001	---	---	---	---	---
11/13/2001	---	7.93	530	-55	0.00
2/5/2002	10.5	7.63	---	207	6.60
5/7/2002	---	6.80	123	11	6.10

TABLE 2: INTRINSICS ANALYSES MONITORING RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

	Field Analyses				
WELL/ Sample Date	Temperature (Celsius)	pH	Conductivity (µmohs)	ORP (mV)	Dissolved Oxygen (mg/l)
MW-2 continued					
8/14/2002	16.6	3.72	227	200	5.16
12/23/2002	---	---	---	14	4.20
1/9/2003	---	---	---	19	4.00
1/30/2003	---	---	---	8	2.62
2/12/2003	---	---	---	-12	5.12
3/12/2003	13.7	7.07	103	56	3.40
4/17/2003	13.6	6.38	186	61	0.20
5/14/2003	14.4	7.10	170	47	0.57
6/10/2003	15.8	6.40	24	-1	0.00
7/16/2003	18.0	6.00	0	-10	0.29
8/15/2003	20.6	5.70	114	115	1.06
9/16/2003	18.8	6.86	243	52	0.62
10/15/2003	18.4	6.71	275	119	0.72
11/19/2003	16.9	5.90	278	-21	1.69
12/11/2003	14.1	7.38	192	169	2.40
1/14/2004	13.1	6.00	129	162	4.42
2/9/2004	12.5	6.40	114	153	4.89
3/10/2004	13.4	6.40	113	66	5.34
4/14/2004	13.5	6.90	142	79	5.59
5/13/2004	14.2	7.47	116	129	5.50
6/24/2004	18.5	5.80	160	143	1.85
7/27/2004	18.9	6.60	185	129	2.05
8/26/2004	20.2	6.30	179	123	2.99
9/21/2004	19.3	6.20	224	107	0.73
10/19/2004	18.1	6.30	225	130	6.86
MW-3					
8/18/1999	15.1	6.38	370	129	4.40
12/12/1999	17.2	6.34	260	86	3.60
2/15/2000	15.9	6.45	280	6	1.90
5/30/2000	16.2	6.55	270	141	2.80
8/29/2000	18.8	6.74	240	192	3.50
11/8/2000	18.8	---	310	47	4.10
2/7/2001	13.7	---	230	260	---
4/24/2001	14.2	7.26	---	313	3.40
8/8/2001	---	---	---	---	---
11/13/2001	---	8.21	230	20	0.00
2/5/2002	12.7	6.55	---	406	3.50
5/7/2002	---	6.72	257	16	4.60
8/14/2002	17.4	2.82	14	154	7.96
5/14/2003	14.9	7.12	250	73	5.06
7/21/2003	---	---	---	---	---
8/15/2003	21.7	6.00	175	149	5.79
11/19/2003	17.6	7.14	168	70	6.93
2/9/2004	12.7	6.44	286	81	3.94
5/13/2004	17.1	6.20	197	161	6.50
8/26/2004	21.6	6.4	146	83	5.44
10/19/2004	---	---	---	---	---
MW-4					
8/18/1999	15.5	6.31	650	53	3.90
12/12/1999	16.1	6.58	400	25	1.10
2/15/2000	15.0	6.45	300	83	2.30

TABLE 2: INTRINSICS ANALYSES MONITORING RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

Field Analyses

WELL/ Sample Date	Temperature (Celsius)	pH	Conductivity (µmohs)	ORP (mV)	Dissolved Oxygen (mg/l)
MW-4 Cont'd					
5/30/2000	16.1	6.32	320	129	1.70
8/29/2000	18.1	6.98	530	-97	1.60
11/8/2000	18.1	---	570	-21	1.40
2/7/2001	15.0	---	510	-17	---
4/24/2001	13.4	6.94	---	189	1.10
8/8/2001	---	---	---	---	---
11/13/2001	---	7.47	554	-98	0.00
2/5/2002	12.7	5.72	---	31	3.90
5/7/2002	---	6.92	395	16	1.90
8/14/2002	16.1	3.50	326	79	2.50
12/23/2002	---	---	---	10	6.80
1/9/2003	---	---	---	-9	7.20
1/30/2003	---	---	---	-56	11.28
2/12/2003	---	---	---	63	11.53
3/12/2003	13.8	7.09	137	99	8.60
4/17/2003	15.2	6.81	211	216	10.17
5/14/2003	15.5	7.19	196	123	10.53
6/10/2003	16.8	6.40	17	103	3.61
7/16/2003	18.5	7.10	80	97	9.12
8/15/2003	20.7	6.90	392	113	8.41
9/16/2003	19.1	7.53	467	95	8.83
10/15/2003	17.5	6.95	387	171	9.93
11/19/2003	17.1	7.45	293	126	0.54
12/11/2003	15.0	7.58	277	167	1.75
1/14/2004	14.1	6.20	208	172	11.30
2/9/2004	13.2	6.70	272	71	11.78
3/10/2004	14.9	6.40	214	43	10.05
4/14/2004	14.1	6.80	277	83	9.21
5/13/2004	17.2	8.00	326	160	8.10
6/24/2004	18.7	6.83	322	138	4.80
7/27/2004	18.6	7.10	331	135	3.08
8/26/2004	20.7	7.10	294	117	5.91
9/21/2004	19.6	6.90	309	122	6.05
10/19/2004	17.6	6.80	279	168	6.89
MW-5					
12/13/2001	---	---	---	---	---
2/5/2002	11.6	7.27	---	472	3.50
5/7/2002	---	6.95	566	-47	1.90
8/14/2002	16.2	1.67	92	-18	3.05
12/23/2002	---	---	---	-1	6.20
1/9/2003	---	---	---	-31	8.10
1/30/2003	---	---	---	-43	12.43
2/12/2003	---	---	---	65	12.44
3/12/2003	13.1	7.10	293	81	11.00
4/17/2003	14.7	6.81	297	141	11.61
5/14/2003	14.9	7.16	269	64	11.70
6/10/2003	16.0	7.70	66	57	11.07
7/16/2003	17.4	7.80	19	111	11.03
7/21/2003	17.4	7.40	104	120	11.46
8/15/2003 #	19.0	7.10	68	67	10.44

TABLE 2: INTRINSICS ANALYSES MONITORING RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

	Field Analyses				
WELL/ Sample Date	Temperature (Celsius)	pH	Conductivity (µmohs)	ORP (mV)	Dissolved Oxygen (mg/l)
MW-5 Cont'd					
9/16/2003	17.7	7.04	242	58	10.53
10/15/2003	17.1	6.77	210	153	10.99
11/19/2003	16.4	7.41	181	124	10.01
12/11/2003	15.5	7.70	240	135	10.48
1/14/2004	---	---	---	---	---
2/9/2004	14.2	7.10	210	143	10.71
3/10/2004	15.4	6.90	220	36	11.98
4/14/2004	13.2	7.60	280	53	12.08
5/13/2004	17.1	7.92	260	99	8.88
6/24/2004	17.6	7.40	332	90	8.19
7/27/2004	18.3	7.50	277	76	6.73
8/26/2004	20.9	7.30	231	91	7.61
9/21/2004	18.7	7.40	240	91	8.21
10/19/2004	16.5	7.10	231	124	10.88
MW-6					
12/23/2002	---	---	---	-38	3.00
1/9/2003	---	---	---	32	2.90
1/30/2003	---	---	---	-1	3.87
2/12/2003	---	---	---	-56	6.58
3/12/2003	13.4	7.13	344	22	6.50
4/17/2003	15.0	6.43	365	39	4.40
5/14/2003	17.6	6.70	219	190	3.50
6/10/2003	---	---	---	---	---
7/16/2003	20.4	6.30	36	144	1.32
8/15/2003	21.8	7.10	213	19	1.71
9/16/2003	18.6	7.52	253	-18	1.82
10/15/2003	17.2	6.80	225	-17	1.55
11/19/2003	17.7	7.52	189	97	0.92
12/11/2003	16.3	7.70	217	150	1.25
1/14/2004	---	---	---	---	---
2/9/2004	16.0	6.20	192	80	1.64
3/10/2004	15.7	6.00	167	27	0.92
4/14/2004	15.0	6.60	207	35	1.30
5/13/2004	18.4	6.00	196	13	1.54
6/24/2004	19.1	6.20	211	---	1.82
7/27/2004	19.7	6.70	196	5	2.15
8/26/2004	---	---	---	---	---
9/21/2004	---	---	---	---	---
10/19/2004	17.9	6.80	180	55	1.60
MW-7					
12/23/2002	---	---	---	-48	10.30
1/9/2003	---	---	---	-36	4.80
1/30/2003	---	---	---	-24	6.64
2/12/2003	---	---	---	8	7.81
3/12/2003	13.6	7.26	374	58	6.80
4/17/2003	15.2	6.89	425	99	9.40
5/14/2003	15.6	7.40	378	170	9.70
6/10/2003	16.3	7.30	9	151	9.42
7/16/2003	19.1	7.40	9	127	8.82
8/15/2003	19.5	7.40	262	112	8.47
9/16/2003	18.4	7.66	300	9	8.35
10/15/2003	16.4	6.96	291	35	8.16

TABLE 2: INTRINSICS ANALYSES MONITORING RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

	Field Analyses				
WELL/ Sample Date	Temperature (Celsius)	pH	Conductivity (µmohs)	ORP (mV)	Dissolved Oxygen (mg/l)
MW-7 Cont'd					
11/19/2003	---	---	---	---	---
12/11/2003	15.1	7.77	310	139	8.24
1/14/2004	---	---	---	---	---
2/9/2004	14.1	7.30	255	151	9.12
3/10/2004	14.8	7.20	258	49	9.75
4/14/2004	13.9	7.40	321	38	9.82
5/13/2004	16.1	7.72	312	69	6.80
6/24/2004	17.4	6.93	299	---	0.58
7/27/2004	17.5	7.40	282	22	2.43
8/26/2004	19.9	7.19	328	147	4.13
9/21/2004	18.1	6.90	301	37	3.08
10/16/2004	15.4	7.00	260	-6	3.77
MW-8					
12/23/2002	---	---	---	-31	8.30
1/9/2003	---	---	---	-30	8.80
1/30/2003	---	---	---	-52	12.17
2/12/2003	---	---	---	---	---
3/12/2003	14.0	7.19	309	66	7.10
4/17/2003	15.3	7.49	483	121	10.80
5/14/2003	16.3	8.00	444	162	10.60
6/10/2003	18.6	7.30	106	90	4.25
7/16/2003	19.8	7.90	128	38	8.87
8/15/2003	21.2	7.60	359	73	8.69
9/16/2003	20.5	7.81	439	47	8.83
10/15/2003	18.1	7.07	366	85	9.59
11/19/2003	16.5	7.10	433	41	1.54
12/11/2003	16.3	7.78	499	70	1.10
1/14/2004	---	---	---	---	---
2/9/2004	14.9	7.20	394	131	9.61
3/10/2004	15.3	7.40	483	33	10.12
4/14/2004	14.6	7.70	464	27	5.75
5/13/2004	16.8	7.10	403	148	5.67
6/24/2004	19.3	7.23	371	-11	1.25
7/27/2004	18.6	7.60	298	1	1.39
8/26/2004	---	---	---	---	---
9/21/2004	19.7	7.10	337	96	2.25
10/16/2004	18.0	7.10	286	27	2.42
OW-1					
2/5/2002	12.2	6.12	---	273	2.60
5/7/2002	---	6.79	569	82	2.80
8/14/2002	15.5	3.23	12	140	4.04
5/14/2003	15.3	6.20	309	260	8.60
8/15/2003	Not enough water for sample				
11/19/2003	---	---	---	---	---
2/9/2004	13.3	6.16	285	84	10.56
5/13/2004	17.1	5.90	253	224	7.86
8/26/2004	Not enough water for sample				
10/19/2004	---	---	---	---	---
OW-2					
2/5/2002	11.6	6.08	---	71	2.50
5/7/2002	---	6.79	550	80	2.80
8/14/2002	Not enough water for sample			---	---
5/14/2003	15.7	6.40	379	232	3.70
8/15/2003	Not enough water for sample				
11/19/2003	---	---	---	---	---

TABLE 2: INTRINSICS ANALYSES MONITORING RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

Field Analyses

WELL/ Sample Date	Temperature (Celsius)	pH	Conductivity (µmohs)	ORP (mV)	Dissolved Oxygen (mg/l)
OW-2 Cont'd					
2/9/2004	14.7	6.1	256	185	8.20
5/13/2004	18.6	7.8	307	215	6.23
8/26/2004	Not enough water for sample				
10/19/2004	---	---	---	---	---
OW-3					
2/5/2002	12.7	6.21	---	-44	2.20
5/7/2002	---	6.88	826	-54	2.50
8/14/2002	Not enough water for sample			---	---
12/23/2002	---	---	---	-50	4.10
1/9/2003	---	---	---	-9	2.80
1/30/2003	---	---	---	-18	4.15
2/12/2003	---	---	---	---	6.39
3/12/2003	14.4	7.04	369	9	3.90
4/17/2003	15.6	6.31	432	-10	4.30
5/14/2003	16.2	6.50	322	-12	3.00
6/10/2003	17.6	7.19	549	-3	3.60
7/16/2003	21.5	6.60	154	-19	4.46
8/15/2003	Not enough water for sample				
11/19/2003	---	---	---	---	---
12/11/2003	16.8	7.63	362	13	0.49
1/14/2004	---	---	---	---	---
2/9/2004	15.2	6.40	248	41	0.45
3/10/2004 #	15.7	6.10	250	-21	0.94
4/14/2004	15.6	6.80	376	-45	0.98
5/13/2004	19.1	6.20	331	---	0.38
6/24/2004	19.5	6.40	420	---	4.18
7/27/2004	20.0	7.00	417	---	1.02
8/26/2004	---	---	---	---	---
9/21/2004	---	---	---	---	---
10/19/2004	---	---	---	---	---
OW-4					
2/5/2002	11.6	6.67	---	-115	2.30
5/7/2002	---	6.99	675	-69	2.00
8/14/2002	17.5	3.29	63	-30	1.44
12/23/2002	---	---	---	-19	7.00
1/9/2003	---	---	---	-13	5.50
1/30/2003	---	---	---	-59	10.66
2/12/2003	---	---	---	19	11.72
3/12/2003	13.8	7.27	361	55	6.10
4/17/2003	15.5	7.11	597	125	7.80
5/14/2003	17.1	7.80	227	117	7.40
6/10/2003	18.0	7.44	500	62	3.30
7/16/2003	21.2	7.40	166	-5	7.45
8/15/2003	Not enough water for sample				
11/19/2003	---	---	---	---	---
12/11/2003	---	---	---	---	---
1/14/2004	12.7	6.90	432	177	8.74
2/9/2004	13.8	6.90	370	137	6.19
3/10/2004	14.2	7.20	380	31	9.03
4/14/2004	14.1	7.20	448	8	0.95
5/13/2004	17.6	6.70	405	68	2.17
6/24/2004	19.8	7.13	369	-12	6.67
7/27/2004	---	---	---	---	---
8/26/2004	---	---	---	---	---
9/21/2004	---	---	---	---	---
10/19/2004	---	---	---	---	---

TABLE 2: INTRINSICS ANALYSES MONITORING RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

	Field Analyses				
WELL/ Sample Date	Temperature (Celsius)	pH	Conductivity (µmohs)	ORP (mV)	Dissolved Oxygen (mg/l)
OW-5					
2/5/2002	11.1	7.03	---	16	2.60
5/7/2002	---	6.94	744	-82	2.30
8/14/2002	Sample not collected due to free product				---
1/9/2003	---	---	---	-29	3.90
1/30/2003	---	---	---	-28	10.42
2/12/2003	---	---	---	-3	10.61
3/12/2003	13.9	7.29	267	35	4.70
4/17/2003	14.3	6.55	434	134	8.60
5/14/2003	16.0	6.80	416	135	6.20
6/10/2003	16.4	7.39	414	131	4.00
7/16/2003	18.3	6.60	13	151	5.91
8/15/2003	Not enough water for sample				
11/19/2003	---	---	---	---	---
12/11/2003	14.2	7.70	245	136	4.39
2/9/2004	13.5	6.80	386	152	5.73
3/10/2004	13.8	6.90	410	43	4.92
4/14/2004	13.9	7.10	461	43	3.82
5/13/2004	16.3	7.77	422	192	2.73
6/24/2004	17.1	6.40	349	146	1.28
7/27/2004	---	---	---	---	---
8/26/2004	---	---	---	---	---
10/19/2004	---	---	---	---	---
PZ-1					
11/20/2001	---	6.70	377	124	3.30
2/5/2002	12.2	6.40	---	267	4.30
5/7/2002	---	---	---	---	---
8/14/2002	---	---	---	---	---
5/14/2003	---	---	---	---	---
7/16/2003	19.5	6.00	70	160	5.13
7/21/2003	19.1	5.90	55	153	5.77
11/19/2003	15.7	6.00	357	78	6.09
2/9/2004	13.6	6.0	368	177	6.12
5/13/2004	17.1	7.74	314	149	5.15
6/24/2004	17.9	6.08	263	71	4.27
8/26/2004	22.0	6.2	231	104	4.33
10/19/2004	---	---	---	---	---
DW-Totem					
8/18/1999	14.0	6.74	180	175	5.00
12/12/1999	13.1	6.31	200	91	15.10
2/15/2000	12.1	6.47	160	123	1.60
5/30/2000	13.7	6.65	190	-42	2.30
8/29/2000	14.6	7.67	170	2	2.00
11/8/2000	15.9	---	150	188	3.00
2/7/2001	12.7	---	140	129	---
4/24/2001	12.2	8.32	---	42	1.90
8/8/2001	---	---	---	---	---
11/13/2001	---	---	---	---	---
2/5/2002	9.4	7.74	---	-547	4.50
5/7/2002	---	6.76	217	-89	2.30
8/14/2002	Sample not collected		---	---	---
5/14/2003	12.0	7.20	160	14	0.03
11/19/2003	14.0	6.60	164	-37	0.15
2/9/2004	9.7	7.0	66	122	1.26
5/13/2004	12.2	6.5	187	-36	0.70
8/26/2004	Intrinsics not monitored				
10/19/2004	---	---	---	---	---

TABLE 3: GROUNDWATER ELEVATION DATA AND GROUNDWATER ANALYTICAL RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

	Groundwater Measurements			Analytical Results								
WELL/ Sample Date	Well Head Elevation (feet msl)	Groundwater Elevation (feet msl)	Depth to Water (feet)	TPHg (µg/l)	TPHd (µg/l)	TPHmo (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Other Analytes (µg/l)
			mcl/(sl)	---	1.0		1.0	150	700	1,700	13	
			tot	5	---	100	---	42	29	17	5	---
MW-1												
3/20/95	28.28	26.13	2.15	8,100	ND <50	ND <500	27	85	58	299	---	---
4/13/95		25.72	2.56	---	---	---	---	---	---	---	---	---
5/15/95		24.62	3.66	---	---	---	---	---	---	---	---	---
6/13/95		23.38	4.90	77,000	170	ND <500	4,600	4,600	1,400	6,700	---	---
7/17/95		22.38	5.90	---	---	---	---	---	---	---	---	---
9/1/95		21.38	6.90	---	---	---	---	---	---	---	---	---
9/25/95		20.85	7.43	80,000	740	---	9,700	8,800	2,000	9,600	10,000	---
10/30/95		19.75	8.53	---	---	---	---	---	---	---	---	---
11/20/95		19.25	9.03	---	---	---	---	---	---	---	---	---
12/21/95		18.18	10.10	46,000	130	---	4,300	3,400	1,100	3,850	4,400	---
1/18/96		25.32	2.96	---	---	---	---	---	---	---	---	---
2/20/96		25.90	2.38	---	---	---	---	---	---	---	---	---
3/26/96		24.98	3.30	8,300	ND <50	---	1,500	240	330	680	7,200	---
4/15/96		24.84	3.44	---	---	---	---	---	---	---	---	---
6/7/96		23.94	4.34	---	---	---	---	---	---	---	---	---
6/28/96		22.84	5.44	48,000	150	---	7,500	6,200	1,500	6,800	14,000	---
7/17/96		22.12	6.16	---	---	---	---	---	---	---	---	---
9/13/96		20.44	7.84	58,000	2,600	---	11,000	7,900	1,600	7,400	11,000	---
10/9/96		19.94	8.34	---	---	---	---	---	---	---	---	---
11/27/96		22.67	5.61	---	---	---	---	---	---	---	---	---
12/23/96		25.37	2.91	29,000	230	---	9,200	1,200	1,800	2,300	19,000	---
1/30/97		25.67	2.61	---	---	---	---	---	---	---	---	---
2/21/97		25.27	3.01	---	---	---	---	---	---	---	---	---
3/20/97		24.67	3.61	15,000	ND <50	---	1,100	1,000	540	2,240	9,200	---
4/16/97		23.57	4.71	---	---	---	---	---	---	---	---	---
6/25/97		22.35	5.93	56,000	93	---	8,700	6,900	1,700	7,000	8,100	---
7/11/97		20.78	7.50	---	---	---	---	---	---	---	---	---
9/11/97		20.12	8.16	61,000	310	---	8,000	5,200	2,100	9,500	8,800	---
12/15/97		23.89	4.39	31,000	590	---	1,300	1,200	790	3,090	14,000	---
3/5/98		25.77	2.51	24,000	280	---	4,100	120	1,300	555	8,100	---
6/17/98		23.01	5.27	68,000	390	---	6,500	6,200	1,500	6,800	19,000	---
9/28/98		19.93	8.35	65,000	860	---	7,100	5,300	2,500	9,300	26,000	---
12/18/98		25.10	3.18	18,000	300	---	3,100	180	920	1,280	33,000	---
3/5/99		25.65	2.63	290,000	300	---	1,200	ND <100	380	450	30,000	TAME = 2,200 Other oxygenates ND Lead scavengers <200
6/6/99		23.40	4.88	54,000	320	---	2,800	3,100	1,300	4,760	32,000	---
8/18/99		20.80	7.48	88,000	440	---	6,100	6,700	3,200	11,900	36,000	TAME = 2,500 Other oxygenates ND [4]
12/12/99		23.61	4.67	6,700	330	---	160	54	390	660	6,800	TAME = 750 Other oxygenates ND [4]
2/15/00		25.49	2.79	12,000	290	---	970	100	570	615	11,000	TAME = 1,100 TBA = 1,100 Other oxygenates ND
5/30/00		23.77	4.51	29,000	280	---	850	860	1,500	4,130	6,200	TAME = 1300 Other oxygenates ND
8/29/00		20.70	7.58	42,000	740	---	3,600	2,200	2,100	6,900	7,400	TAME = 1,500 Other oxygenates ND
11/8/00		20.40	7.88	28,000	370	---	1,800	700	1,600	5,010	2,100	TAME = 790 Other oxygenates ND
2/7/01		22.13	6.15	44,000	1,300	---	3,300	950	2,300	5,260	3,900	TAME = 830 Other oxygenates ND
4/24/01		22.35	5.93	29,000	1,300	---	2,800	1,100	2,600	6,340	2,300	TAME = 470 Other oxygenates ND
8/8/01		19.91	8.37	47,000	1,200	---	3,700	1,000	2,700	5,790	3,900	TAME = 650 TBA = 1,200 Other oxygenates ND
11/13/01		17.36	10.92	81,000	2,300	---	2,000	9,900	2,900	15,100	2,000	TAME = 370 TBA = 890 Other oxygenates ND
2/5/02		24.16	4.16	Unable to sample due to presence of free product (0.05 feet thick)								
5/7/02		23.84	4.50	Unable to sample due to presence of free product (0.07 feet thick)								
8/14/02	31.29	---	---	Unable to sample due to presence of free product (0.32 feet thick)								
11/12/02		23.75	7.54	7,000	490	---	58	ND<25	ND<25	242	1,100	TAME = 98 TBA = 1000 Other oxygenates ND
11/26/02		22.11	9.18	870	970	370	ND<0.50	ND<0.50	2.0	2.0	740	TAME = 57 TBA = 460 ETBE= 1.4 Other oxygenates ND

TABLE 3: GROUNDWATER ELEVATION DATA AND GROUNDWATER ANALYTICAL RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

WELL/ Sample Date	Groundwater Measurements: Well Head Elevation (feet msl)	Groundwater Elevation (feet msl)	Depth to Water (feet)	Analytical Results: TPHg (µg/l)	TPHd (µg/l)	TPHmo (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Other Analytes (µg/l)
MW-1 Continued												
12/10/02		21.52	9.77	4,800	560	---	8.2	2.8	75	66.4	690	TAME = 32 TBA = 430 Other oxygenates ND
12/23/02		25.84	5.45	3,100	62	---	11	4.9	63	87.7	540	TAME = 43 ETBE= 1.2 Other oxygenates ND
1/9/03		27.62	3.67	780	160	---	1.7	1.1	8.6	17.8	540	TAME = 53 TBA= 42 Other oxygenates ND
1/30/03		27.92	3.37	200	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	310	TAME = 18 other oxygenates ND
3/12/03		26.90	4.39	180	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	160	TAME = 8.8 other oxygenates ND
4/17/03		28.11	3.18	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	42	All other oxygenates ND
5/14/03		26.71	4.58	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	10	All other oxygenates ND
6/10/03		26.27	5.02	1,200	380	---	15	4.4	16	184	72	TAME = 17 TBA= 26 Other oxygenates ND
7/16/03		24.17	7.12	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND <1.0	All other oxygenates ND
8/15/03		23.06	8.23	ND<50	ND<50	---	ND<0.50	ND<0.50	1.3	1.1	ND <1.0	All other oxygenates ND
9/16/03		21.86	9.43	ND<50	ND<50	---	ND<0.50	ND<0.50	0.5	1.1	ND <1.0	All other oxygenates ND
10/15/03		21.08	10.21	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND <1.0	All other oxygenates ND
11/19/03		22.88	8.41	2,200	140	---	110	11	18	95	75	TAME = 18 TBA= 45 Other oxygenates ND
12/11/03		25.50	5.79	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.1	All other oxygenates ND
1/14/04		27.49	3.80	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.5	All other oxygenates ND
2/9/04		27.67	3.62	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	0.53	4.9	All other oxygenates ND
3/10/04		27.57	3.72	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	0.53	1.6	All other oxygenates ND
4/14/04		26.93	4.36	190	50	---	ND<0.50	ND<0.50	0.96	10.3	4.8	All other oxygenates ND
5/13/04		26.35	4.94	ND<50	ND<50	---	ND<0.50	ND<0.50	0.64	1.4	4.3	All other oxygenates ND
6/24/04		24.55	6.74	1,300	93	---	120	12	11	148	59	TAME = 31 TBA= 31 Other oxygenates ND
7/27/04		23.93	7.36	4,900	380	---	440	69	91	530	72	TAME = 24 TBA= 46 Other oxygenates ND
8/26/04		23.11	8.18	950		---	49	9.2	11	130	42	TAME = 9.1 Other oxygenates ND
9/21/04		22.59	8.70	590	67	---	27	6.4	8.7	85	34	TAME = 9.4 Other oxygenates ND
10/19/04		22.59	8.70	570	78	---	40	8.2	13	78	27	TAME = 5.2 Other oxygenates ND
MW-2												
3/20/95	27.11	26.06	1.05	ND <50	ND <50	ND <500	ND <0.5	ND <0.5	ND <0.5	ND <0.5	---	---
4/13/95		24.54	2.57	---	---	---	---	---	---	---	---	---
5/15/95		24.04	3.07	---	---	---	---	---	---	---	---	---
6/13/95		22.61	4.50	220	ND <50	ND <500	2.5	1.5	1.0	4.5	---	---
7/17/95		21.66	5.45	---	---	---	---	---	---	---	---	---
9/1/95		20.66	6.45	---	---	---	---	---	---	---	---	---
9/25/95		20.13	6.98	530	ND <50	---	110	2.1	1.2	7.1	19	---
10/30/95		19.43	7.68	---	---	---	---	---	---	---	---	---
11/20/95		18.40	8.71	---	---	---	---	---	---	---	---	---
12/21/95		17.46	9.65	140	ND <50	---	0.63	ND <0.5	ND <0.5	0.53	ND <5.0	---
1/18/96		25.61	1.50	---	---	---	---	---	---	---	---	---
2/20/96		26.05	1.06	---	---	---	---	---	---	---	---	---
3/26/96		24.59	2.52	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <5.0	---
4/15/96		24.49	2.62	---	---	---	---	---	---	---	---	---
6/7/96		23.31	3.80	---	---	---	---	---	---	---	---	---
6/28/96		22.03	5.08	150.0	ND <50	---	6.1	4.7	1.0	3.5	ND <5.0	---
7/17/96		21.33	5.78	---	---	---	---	---	---	---	---	---
9/13/96		19.93	7.18	860	58	---	260	13	3.8	17.3	73	---
10/9/96		19.49	7.62	---	---	---	---	---	---	---	---	---
11/27/96		22.69	4.42	---	---	---	---	---	---	---	---	---
12/23/96		25.61	1.50	66	ND <50	---	19	ND <0.5	ND <0.5	0.63	8.7	---
1/30/97		25.68	1.43	---	---	---	---	---	---	---	---	---
2/21/97		25.05	2.06	---	---	---	---	---	---	---	---	---
3/28/97		24.45	2.66	ND <50	ND <50	---	1.7	ND <0.5	ND <0.5	ND <0.5	ND <5.0	---
4/16/97		22.87	4.24	---	---	---	---	---	---	---	---	---
6/25/97		21.47	5.64	75	ND <50	---	10	2.1	ND <0.5	1.98	79	---
7/11/97		16.38	10.73	---	---	---	---	---	---	---	---	---
9/11/97		19.65	7.46	3,700	250	---	1,100	22	7.3	39	1,000	---
12/15/97		23.95	3.16	160	84	---	65	1.3	0.58	2.8	73	---
3/5/98		25.83	1.28	ND <50	ND <50	---	2.3	ND <0.5	ND <0.5	ND <0.5	5.6	---
6/17/98		22.29	4.82	ND <50	ND <50	---	0.67	ND <0.5	ND <0.5	ND <0.5	11	---
9/28/98		19.61	7.50	860	110	---	180	6.2	1.4	6.1	960	---
12/18/98		25.19	1.92	ND <50	ND <50	---	5.0	ND <0.5	ND <0.5	ND <0.5	61	---
3/5/99		25.73	1.38	360	ND <50	---	0.57	ND <0.5	ND <0.5	ND <0.5	10	Other oxygenates ND Lead scavengers <200
6/3/99		22.72	4.39	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	8.0	---
6/22/99		21.85	5.26	---	---	---	---	---	---	---	---	---
8/18/99		20.35	6.76	610	ND <50	---	70	6.7	1.1	13.6	930	---
12/12/99		24.31	2.80	89	ND <50	---	24	ND <0.5	ND <0.5	1.3	46	Other oxygenates ND
2/15/00		25.91	1.20	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	5.2	Other oxygenates ND
5/30/00		23.41	3.70	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	5.7	Other oxygenates ND

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WELL/ Sample Date	Groundwater Measurements: Well Head Elevation (feet msl)	Groundwater Elevation (feet msl)	Depth to Water (feet)	Analytical Results: TPHg (µg/l)	TPHd (µg/l)	TPHmo (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Other Analytes (µg/l)
MW-2 Continued												
8/29/00		20.37	6.74	980	ND <50	---	58	0.63	ND <0.5	3.1	950	TAME = 40 TBA = 130 ETBE = 3.6 DIPE ND<1.0
11/8/00		20.07	7.04	4,000	57	---	970	ND <10	ND <10	ND <10	1700	TAME = 120 Other oxygenates ND
2/7/01		22.00	5.11	67	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	57	TAME = 2 Other oxygenates ND
4/24/01		22.05	5.06	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	18	Other oxygenates ND
8/8/01		19.69	7.42	2,100	78	---	920	3.5	ND <0.5	14	2,000	TAME = 71 TBA = 470 ETBE = 3.8 DIPE = 1.4
11/13/01		18.32	8.79	6,400	86	---	580	4.1	1.2	7.7	6,200	TAME = 280 TBA = 1900 ETBE = 5.4 Other oxygenates ND
12/13/01		23.94	3.17	---	---	---	---	---	---	---	---	---
2/5/02		25.21	1.90	ND <50	ND <50	---	1.5	ND <0.50	ND <0.50	ND <0.50	25	TAME=1.2
5/7/02		22.61	4.50	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	25	TAME=1.3
8/14/02	30.08	22.99	7.09	1,000	ND <50	ND <170	82	1.1	ND <0.50	1.6	450	TAME = 33 TBA = 54 Other oxygenates ND
11/12/02		21.73	8.35	5,700	75	---	1,500	1.7	ND <0.50	5.0	3,500	TAME = 240 TBA = 770 ETBE = 3.2 DIPE = ND<1.0
11/26/02		21.61	8.47	5,000	92	ND <170	1,200	0.6	ND <0.50	2.4	3,300	TAME = 200 TBA = 850 ETBE = 3.1 Other oxygenates ND
12/10/02		21.53	8.55	5,700	76	---	1,000	4.2	ND <0.50	5.3	3,100	TAME = 190 TBA = 600 Other oxygenates ND
12/23/02		26.83	3.25	430	ND <50	---	8.8	ND <0.50	0.61	0.82	90	TAME = 4.9 Other oxygenates ND
1/9/03		28.12	1.96	340	ND <50	---	1.3	ND <0.50	ND <0.50	ND <0.50	42	TAME = 2.7 Other oxygenates ND
1/30/03		29.65	0.43	470	ND <50	---	1.0	ND <0.50	ND <0.50	ND <0.50	ND<1.0	All oxygenates ND
3/12/03		28.16	1.92	200	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND<1.0	All oxygenates ND
4/17/03		29.17	0.91	200	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	All oxygenates ND
5/14/03		27.56	2.52	84	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	All oxygenates ND
6/10/03		25.84	4.24	77	ND<50	---	1.1	0.66	ND<0.50	ND<0.50	ND<1.0	All oxygenates ND
7/16/03		24.37	5.71	65	ND<50	---	1.1	ND<0.50	ND<0.50	0.58	3.9	All oxygenates ND
8/15/03		23.54	6.54	84	ND<50	---	7.6	ND<0.50	ND<0.50	0.52	27	TAME = 1.4 Other oxygenates ND
9/16/03		22.84	7.24	650	ND<50	---	20	ND<0.50	0.63	2.16	390	TAME = 17 TBA=47 Other oxygenates ND
10/15/03		22.17	7.91	2,200	75	---	63	1.6	2.3	7.3	1,800	TAME = 95 TBA=200 Other oxygenates ND
11/19/03		22.35	7.73	1,200	ND<50	---	2.3	ND<0.50	ND<0.50	ND<0.50	1,200	TAME = 61 TBA=47 Other oxygenates ND
12/11/03		26.36	3.72	120	ND<50	---	3.0	ND<0.50	ND<0.50	ND<0.50	150	TAME = 8.8 Other oxygenates ND
1/14/04		28.69	1.39	ND <50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	36	TAME = 2.0 Other oxygenates ND
2/9/04		28.55	1.53	ND <50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	16	TAME = 1.1 Other oxygenates ND
3/10/04		27.78	2.30	ND <50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	9.2	All oxygenates ND
4/14/04		26.64	3.44	ND <50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	10	All oxygenates ND
5/13/04		25.96	4.12	ND <50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	6.8	All oxygenates ND
6/24/04		24.29	5.79	210	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	160	TAME = 14 Other oxygenates ND
7/27/04		23.78	6.30	160	ND<50	---	6.0	ND<0.50	ND<0.50	1.13	97	TAME = 6.1 Other oxygenates ND
8/26/04		22.98	7.10	500	ND<50	---	84	ND<0.50	ND<0.50	ND<0.50	350	TAME = 24 Other oxygenates ND
9/21/04		22.49	7.59	930	ND<50	---	94	ND<0.50	ND<0.50	0.65	620	TAME = 63 TBA=68 Other oxygenates ND
10/19/04		22.49	7.59	680	ND<50	---	26	ND<0.50	ND<0.50	ND<0.50	680	TAME = 77 Other oxygenates ND
MW-3												
3/20/95	28.99	26.89	2.10	ND <50	ND <50	ND <500	ND <0.5	ND <0.5	ND <0.5	ND <0.5	---	---
4/13/95		27.61	1.38	---	---	---	---	---	---	---	---	---
5/15/95		25.12	3.87	---	---	---	---	---	---	---	---	---
6/13/95		23.95	5.04	ND <50	ND <50	ND <500	1.4	1.7	ND <0.5	0.76	---	---
7/17/95		22.93	6.06	---	---	---	---	---	---	---	---	---
9/1/95		21.93	7.06	---	---	---	---	---	---	---	---	---
9/25/95		21.07	7.92	ND <50	---	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <5.0	---
10/30/95		19.86	9.13	---	---	---	---	---	---	---	---	---
11/20/95		19.26	9.73	---	---	---	---	---	---	---	---	---
12/21/95		18.69	10.30	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <5.0	---
1/18/96		26.27	2.72	---	---	---	---	---	---	---	---	---
2/20/96		26.67	2.32	---	---	---	---	---	---	---	---	---
3/26/96		25.49	3.50	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <5.0	---
4/15/96		25.39	3.60	---	---	---	---	---	---	---	---	---

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MW-3 Continued												
6/7/96		24.47	4.52	---	---	---	---	---	---	---	---	---
6/28/96		23.39	5.60	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <5.0	---
7/17/96		22.53	6.46	---	---	---	---	---	---	---	---	---
9/13/96		20.63	8.36	ND <50	ND <50	---	**2.6**	**2.5**	**0.55**	**2.08**	ND <5.0	---
10/9/96		20.15	8.84	---	---	---	---	---	---	---	---	---
11/27/96		23.40	5.59	---	---	---	---	---	---	---	---	---
12/23/96		26.12	2.87	ND <50	ND <50		ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <5.0	---
1/30/97		26.28	2.71	---	---	---	---	---	---	---	---	---
2/21/97		25.56	3.43	---	---	---	---	---	---	---	---	---
3/20/97		25.56	3.43	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <5.0	---
4/16/97		24.06	4.93	---	---	---	---	---	---	---	---	---
6/25/97		22.93	6.06	**68**	ND <50	---	**8.3**	**7.8**	**1.6**	**5.7**	ND <5.0	---
7/11/97		21.13	7.86	---	---	---	---	---	---	---	---	---
9/11/97		20.13	8.86	ND <50	ND <50	---	**2.8**	**1.7**	**0.57**	**2.02**	ND <5.0	---
12/15/97		24.42	4.57	ND <50	ND <50	---	**1.3**	**1.2**	**0.76**	**2.52**	ND <5.0	---
3/5/98		26.33	2.66	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <5.0	---
6/17/98		23.56	5.43	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <5.0	---
9/28/98		19.98	9.01	ND <50	ND <50	---	**3.5**	**2.7**	**0.98**	**3.45**	ND <5.0	---
12/18/98		25.61	3.38	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <5.0	---
3/5/99		26.16	2.83	160	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <5.0	Other oxygenates ND Lead scavengers <200
6/3/99		23.96	5.03	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <5.0	---
6/22/99		23.11	5.88	---	---	---	---	---	---	---	---	---
8/18/99		20.98	8.01	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <3.0	---
12/12/99		24.38	4.61	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <3.0	Other oxygenates ND
2/15/00		26.28	2.71	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <3.0	Other oxygenates ND
5/30/00		24.37	4.62	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <3.0	Other oxygenates ND
8/29/00		22.25	6.74	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <3.0	Other oxygenates ND
8/29/00		Method Blank		ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	**1.2**	**TAME =19** Other oxygenates ND
8/29/00		Field Duplicate		ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <3.0	Other oxygenates ND
11/8/00		20.84	8.15	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	**0.61**	ND <3.0	Other oxygenates ND
2/7/01		22.47	6.52	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <3.0	Other oxygenates ND
4/24/01		22.81	6.18	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <3.0	Other oxygenates ND
8/8/01		19.96	9.03	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	**0.61**	ND <3.0	**TBA =35** Other oxygenates ND
11/13/01		18.69	10.30	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND<0.50	ND<1.0	Other oxygenates ND
11/20/01		20.13	8.86	---	---	---	---	---	---	---	---	---
12/13/01		24.36	4.63	---	---	---	---	---	---	---	---	---
2/5/02		25.78	3.21	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
5/7/02		23.79	5.20	**56**	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
8/14/02	31.99	23.45	8.54	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
11/12/02		22.51	9.48	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
5/14/03		27.85	4.14	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
7/16/03		---	---	---	---	---	---	---	---	---	---	---
8/15/03		23.97	8.02	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
11/19/03		23.18	8.81	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
2/9/04		28.54	3.45	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
3/10/04		---	---	---	---	---	---	---	---	---	---	---
4/14/04		---	---	---	---	---	---	---	---	---	---	---
5/13/04		26.97	5.02	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
8/26/04		23.38	8.61	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
10/19/04		---	---	---	---	---	---	---	---	---	---	---
MW-4												
6/22/99	28.21	22.34	5.87	ND <50	**85**	---	**2.0**	**1.4**	ND <0.5	**11.1**	**6,000**	---
8/18/99		20.79	7.42	**850**	ND <50	---	ND <2.0	ND <2.0	ND <0.5	ND <0.5	**8,400**	---
12/12/99		23.60	4.61	**200**	ND <50	---	ND <0.5	ND <0.5	ND <0.5	**0.53**	**800**	**TAME = 72** **TBA = 82** Other oxygenates ND
2/15/00		25.77	2.44	**65**	ND <50	---	**0.57**	ND <0.5	ND <0.5	ND <0.5	**190**	**TAME =11** Other oxygenates ND
5/30/00		24.00	4.21	**240**	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	**370**	**TBA=45** **TAME =24** Other oxygenates ND
8/29/00		20.73	7.48	**1,700**	**130**	---	**64**	**53**	**25**	**145**	**470**	**TAME =49** Other oxygenates ND
11/8/00		20.31	7.90	**1,100**	ND <50	---	**3.4**	**5.2**	**33**	**65**	**910**	**TAME =98** Other oxygenates ND
2/7/01		22.13	6.08	**1,000**	**110**	---	**2.3**	**1.3**	**13**	**16.5**	**740**	**TBA=240** **TAME =61** Other oxygenates ND
4/24/01		22.52	5.69	**140**	ND <50	---	ND <0.5	ND <0.5	**0.61**	**4.2**	**220**	**TBA=34** **TAME =14** Other oxygenates ND
4/24/01		Field Duplicate		**130**	---	---	ND <0.5	ND <0.5	**0.56**	**4.0**	**210**	**TBA=28** **TAME =14** Other oxygenates ND

TABLE 3: GROUNDWATER ELEVATION DATA AND GROUNDWATER ANALYTICAL RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

WELL/ Sample Date	Groundwater Measurements: Well Head Elevation (feet msl)	Groundwater Elevation (feet msl)	Depth to Water (feet)	Analytical Results: TPHg (µg/l)	TPHd (µg/l)	TPHmo (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Other Analytes (µg/l)
MW-4 Continued												
8/8/01		20.08	8.13	930	ND <50	---	ND <0.5	ND <0.5	1.6	2.4	1,600	TBA=490 TAME =100 Other oxygenates ND
11/13/01		18.81	9.40	330	ND <50	---	ND <0.5	ND <0.5	1.6	1.94	420	TAME =26 Other oxygenates ND
11/20/01		19.84	8.37	---	---	---	---	---	---	---	---	---
12/13/01		23.83	4.38	---	---	---	---	---	---	---	---	---
2/5/02		24.53	3.68	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND< 1.0	Other oxygenates ND
5/7/02		23.41	4.80	390	ND <50	ND <170	12	ND <0.50	ND <0.50	0.69	540	TBA=97 TAME =42 Other oxygenates ND
8/14/02	31.21	23.55	7.66	410	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	470	TBA=33 TAME =41 Other oxygenates ND
11/12/02		21.75	9.46	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	66	TAME =3.7 Other oxygenates ND
11/26/02		21.82	9.39	ND <50	ND <50	ND <170	1.3	ND <0.50	ND <0.50	ND <0.50	41	TAME =1.6 Other oxygenates ND
12/10/02		21.90	9.31	ND <0.50	ND <50	---	0.76	ND <0.50	ND <0.50	ND <0.50	13	Other oxygenates ND
12/23/02		26.28	4.93	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	2.2	All oxygenates ND
1/9/03		27.56	3.65	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND< 1.0	All oxygenates ND
1/30/03		26.01	5.20	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND< 1.0	All oxygenates ND
3/12/03		26.97	4.24	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1.0	All oxygenates ND
4/17/03		---	---	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1.7	All oxygenates ND
5/14/03		27.23	3.98	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	5.0	All oxygenates ND
6/10/03		26.44	4.77	89	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	86	TAME =1.2 Other oxygenates ND
7/16/03		24.91	6.30	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	4.7	All oxygenates ND
8/15/03		23.71	7.50	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	11	All oxygenates ND
9/16/03		22.92	8.29	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	4.1	All oxygenates ND
10/15/03		21.94	9.27	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND< 1.0	All oxygenates ND
11/19/03		23.08	8.13	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	12	All oxygenates ND
12/11/03		25.81	5.40	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND< 1.0	All oxygenates ND
1/14/04		28.18	3.03	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND< 1.0	All oxygenates ND
2/9/04		28.16	3.05	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND< 1.0	All oxygenates ND
3/10/04		27.91	3.30	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1.7	All oxygenates ND
4/14/04		27.22	3.99	66	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	6.6	All oxygenates ND
5/13/04		26.61	4.60	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	11	All oxygenates ND
6/24/04		25.23	5.98	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	7.9	All oxygenates ND
7/27/04		24.30	6.91	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	4.4	All oxygenates ND
8/26/04		23.69	7.52	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	8.5	All oxygenates ND
9/21/04		23.17	8.04	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	7.7	All oxygenates ND
10/19/04		23.12	8.09	ND <0.50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	13	All oxygenates ND
MW-5												
12/13/01	28.51	24.04	4.47	1,100	ND <50	---	15	ND <0.5	1.0	0.63	1,200	TAME =110 Other oxygenates ND
2/5/02		25.43	3.08	330	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	460	TAME =40 Other oxygenates ND
5/7/02		23.53	4.98	7,100	120	ND <170	360	7.0	170	12.3	5,600	TBA=280 TAME =620 Other oxygenates ND
8/14/02	31.50	23.24	8.26	25,000	ND <50	ND <170	200	ND <0.50	150	ND <0.50	12,000	TAME =2,300 Other oxygenates ND
11/12/02		21.69	9.81	2,400	ND <50	---	0.97	ND <0.50	ND <0.50	ND <0.50	4,700	TAME = 390 TBA = 750 ETBE = 4.7 DIPE = ND<1.0
11/26/02		22.11	9.39	2,400	ND <50	ND <170	2.3	ND <0.50	ND <0.50	ND <0.50	4,800	TAME = 260 TBA = 610 ETBE = 16 Other oxygenates ND
12/10/02		21.99	9.51	2,000	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	3,400	TAME = 190 TBA = 760 ETBE = 10 DIPE = ND<1.0
12/23/02		26.21	5.29	1,100	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1,600	TAME = 89 TBA = 140 ETBE = 5.6 Other oxygenates ND
1/9/03		27.91	3.59	240	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	280	TAME = 8.2 TBA = 22 ETBE = 1.8 Other oxygenates ND
1/30/03		29.06	2.44	71	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	79	TAME = 3.2
3/12/03		27.91	3.59	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
4/17/03		---	---	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
5/14/03		27.51	3.99	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
6/10/03		26.08	5.42	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
7/16/03		24.34	7.16	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
8/15/03		23.37	8.13	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1.3	All oxygenates ND
9/16/03		22.38	9.12	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
10/15/03		21.79	9.71	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
11/19/03		22.39	9.11	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
12/11/03		25.85	5.65	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
1/14/04		28.45	3.05	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
2/9/04		28.30	3.20	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
3/10/04		28.01	3.49	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
4/14/04		27.03	4.47	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
5/13/04		26.68	4.82	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND

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WELL/ Sample Date	Groundwater Measurements: Well Head Elevation (feet msl)	Groundwater Elevation (feet msl)	Depth to Water (feet)	Analytical Results: TPHg (µg/l)	TPHd (µg/l)	TPHmo (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Other Analytes (µg/l)
MW-5 Continued												
6/24/04		24.90	6.60	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1.1	All oxygenates ND
7/27/04		23.88	7.62	51	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	26	TAME = 2.9
8/26/04		23.11	8.39	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	3.2	All oxygenates ND
9/21/04		22.55	8.95	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1.2	All oxygenates ND
10/19/04		22.55	8.95	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
MW-6												
11/12/02	31.72	21.86	9.86	18,000	260	—	160	690	480	3070	3,200	TAME =400 Other oxygenates ND
11/26/02		22.31	9.41	6,400	400	ND <170	30	97	83	660	1,800	TAME =260 TBA=150 Other oxygenates ND
12/10/02		22.01	9.71	6,800	ND <50	---	18	37	28.0	650	2,500	TAME =320 TBA=420 Other oxygenates ND
12/23/02		23.31	8.41	2,300	84	---	2.7	5.5	2.9	121	580	TAME =82 TBA=78 Other oxygenates ND
1/9/03		22.76	8.96	2,900	190	---	1.6	3.9	1.4	81	790	TAME =97 TBA=470 Other oxygenates ND
1/30/03		22.45	9.27	1,900	81	---	1.5	3.4	3.4	77	1,000	TAME =130 TBA=290 Other oxygenates ND
3/12/03		22.00	9.72	270	ND <50	---	ND <0.5	ND <0.5	ND <0.5	7.7	84	TAME =11 TBA=47 Other oxygenates ND
4/17/03		22.73	8.99	510	58	---	ND<0.50	1.5	2.2	36	ND<10	All oxygenates ND
5/14/03		27.41	4.31	510	ND<50	---	ND<0.50	1.4	ND<5.0	15.5	ND<5.0	All oxygenates ND
6/10/03		26.16	5.56	1,100	98	---	0.58	3.2	ND<5.0	25	ND<5.0	All oxygenates ND
7/16/03		24.75	6.97	430	ND<50	---	ND<0.50	1.1	ND<5.0	17.2	5.2	All oxygenates ND
8/15/03		23.80	7.92	280	ND<50	---	ND<0.50	0.78	ND<5.0	12	4.5	All oxygenates ND
9/16/03		22.79	8.93	150	ND<50	---	ND<0.50	ND<5.0	ND<5.0	2.5	4.1	All oxygenates ND
10/15/03		22.69	9.03	370	ND<50	---	ND<0.50	0.57	ND<5.0	3.2	ND<10	All oxygenates ND
11/19/03		22.71	9.01	150	ND<50	---	ND<0.50	ND<5.0	ND<5.0	1.4	ND<10	All oxygenates ND
12/11/03		25.01	6.71	470	ND<50	---	ND<0.50	0.78	0.52	8.7	ND<5.0	All oxygenates ND
1/14/04		28.10	3.62	650	ND<50	---	ND<0.50	ND<0.50	0.52	8.0	ND<3.0	All oxygenates ND
2/9/04		27.86	3.86	560	53	---	ND<0.50	ND<0.50	ND<0.50	5.4	ND<8.0	Tame=1.0 Other oxygenates ND
3/10/04		27.70	4.02	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	All oxygenates ND
4/14/04		26.32	5.40	240	ND<50	---	ND<0.50	ND<0.50	ND<0.50	1.9	ND<1.0	All oxygenates ND
5/13/04		26.31	5.41	370	ND<50	---	ND<0.50	ND<0.50	ND<0.50	1.4	ND<1.0	All oxygenates ND
6/24/04		25.61	6.11	83	ND<50	---	ND<0.50	ND<0.50	ND<0.50	1.1	ND<1.0	All oxygenates ND
7/27/04		23.17	8.55	130	ND<50	---	ND<0.50	ND<0.50	ND<0.50	1.51	ND<1.0	All oxygenates ND
8/26/04		21.70	10.02	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	All oxygenates ND
9/21/04		22.47	9.25	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	All oxygenates ND
10/19/04		22.47	9.25	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	4.6	All oxygenates ND
MW-7												
11/12/02	31.86	20.90	10.96	5,600	160	---	83	ND <0.5	14	129.9	5,700	TAME =450 TBA=1,600 Other oxygenates ND
11/26/02		22.40	9.46	1,900	ND <50	ND <170	0.90	ND <0.5	0.91	3.05	3,000	TAME =220 TBA=380 ETBE=6.2 Other oxygenates ND
12/10/02		21.86	10.00	1,600	ND <50	---	28	ND <0.5	7.0	ND <0.5	3,700	TAME =180 TBA=360 ETBE=5.6 Other oxygenates ND
12/23/02		21.74	10.12	2,900	ND <50	---	0.58	ND <0.5	0.87	0.57	6,000	TAME =350 TBA=750 ETBE=6.1 Other oxygenates ND
1/9/03		21.51	10.35	3,200	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	6,700	TAME =330 TBA=1,000 ETBE=6.7 Other oxygenates ND
1/30/03		21.78	10.08	3,000	ND <50	---	ND <0.25	ND <0.25	ND <0.25	ND <0.25	5,400	TAME =270 TBA=2,000 ETBE=6.7 TBF=2.9 Other oxygenates ND
3/12/03		21.84	10.02	1,000	ND <50	---	ND <0.25	ND <0.25	ND <0.25	ND <0.25	2,000	TAME =97 TBA=31 ETBE=2.7 Other oxygenates ND
4/17/03		27.67	4.19	590	ND<50	---	2.1	ND<0.50	ND<0.50	3.1	860	TAME =47 ETBE=2.0 Other oxygenates ND
5/14/03		27.65	4.21	450	ND<50	---	1.4	ND<0.50	0.53	0.82	1,500	TAME =79 ETBE=2.6 Other oxygenates ND
6/10/03		26.66	5.20	200	ND<50	---	0.54	ND<0.50	0.53	ND<0.50	190	TAME = 11 Other oxygenates ND
7/16/03		24.86	7.00	87	ND<50	---	1.6	ND<0.50	ND<0.50	ND<0.50	97	TAME = 4.6 Other oxygenates ND
8/15/03		23.98	7.88	130	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	170	TAME = 10 Other oxygenates ND
9/16/03		23.13	8.73	140	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	89	TAME = 4.7 Other oxygenates ND
10/15/03		22.47	9.39	230	ND<50	---	2.2	ND<0.50	0.5	ND<0.50	170	TAME = 13 Other oxygenates ND
11/19/03		22.11	9.75	61	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	28	TAME = 1.7 Other oxygenates ND

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HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

WELL/ Sample Date	Groundwater Measurements: Well Head Elevation (feet msl)	Groundwater Elevation (feet msl)	Depth to Water (feet)	Analytical Results: TPHg (µg/l)	TPHd (µg/l)	TPHmo (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Other Analytes (µg/l)
MW-7 Continued												
12/11/03		25.81	6.05	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	42	TAME = 2.9 Other oxygenates ND
1/14/04		28.61	3.25	52	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	62	TAME = 4.3 Other oxygenates ND
2/9/04		28.45	3.41	81	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	51	TAME = 3.5 Other oxygenates ND
3/10/04		28.08	3.78	ND<50	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	46	TAME = 2.4 Other oxygenates ND
4/14/04		27.25	4.61	55	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	35	TAME = 2.7 Other oxygenates ND
5/13/04		26.96	4.90	88	ND<50	---	1.4	ND<0.50	ND<0.50	ND<0.50	95	TAME = 6.7 Other oxygenates ND
6/24/04		25.29	6.57	180	ND<50	---	0.63	ND<0.50	ND<0.50	ND<0.50	190	TAME = 18 Other oxygenates ND
7/27/04		24.28	7.58	120	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	140	TAME = 11 Other oxygenates ND
8/26/04		23.49	8.37	170	ND<50	---	0.70	ND<0.50	ND<0.50	ND<0.50	170	TAME = 13 Other oxygenates ND
9/21/04		22.91	8.95	270	ND<50	---	0.54	ND<0.50	ND<0.50	ND<0.50	280	TAME = 38 Other oxygenates ND
10/19/04		22.78	9.08	65	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	90	TAME = 7.0 Other oxygenates ND
MW-8												
11/12/02	31.52	20.21	11.31	2,100	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	4,300	TAME =310 TBA=1,200 ETBE=14 Other oxygenates ND
11/26/02		19.62	11.90	830	ND <50	ND <170	4.2	ND <0.5	0.92	ND <0.5	1,200	TAME =73 TBA=710 ETBE=6.0 Other oxygenates ND
12/10/02		17.87	13.65	---	---	---	---	---	---	---	---	---
12/23/02		22.37	9.15	280	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	1,300	TAME =14 ETBE=3.9 Other oxygenates ND
1/9/03		26.15	5.37	120	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	170	TAME =8.5 TBA=56 ETBE=1.7 Other oxygenates ND
1/30/03		27.73	3.79	140	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	190	TAME =5.0 TBA=57 ETBE=2.3 Other oxygenates ND
3/12/03		24.09	7.43	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	4.8	All other oxygenates ND
4/17/03		27.50	4.02	75	ND<50		ND<0.50	ND<0.50	0.99	1.7	3.6	All other oxygenates ND
5/14/03		26.75	4.77	56	ND<50		ND<0.50	ND<0.50	ND<0.50	ND<0.50	3.8	All other oxygenates ND
6/10/03		26.32	5.20	330	59		ND<0.50	ND<0.50	ND<0.50	9	1.0	All other oxygenates ND
7/16/03		23.75	7.77	ND <50	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	All other oxygenates ND
8/15/03		22.47	9.05	ND <50	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	All other oxygenates ND
9/16/03		21.81	9.71	ND <50	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.7	All other oxygenates ND
10/15/03		20.86	10.66	ND <50	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.5	All other oxygenates ND
11/19/03		22.85	8.67	96	ND <50	---	ND<0.50	ND<0.50	ND<0.50	0.51	ND<1.0	All other oxygenates ND
12/11/03		25.50	6.02	ND <50	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	9.3	All other oxygenates ND
1/14/04		27.34	4.18	ND <50	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	49	All other oxygenates ND
2/9/04		27.56	3.96	ND <50	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	3.7	All other oxygenates ND
3/10/04		27.10	4.42	ND <50	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	All other oxygenates ND
4/14/04		27.23	4.29	210	ND <50	---	ND<0.50	ND<0.50	0.66	4.5	ND<1.0	All other oxygenates ND
5/13/04		26.49	5.03	ND <50	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	All other oxygenates ND
6/24/04		25.88	5.64	ND <50	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	All other oxygenates ND
7/27/04		23.90	7.62	62	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	3.7	All other oxygenates ND
8/26/04		23.24	8.28	ND <50	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	3.2	All other oxygenates ND
9/21/04		22.64	8.88	ND <50	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.3	All other oxygenates ND
10/19/04		22.65	8.87	ND <50	ND <50	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.6	All other oxygenates ND
PZ-1												
11/20/01	29.76	20.12	9.64	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <1.0	TAME ND<20 Other oxygenates ND
12/13/01		24.75	5.01	---	---	---	---	---	---	---	---	---
2/5/02		26.43	3.33	---	---	---	---	---	---	---	---	---
5/7/02		24.51	5.25	---	---	---	---	---	---	---	---	---
8/14/02		20.96	8.80	ND <50	---	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <1.0	Other oxygenates ND
11/12/02		19.53	10.23	---	---	---	---	---	---	---	---	---
5/14/03		25.06	4.70	---	---	---	---	---	---	---	---	---
7/16/03		22.74	7.02	---	---	---	---	---	---	---	---	---
8/15/03		21.57	8.19	---	---	---	---	---	---	---	---	---
11/19/03		20.53	9.23	---	---	---	---	---	---	---	---	---
2/9/04		26.69	3.07	---	---	---	---	---	---	---	---	---
3/10/04		---	---	---	---	---	---	---	---	---	---	---
4/14/04		---	---	---	---	---	---	---	---	---	---	---
5/13/04		24.73	5.03	---	---	---	---	---	---	---	---	---
6/24/04		22.82	6.94	---	---	---	---	---	---	---	---	---
8/26/04		20.86	8.90	---	---	---	---	---	---	---	---	---
10/19/04		---	---	---	---	---	---	---	---	---	---	---
OW-1												
11/20/01	29.64	---	---	---	---	---	---	---	---	---	---	---
2/5/02		24.09	5.55	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
5/7/02		25.53	4.11	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
8/14/02	32.63	24.48	8.15	ND <50	---	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
11/12/02		22.98	9.65	---	---	---	---	---	---	---	---	---
5/14/03		28.93	3.70	83	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND

TABLE 3: GROUNDWATER ELEVATION DATA AND GROUNDWATER ANALYTICAL RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

	Groundwater Measurements			Analytical Results								
WELL/ Sample Date	Well Head Elevation (feet msl)	Groundwater Elevation (feet msl)	Depth to Water (feet)	TPHg (µg/l)	TPHd (µg/l)	TPHmo (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Other Analytes (µg/l)
7/16/03		---	---	---	---	---	---	---	---	---	---	---
8/15/03		24.40	8.23	ND <50	---	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
11/9/03		23.43	9.20	ND <50	---	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
2/9/04		29.21	3.42	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
3/10/04		---	---	---	---	---	---	---	---	---	---	---
4/14/04		---	---	---	---	---	---	---	---	---	---	---
5/13/04		27.45	5.18	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	33	Other oxygenates ND
8/26/04		23.72	8.91	50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	43	Other oxygenates ND
10/19/04		---	---	---	---	---	---	---	---	---	---	---
OW-2												
11/20/01	29.95	---	---	---	---	---	---	---	---	---	---	---
2/5/02		24.97	4.98	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	35	TAME=3.2 Other oxygenates ND
5/7/02		25.03	4.92	55	ND <50	190	ND <0.50	ND <0.50	ND <0.50	ND <0.50	25	TAME=2.5 Other oxygenates ND
8/14/02	32.43	23.67	8.76	---	---	---	---	---	---	---	---	---
11/12/02		22.80	9.63	---	---	---	---	---	---	---	---	---
5/14/03		28.41	4.02	120	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1.2	Other oxygenates ND
7/16/03		---	---	---	---	---	---	---	---	---	---	---
8/15/03		24.28	8.15	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
11/19/03		23.34	9.09	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
2/9/04		29.00	3.43	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
3/10/04		---	---	---	---	---	---	---	---	---	---	---
4/14/04		---	---	---	---	---	---	---	---	---	---	---
5/13/04		27.29	5.14	58	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	66	Other oxygenates ND
8/26/04		23.54	8.89	93	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	76	Other oxygenates ND
10/19/04		---	---	---	---	---	---	---	---	---	---	---
OW-3												
11/20/01	28.92	19.94	8.98	---	---	---	---	---	---	---	---	---
2/5/02		24.53	4.39	16,000	410	---	770	830	270	890	5,800	TAME=560 Other oxygenates ND
5/7/02		24.24	4.68	42,000	440	ND <170	1,100	3,200	1,000	4,300	17,000	TBA=1,800 TAME =3,100 Other oxygenates ND
8/14/02	31.91	23.09	8.82	---	---	---	---	---	---	---	---	---
11/12/02		21.96	9.95	---	---	---	---	---	---	---	---	---
11/26/02		---	---	---	---	---	---	---	---	---	---	---
12/10/02		---	---	---	---	---	---	---	---	---	---	---
12/23/02		26.71	5.20	4,700	51	---	76	96	31	420	2,600	TAME=240 Other oxygenates ND
1/9/03		28.34	3.57	2,600	120	---	9.9	17	9.8	150	890	TBA=1,500 TAME =94 Other oxygenates ND
1/30/03		29.21	2.70	4,800	460	---	19	28	41	281	470	TBA=730 TAME =52 Other oxygenates ND
3/12/03		28.73	3.18	5,900	710	---	21	42	56	530	210	TBA=480 TAME =28 Other oxygenates ND
4/17/03		29.30	2.61	4,200	250	---	15	30	53	500	110	TBA=340 TAME =18 Other oxygenates ND
5/14/03		27.90	4.01	1,300	110	---	3.1	2.1	12	57	52	TBA=140 TAME =6.8 Other oxygenates ND
6/10/03		26.74	5.17	2,600	150	---	14	2.5	23	92	150	TBA = 1,900 TAME = 110 Other oxygenates ND
7/16/03		25.18	6.73	1,900	180	---	8.1	3.2	27	106	490	TBA = 620 TAME = 43 Other oxygenates ND
8/15/03		24.13	7.78	3,300	---	---	62	51	42	164	1,900	TBA = 1,200 TAME = 220 Other oxygenates ND
9/16/03		23.28	8.63	4,600	---	---	130	140	50	233	1,200	TBA = 440 TAME =190 Other oxygenates ND
10/15/03		22.63	9.28	3,600	---	---	69	85	17	158	720	TBA = 260 TAME =230 Other oxygenates ND
11/19/03		23.19	8.72	2,700	---	---	27	39	16	90	530	TBA = 170 TAME =75 Other oxygenates ND
12/11/03		26.14	5.77	3,600	180	---	49	160	39	272	ND<150	TBA = 57 TAME =30 Other oxygenates ND
1/14/04		28.82	3.09	4,300	160	---	35	160	66	540	48	TAME =18 Other oxygenates ND
2/9/04		28.55	3.36	3,700	160	---	6.6	25	18	280	61	TAME =14 Other oxygenates ND
3/10/04		28.21	3.70	2,100	93	---	3.7	18	12	127	28	TBA = 50 TAME = 6.7 Other oxygenates ND
4/14/04		27.50	4.41	4,300	150	---	18	52	45	300	96	TBA = 120 TAME = 29 Other oxygenates ND
5/13/04		27.07	4.84	3,200	190	---	11	39	36	269	62	TBA = 67 TAME = 17 Other oxygenates ND
6/24/04		25.37	6.54	2,300	280	---	27	45	30	262	440	TBA = 1,200 TAME = 100 Other oxygenates ND
7/27/04		24.27	7.64	3,400	220	---	53	39	30	203	720	TBA = 1,400 TAME = 140 Other oxygenates ND
8/26/04		23.51	8.40	1,500		---	26	23	17	187	68	TBA = 41 TAME = 23 Other oxygenates ND
9/21/04		22.95	8.96	2,700	---	---	70	73	43	277	180	TAME = 58 Other oxygenates ND
10/19/04		22.88	9.03	3,600	1,200	---	74	59	43	620	71	TAME = 35 Other oxygenates ND

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WELL/ Sample Date	Groundwater Measurements: Well Head Elevation (feet msl)	Groundwater Elevation (feet msl)	Depth to Water (feet)	Analytical Results: TPHg (µg/l)	TPHd (µg/l)	TPHmo (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Other Analytes (µg/l)
OW-4												
11/20/01	28.82	19.70	9.12	---	---	---	---	---	---	---	---	---
2/5/02		25.21	3.61	23,000	1,200	---	480	890	1,500	2,360	820	TAME=110 Other oxygenates ND
5/7/02		24.47	4.35	30,000	1,200	ND <170	480	520	1,800	3,200	570	TAME=170 Other oxygenates ND
8/14/02	31.79	23.73	8.06	24,000	ND <62	ND <210	240	140	3,100	1,382	120	TAME=24 Other oxygenates ND
11/12/02		22.26	9.53	---	---	---	---	---	---	---	---	---
11/26/02		---	---	---	---	---	---	---	---	---	---	---
12/10/02		---	---	---	---	---	---	---	---	---	---	---
12/23/02		25.95	5.84	560	ND <50	---	ND <0.5	ND <0.5	29	22.1	260	TAME=11 ETBE=2.8 Other oxygenates ND
1/9/03		27.43	4.36	2,800	590	---	7.6	4	83	86	150	TAME=19 TBA=310 ETBE=1.4 Other oxygenates ND
1/30/03		28.77	3.02	190	ND<50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	130	TAME=3.9 TBA=1,100 ETBE=1.5 Other oxygenates ND
3/12/03		28.42	3.37	1,800	300	---	ND <0.5	ND <0.5	30	27	7.9	TBA=72 Other oxygenates ND
4/17/03		29.25	2.54	2,200	390	---	ND<0.50	0.60	91	90	ND<1.0	Other oxygenates ND
5/14/03		28.50	3.29	290	ND<50	---	ND<0.50	ND <0.50	3.5	3.7	4.0	Other oxygenates ND
6/10/03		27.04	4.75	6,400	1,600	---	0.88	2.8	160	182	ND<5.0	Other oxygenates ND
7/16/03		25.43	6.36	1,900	170	---	ND<0.50	1.3	110	97	ND<1.0	Other oxygenates ND
8/15/03		24.41	7.38	560	---	---	ND<0.50	ND<0.50	47	17	ND<1.0	Other oxygenates ND
9/16/03		---	dry	---	---	---	---	---	---	---	---	---
10/15/03		---	dry	---	---	---	---	---	---	---	---	---
11/19/03		---	dry	---	---	---	---	---	---	---	---	---
12/11/03		25.72	6.07	1,600	270	---	6.2	0.99	51	38	ND<50	Other oxygenates ND
1/14/04		29.14	2.65	2,000	110	---	ND<0.50	0.52	100	54	35	Other oxygenates ND
2/9/04		29.03	2.76	2,500	190	---	ND<0.50	ND<0.50	83	61	ND<4.0	Other oxygenates ND
3/10/04		28.71	3.08	790	80	---	ND<0.50	ND<0.50	43	20	ND<1.0	Other oxygenates ND
4/14/04		27.69	4.10	4,700	370	---	ND<0.50	ND<0.50	160	124	ND<1.0	Other oxygenates ND
5/13/04		27.21	4.58	1,500	ND<50	---	ND<0.50	ND<0.50	81	36	ND<1.0	Other oxygenates ND
6/24/04		24.97	6.82	2,100	160	---	ND<0.50	1.2	94	47	ND<1.0	Other oxygenates ND
7/27/04		24.34	7.45	2,100	150	---	ND<0.50	ND<0.50	100	47	2.3	Other oxygenates ND
8/26/04		23.61	8.18	4,000	54	---	ND<0.50	ND<0.50	57	53	ND<1.0	Other oxygenates ND
9/21/04		---	dry	---	---	---	---	---	---	---	---	---
10/19/04		22.98	8.81	500	180	---	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	Other oxygenates ND
OW-5												
11/20/01	28.76	19.63	9.13	---	---	---	---	---	---	---	---	---
2/5/02		25.54	3.22	1,600	110	---	21	0.7	41	4.8	210	TAME=21 TBA=24 Other oxygenates
5/7/02		23.70	5.06	6,800	450	ND <170	280	ND <25	480	56	640	TAME=100 Other oxygenates ND
8/14/02	31.75	23.52	8.23	Unable to sample due to presence of free product (0.8 feet thick)						---	---	---
11/12/02		22.26	9.49	---	---	---	---	---	---	---	---	---
1/9/03		27.78	3.97	390	77	---	3.5	0.95	1.7	3.5	150	TBA=82 TAME=20 Other oxygenates ND
1/30/03		29.22	2.53	3,000	230	---	4.7	ND<0.50	0.56	0.63	4,400	TBA=730 TAME=210 ETBE=1.4 Other oxygenates ND
3/12/03		28.49	3.26	1,000	120	---	ND <0.5	ND<0.50	0.94	ND <0.5	1,900	TBA=22 TAME=99 Other oxygenates ND
4/17/03		27.49	4.26	800	91	---	8.6	ND <0.50	15	2.0	1,100	TBA=35 TAME=98 Other oxygenates ND
5/14/03		26.49	5.26	210	56	---	2.5	ND <0.50	1.7	1.3	440	TAME=27 Other oxygenates ND
6/10/03		26.70	5.05	450	ND <50	---	11	ND <0.50	1.5	ND <0.5	330	TAME = 25 TBA = 39 Other oxygenates ND
7/16/03		24.89	6.86	170	ND <50	---	2.7	ND <0.50	2.4	ND <0.5	95	TAME = 7.4 TBA = 36 Other oxygenates ND
8/15/03		24.05	7.70	210	---	---	ND <0.50	ND <0.50	ND <0.50	0.51	210	TAME = 14 TBA = 140 Other oxygenates ND
9/16/03		---	dry	---	---	---	---	---	---	---	---	---
10/15/03		---	dry	---	---	---	---	---	---	---	---	---
11/19/03		---	dry	---	---	---	---	---	---	---	---	---
12/11/03		25.85	5.90	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.5	6.7	Other oxygenates ND
1/14/04		28.87	2.88	52	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.5	64	TAME=1.5 Other oxygenates ND
2/9/04		28.57	3.18	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1.4	Other oxygenates ND
3/10/04		28.34	3.41	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
4/14/04		27.54	4.21	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	1.4	Other oxygenates ND
5/13/04		26.90	4.85	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	Other oxygenates ND
6/24/04		25.22	6.53	ND <50	ND <50	---	0.60	ND <0.50	ND <0.50	ND <0.50	5.5	Other oxygenates ND
7/27/04		24.13	7.62	ND <50	ND <50	---	0.65	ND <0.50	ND <0.50	ND <0.50	18	TAME = 2.2 TBA = 68 Other oxygenates ND
8/26/04		23.53	8.22	57	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	45	TAME = 3.9 Other oxygenates ND
9/21/04		---	dry	---	---	---	---	---	---	---	---	---
10/19/04		23.00	8.75	62	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	4.3	Other oxygenates ND

TABLE 3: GROUNDWATER ELEVATION DATA AND GROUNDWATER ANALYTICAL RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

WELL/ Sample Date	Groundwater Measurements: Well Head Elevation (feet msl)	Groundwater Elevation (feet msl)	Depth to Water (feet)	Analytical Results: TPHg (µg/l)	TPHd (µg/l)	TPHmo (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Other Analytes (µg/l)
Domestic Well, Totem Motel												
3/20/95	26.27	---	---	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	---	---
6/11/99		---	---	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <3.0	---
8/18/99		---	---	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <3.0	---
12/12/99		23.37	2.90	ND <50	ND <67	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	Other oxygenates ND
2/15/00		---	--	ND <50	--	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	Other oxygenates ND
5/30/00		---	--	ND <50	--	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	Other oxygenates ND
8/29/00		19.07	7.20	ND <50	--	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	Other oxygenates ND
11/8/00		19.27	7.00	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	Other oxygenates ND
2/7/01		20.96	5.31	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	Other oxygenates ND
4/24/01		21.26	5.01	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	Other oxygenates ND
8/8/01		---	---	ND <50	ND <50	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	**TBA =60** Other oxygenates ND
11/13/01		---	---	ND <50	**57**	---	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	All oxygenates ND
11/20/01		19.02	7.25	---	---	---	---	---	---	---	---	---
2/5/02		24.76	1.51	ND <50	ND <50	---	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	All oxygenates ND
5/7/02		21.67	4.60	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	All oxygenates ND
8/14/02		---	---	---	---	---	---	---	---	---	---	---
11/12/02		18.03	8.24	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	All oxygenates ND
5/14/03		23.64	2.63	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	All oxygenates ND
11/19/03		18.68	7.59	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	All oxygenates ND
2/9/04		25.04	1.23	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
3/10/04		---	---	---	---	---	---	---	---	---	---	---
4/14/04		---	---	---	---	---	---	---	---	---	---	---
5/13/04		21.93	4.34	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
8/26/04		18.77	7.50	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <1.0	All oxygenates ND
Trailer Park Domestic Well												
5/7/02		---	---	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	All oxygenates ND
8/15/03		---	6.98	ND <50	ND <50	ND <170	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	All oxygenates ND

Reference B.M. - Manhole cover at Harding & Douglas Streets; established by tie to County BM "E-6" (elev. 33.57 ft msl). Elevations set 5/30/95 by Michael Young & Associates, Crescent

TABLE 4: CHROMIUM ANALYSES RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

WELL/ Sample Date	Total Chromium µg/L	Dissolved Chromium µg/L	Hexavalent Chromium µg/L
MW1			
9/16/2003	---	3.9	---
10/15/2003	---	ND<10	---
11/19/2003	---	ND<10	---
12/11/2003	---	ND<10	---
1/14/2004	---	ND<10	---
2/9/2004	---	4.9	---
3/10/2004	---	ND<10	---
4/14/2004	---	ND<10	---
5/13/2004	---	ND<10	---
8/26/2004	---	ND<10	---
9/21/2004	---	ND<10	---
10/19/2004	---	ND<10	---
MW2			
8/15/2003	12	ND<10	ND<10
9/16/2003	---	35	---
10/15/2003	---	26	---
11/19/2003	---	57	---
12/11/2003	---	22	---
1/14/2004	---	23	---
2/9/2004	---	18	---
3/10/2004	---	25	---
4/14/2004	---	29	---
5/13/2004	---	31	---
8/26/2004	---	40	---
9/21/2004	---	56	---
10/19/2004	---	48	---
MW4			
8/15/2003	190	ND<10	ND<10
9/16/2003	---	1.0	---
10/15/2003	---	ND<10	---
11/19/2003	---	ND<10	---
12/11/2003	---	ND<10	---
1/14/2004	---	ND<10	---
2/9/2004	---	7.7	---
3/10/2004	---	ND<10	---
4/14/2004	---	ND<10	---
5/13/2004	---	ND<10	---
8/26/2004	---	ND<10	---
9/21/2004	---	ND<10	---
10/19/2004	---	ND<10	---

TABLE 4: CHROMIUM ANALYSES RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

WELL/ Sample Date	Total Chromium µg/L	Dissolved Chromium µg/L	Hexavalent Chromium µg/L
MW5			
8/8/2003	---	---	32
8/15/2003	67	57	64
9/16/2003	---	43	---
10/15/2003	---	61	---
11/19/2003	---	72	---
12/11/2003	---	55	---
1/14/2004	---	26	---
2/9/2004	---	44	---
3/10/2004	---	81	---
4/14/2004	---	39	---
5/13/2004	---	18	---
8/26/2004	---	ND<10	---
9/21/2004	---	ND<10	---
10/19/2004	---	ND<10	---
MW6			
9/16/2003	---	---	ND<1.0
10/15/2003	---	ND<10	---
11/19/2003	---	ND<10	---
12/11/2003	---	ND<10	---
1/14/2004	---	ND<10	---
2/9/2004	---	1.7	---
3/10/2004	---	ND<10	---
4/14/2004	---	ND<10	---
5/13/2004	---	ND<10	---
8/26/2004	---	ND<10	---
9/21/2004	---	ND<10	---
10/19/2004	---	ND<10	---
MW7			
9/16/2003	---	---	ND<1.0
10/15/2003	---	ND<10	---
11/19/2003	---	ND<10	---
12/11/2003	---	ND<10	---
1/14/2004	---	ND<10	---
2/9/2004	---	1.3	---
3/10/2004	---	ND<10	---
4/14/2004	---	ND<10	---
5/13/2004	---	ND<10	---
8/26/2004	---	ND<10	---
9/21/2004	---	ND<10	---
10/19/2004	---	ND<10	---

TABLE 4: CHROMIUM ANALYSES RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

WELL/ Sample Date	Total Chromium µg/L	Dissolved Chromium µg/L	Hexavalent Chromium µg/L
MW8			
8/15/2003	65	59	62
9/16/2003	---	50	---
10/15/2003	---	98	---
11/19/2003	---	ND<10	---
12/11/2003	---	ND<10	---
1/14/2004	---	ND<10	---
2/9/2004	---	260	---
3/10/2004	---	480	---
4/14/2004	---	120	---
5/13/2004	---	56	---
8/26/2004	---	ND<10	---
9/21/2004	---	ND<10	---
10/19/2004	---	ND<10	---
OW3			
9/16/2003	---	2.5	---
12/11/2003	---	ND<10	---
1/14/2004	---	ND<10	---
2/9/2004	---	2.4	---
3/10/2004	---	ND<10	---
4/14/2004	---	ND<10	---
5/13/2004	---	ND<10	---
8/26/2004	---	1,600	---
10/19/2004	---	ND<10	---
OW4			
12/11/2003	---	ND<10	---
1/14/2004	---	ND<10	---
2/9/2004	---	1.6	---
3/10/2004	---	12	---
4/14/2004	---	ND<10	---
5/13/2004	---	ND<10	---
8/26/2004	---	ND<10	---
10/19/2004	---	ND<10	---
OW5			
12/11/2003	---	ND<10	---
1/14/2004	---	ND<10	---
2/9/2004	---	2.2	---
3/10/2004	---	ND<10	---
4/14/2004	---	ND<10	---
5/13/2004	---	ND<10	---
8/26/2004	---	ND<10	---
10/19/2004	---	ND<10	---
PZ1			
8/8/2003	---	---	ND<10

TABLE 4: CHROMIUM ANALYSES RESULTS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

WELL/ Sample Date	Total Chromium µg/L	Dissolved Chromium µg/L	Hexavalent Chromium µg/L
SP3D			
8/15/2003	460	400	---
DW			
8/26/2004	---	ND<10	---

TABLE 5: RESULTS OF VAPOR SAMPLE ANALYSIS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

		Analytical Results					
	Date	Benzene	Toluene	Ethylbenzene	m,p-xylene	o-xylene	MTBE
VP-1	11/26/2002	8,600	240	26,000	16,000	640	61,000
	2/12/03	---	---	---	---	---	---
	3/12/03	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	6/10/03	ND<18	ND<18	ND<18	ND<18	ND<18	14,000
	9/30/03	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	33
	10/29/03	ND<5.0	8.4	ND<5.0	5.7	ND<5.0	28
	1/28/04	ND<5.0	6.5	ND<5.0	ND<5.0	ND<5.0	21
	2/9/04	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	15
	5/13/04	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	6.8
	9/21/04	7.3	ND<5.0	ND<5.0	ND<5.0	ND<5.0	6.5
VP-2	11/26/2002	10,000	120,000	36,000	140,000	36,000	98,000
	2/12/03	ND<5.0	7.3	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	3/12/03	ND<5.0	17	ND<5.0	7.1	7.8	1,800
	6/10/03	ND<20	ND<20	ND<20	ND<20	ND<20	13,000
	9/30/03	ND<5.0	ND<5.0	15	51	ND<5.0	91
	10/29/03	ND<500	ND<500	ND<500	ND<500	ND<500	560
	1/28/04	ND<5.0	9.6	ND<5.0	ND<5.0	ND<5.0	7.1
	2/9/04	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	23
	5/13/04	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	45
	9/21/04	ND<5.0	9.2	ND<5.0	ND<5.0	ND<5.0	65
VP-3	11/26/2002	56	660	510	1,800	450	ND<5.0
	2/12/03	ND<5.0	10	ND<5.0	5.5	ND<5.0	ND<5.0
	3/12/03	ND<5.0	6.6	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	6/10/03	ND<5.0	6.3	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	9/30/03	ND<5.0	5.8	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	10/29/03	ND<5.0	8.1	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	1/28/04	---	---	---	---	---	---
	2/9/04	---	---	---	---	---	---
	5/13/04	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	9/21/04	ND<5.0	5.8	ND<5.0	ND<5.0	ND<5.0	ND<5.0
VP-4	11/26/2002	5,800	670	610	1,100	ND<500	ND<500
	2/12/03	ND<5.0	16	ND<5.0	ND<5.0	ND<5.0	5.6
	3/12/03	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	6/10/03	ND<5.0	7.6	ND<5.0	5.0	ND<5.0	ND<5.0
	9/30/03	ND<5.0	8.5	ND<5.0	6.5	ND<5.0	ND<5.0
	10/29/03	ND<5.0	7.4	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	1/28/04	---	---	---	---	---	---
	2/9/04	---	---	---	---	---	---
	5/13/04	ND<5.0	10	ND<5.0	17	ND<5.0	ND<5.0
	9/21/04	ND<5.0	7.5	ND<5.0	ND<5.0	ND<5.0	ND<5.0

TABLE 5: RESULTS OF VAPOR SAMPLE ANALYSIS
HPI / Crescent City Shell, PFP; LACO Project No. 5282.01
1006 N. Highway 101, Crescent City, CA; Case No. 1TDN026

		Analytical Results					
	Date	Benzene	Toluene	Ethylbenzene	m,p-xylene	o-xylene	MTBE
VP-5	11/26/2002	25	140	170	450	100	ND<5.0
	2/12/03	ND<5.0	18	ND<5.0	ND<5.0	ND<5.0	6.0
	3/12/03	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	6/10/03	ND<5.0	6.1	ND<5.0	6.4	ND<5.0	31
	9/30/03	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	10/29/03	ND<5.0	6.4	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	1/28/04	---	---	---	---	---	---
	2/9/04	---	---	---	---	---	---
	5/13/04	ND<5.0	5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	9/21/04	ND<5.0	5.2	ND<5.0	ND<5.0	ND<5.0	ND<5.0
VP-6	11/26/2002	ND<5.0	32	30	82	19	17
	2/12/03	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	3/12/03	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	6/10/03	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	9/30/03	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	10/29/03	---	---	---	---	---	---
	1/28/04	---	---	---	---	---	---
	2/9/04	---	---	---	---	---	---
	5/13/04	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
	9/21/04	ND<5.0	5.4	ND<5.0	ND<5.0	ND<5.0	ND<5.0

CHART 1: COMBINED TPH, BENZENE, and MTBE CONCENTRATIONS IN GROUNDWATER IN MW-1
PFP Crescent City Shell; LACO No. 5282.01
Case No. 1TDN026

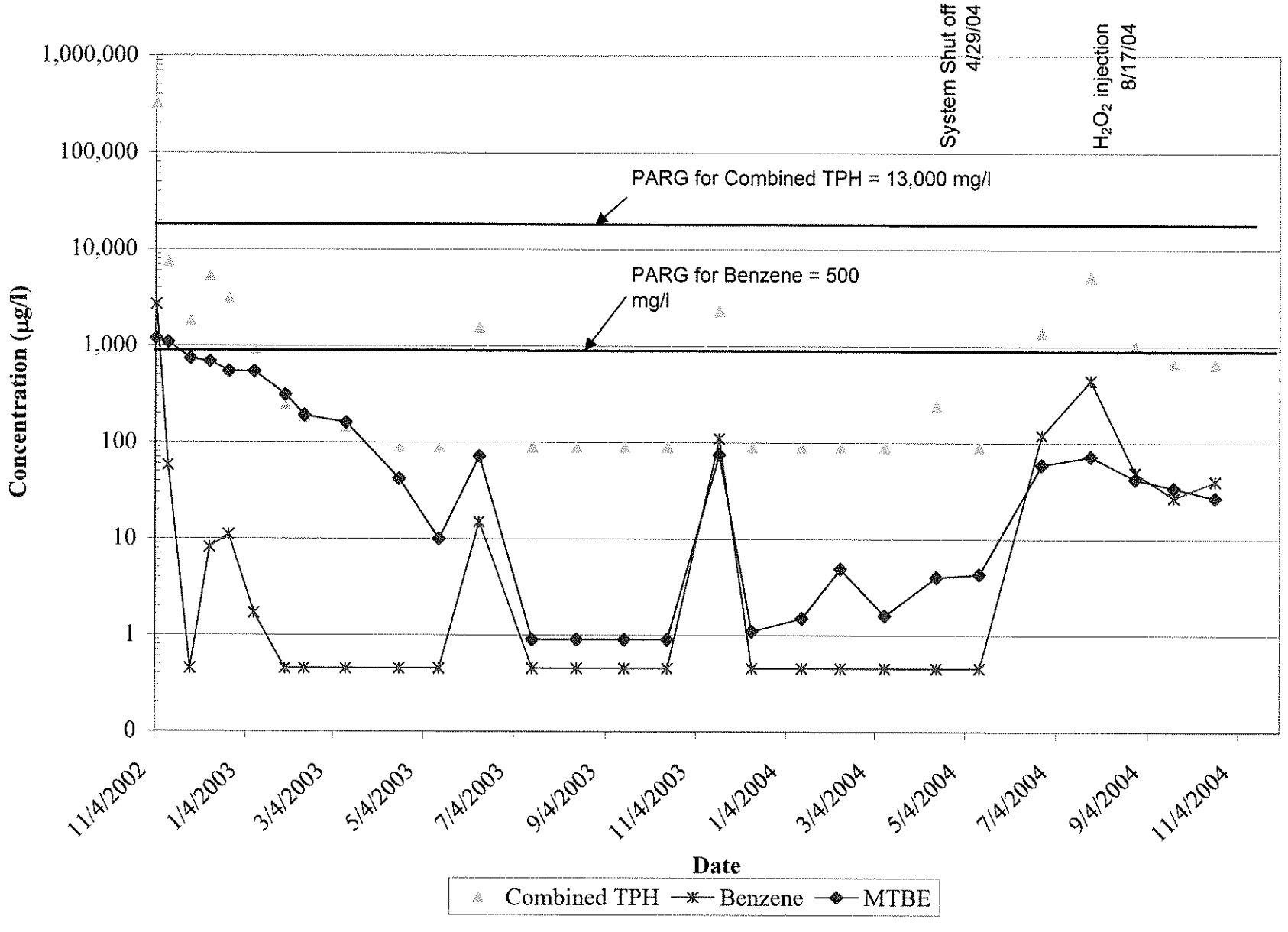


CHART 2: TPHg, TPHd, BENZENE, and MTBE CONCENTRATIONS IN GROUNDWATER IN MW-2
PFP Crescent City Shell; LACO No. 5282.01
Case No. 1TDN026

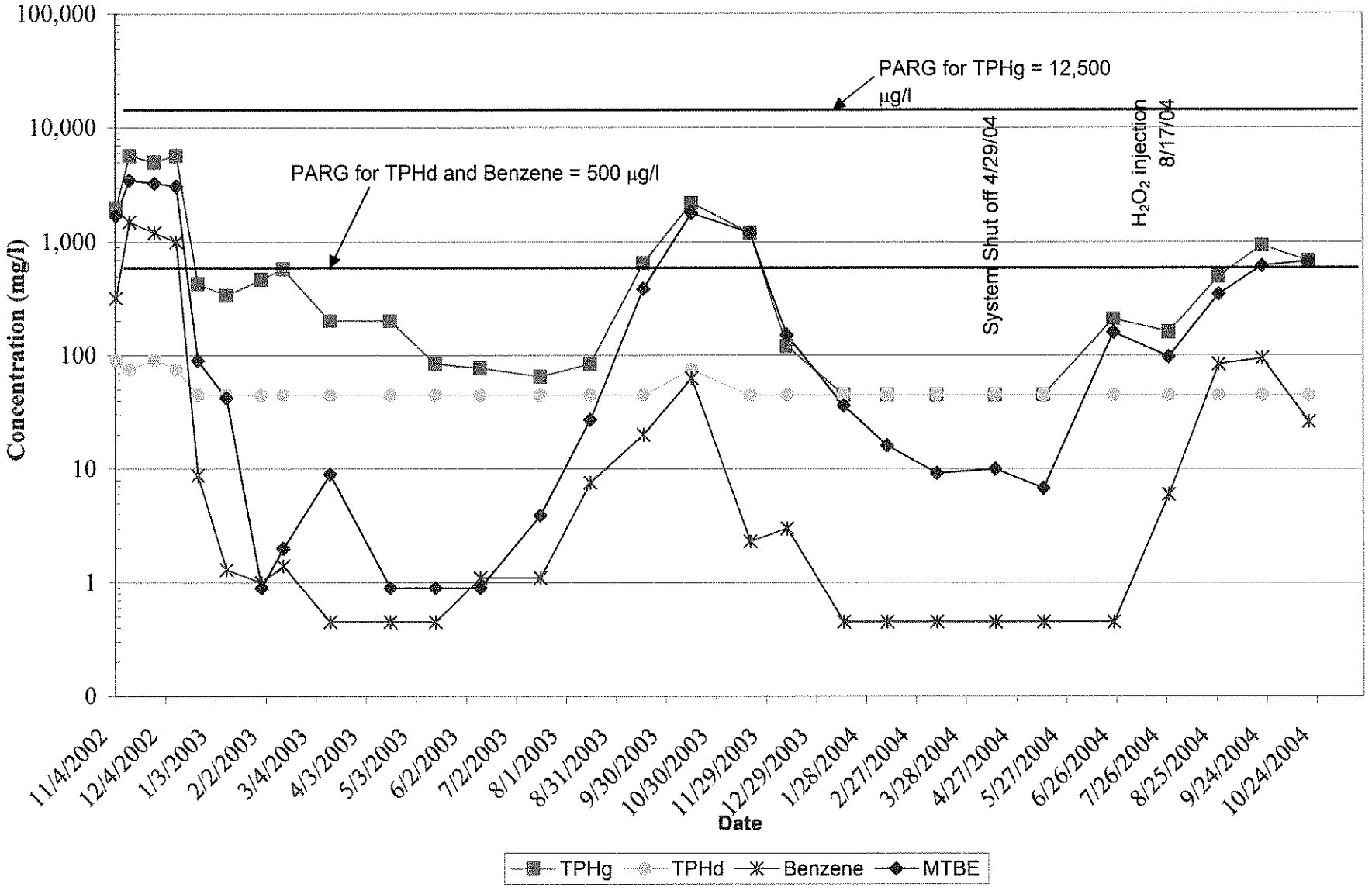


CHART 3: TPHg, BENZENE, and MTBE CONCENTRATIONS IN GROUNDWATER IN MW-5
PFP Crescent City Shell; LACO No. 5282.01
Case No. 1TDN026

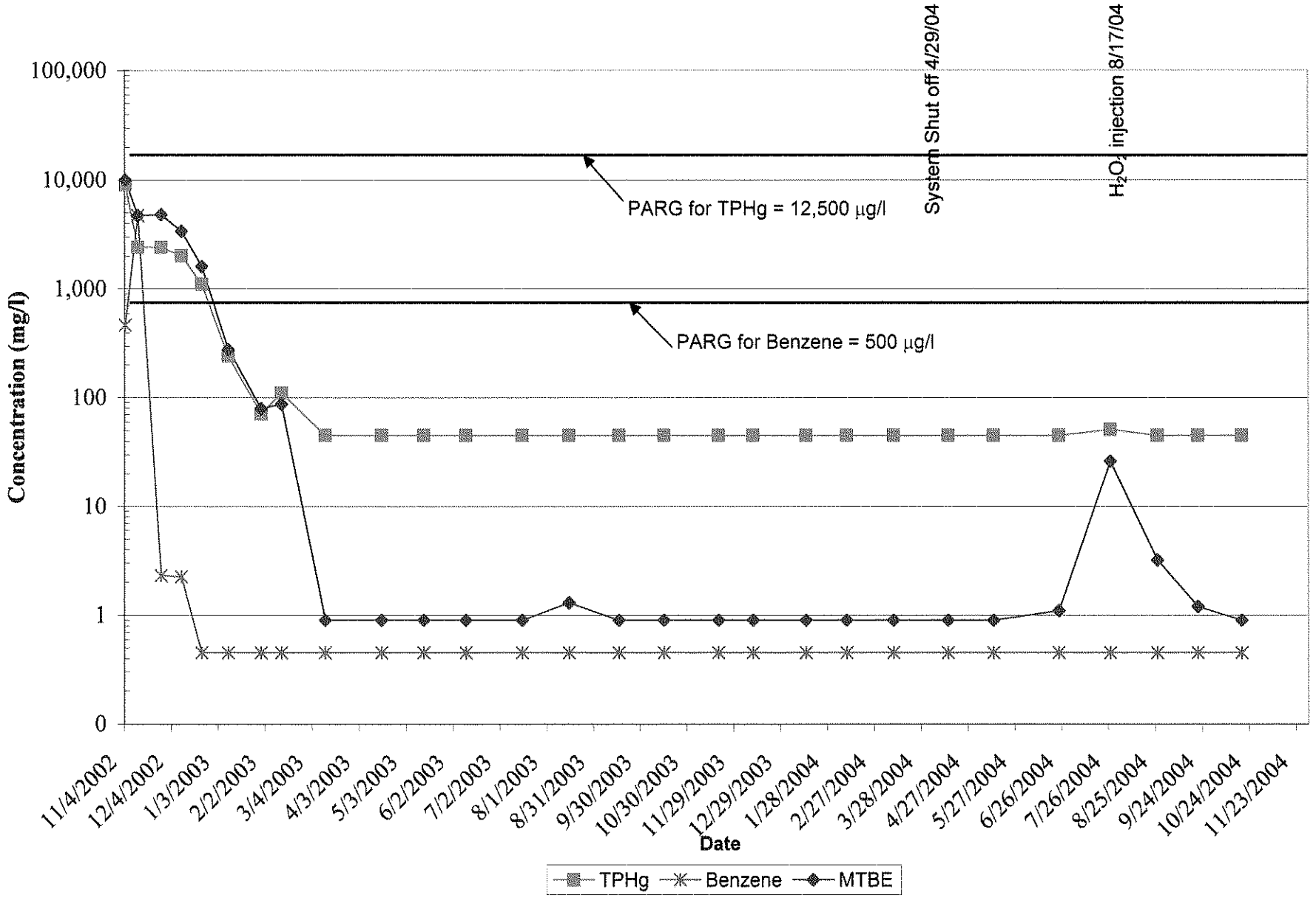


CHART 4: TPHg, TPHd, BENZENE, and MTBE CONCENTRATIONS IN GROUNDWATER IN MW-6
PFP Crescent City Shell; LACO No. 5282.01
Case No. 1TDN026

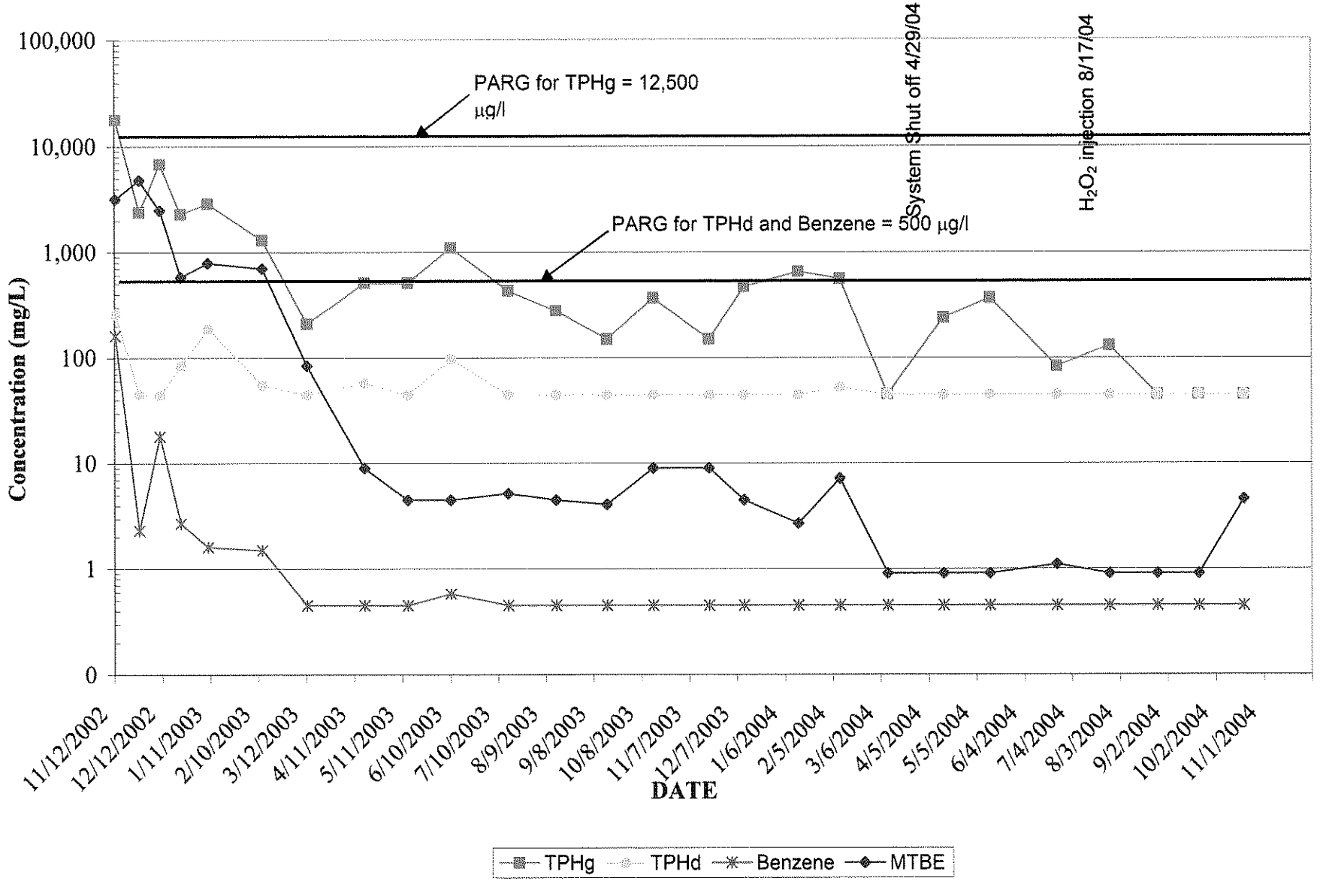


CHART 5: TPHg, BENZENE, and MTBE CONCENTRATIONS IN GROUNDWATER IN MW-7
PFP Crescent City Shell; LACO No. 5282.01
Case No. 1TDN026

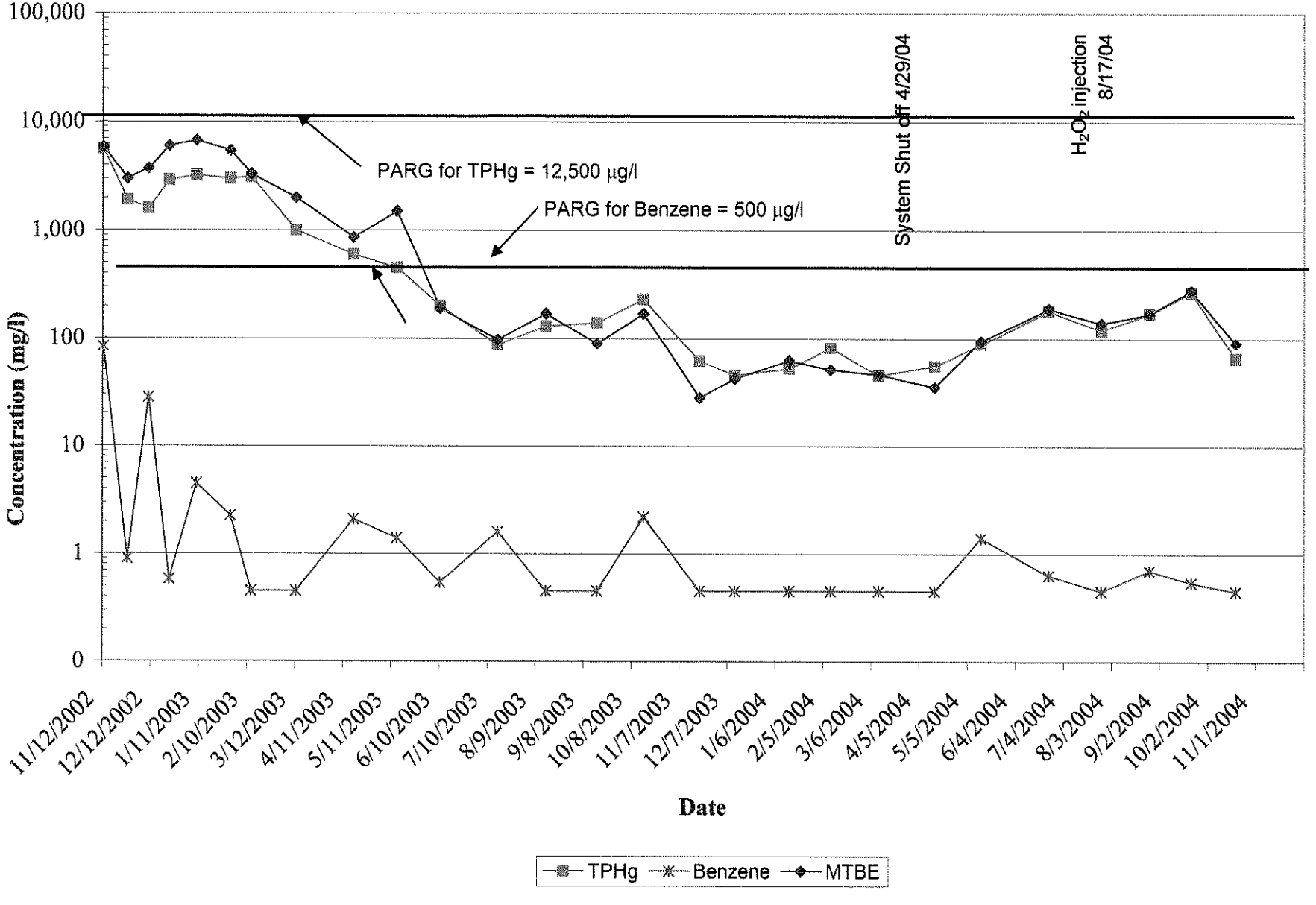
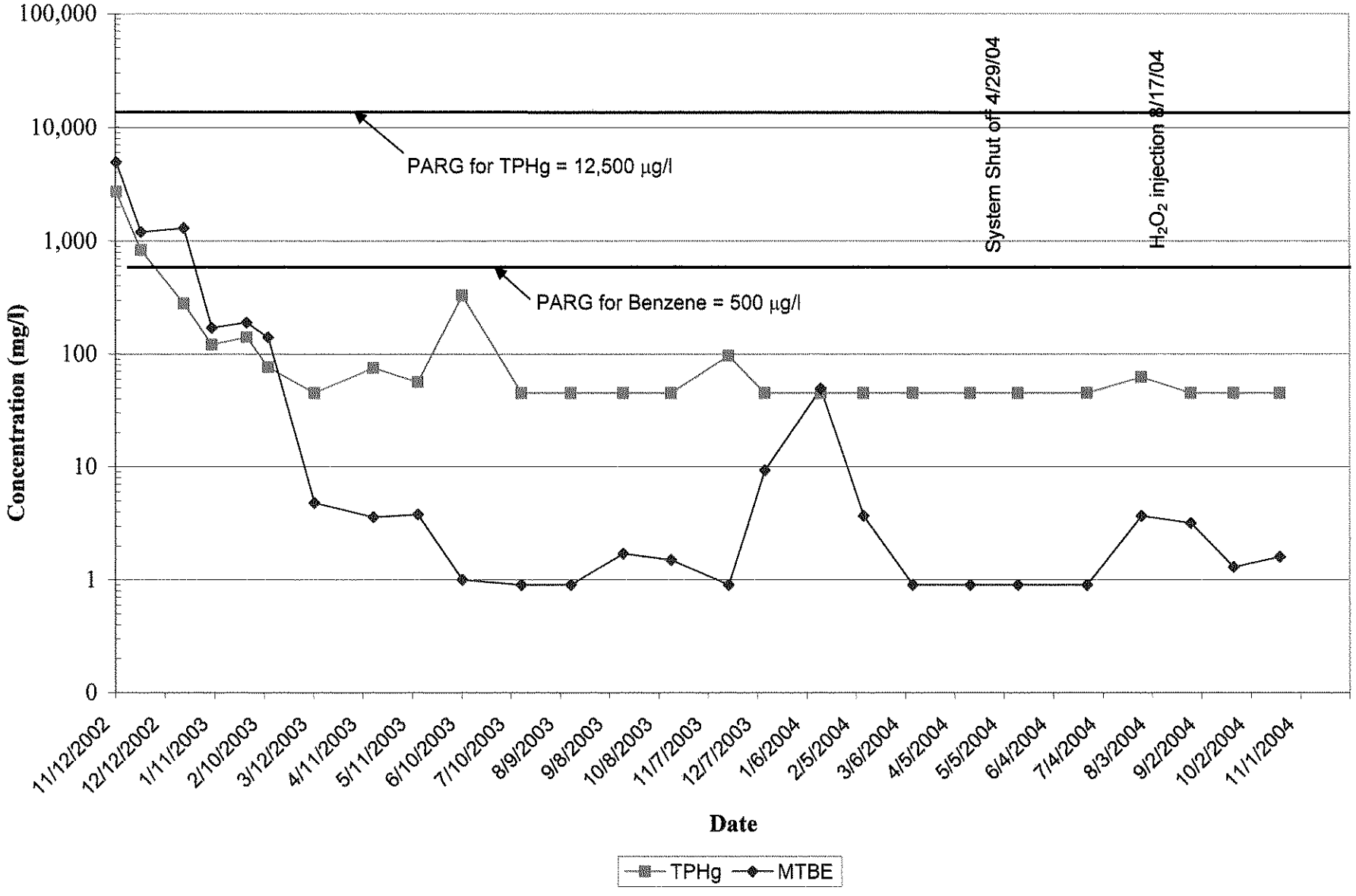


CHART 6: TPHg and MTBE CONCENTRATIONS IN GROUNDWATER IN MW-8
PFP Crescent City Shell; LACO No. 5282.01
Case No. 1TDN026



Attachment 1

PROJECT CHRONOLOGY

Humboldt Petroleum, Incorporated, Crescent City Shell
LACO ASSOCIATES, Pay-for-Performance
Project No. 5882.01, Case No. 1TDN026

October 7-11, 2002	Lake's Well Drilling (Lake's) and LACO ASSOCIATES (LACO) installed 16 sparge points in nine sparge wells.
October 9, 2002	LACO and a representative of the California Regional Water Quality Control Board (NCRWQCB) collected the initial baseline split samples. They were submitted to North Coast Laboratories (NCL) and Alpha Analytical for analysis of the contaminants of concern (COCs).
October 10-11, 2002	Lake's and LACO installed the first three vapor monitoring points.
October 11-18, 2002	Julien Construction installed the distribution network and control shed.
October 11, 2002	Northridge Electrical began the installation of the electrical service to the sparge system.
October 18, 2002	Northridge Electrical made the final connections of the electrical system and installed the outlets and meter in the control shed.
November 4, 2002	LACO and a representative of the NCRWQCB collected follow-up split samples of monitoring wells MW1, MW2, and MW5. They were submitted to NCL and Alpha Analytical for analysis. Later in the day, the generator panels were delivered and installed in the shed. The sparge points were connected, a pressure test was performed, and the system was operational.
November 7, 2002	Lake's and LACO installed three additional monitoring wells, to be paired with the shallow wells OW-3 through OW-5. These wells were requested by the NCRWQCB following the observation that the shallow wells frequently ran dry in low groundwater months.
November 8, 2002	Lake's and LACO installed the final three vapor monitoring points.
November 12, 2002	LACO sampled the newly installed monitoring wells under the observation of a representative of the Del Norte County Department of Environmental Health (DNCDEH), who also observed the operation of the system.
November 26, 2002	LACO performed systems check and sample collection. A LACO technician reported Unit 2 station pressures between 10 and 20 pounds per square inch (psi).
December 8, 2002	LACO performed systems check. Oxygen booster for Unit 1 was installed and turned on by a LACO technician. Solenoid on port 8, Unit 2 was discovered to be intermittently staying open.
December 10, 2002	LACO performed systems check and sample collection.
December 26, 2002	LACO performed systems check and sample collection. LACO technician still reported low pressures in Unit 2.
January 9, 2003	LACO performed systems check and sample collection. LACO technician discovered Unit 1 was off since last visit. Unit 1 is turned back on. The oxygen booster for Unit 2 is installed. A crack in the air compressor piston for Unit 2 was discovered. The air compressor was removed and Unit 2 turned off.

January 16, 2003	LACO performed systems check. LACO technician installed the new air compressor for Unit 2 and turned on the oxygen booster. The pressure in ports on Unit 2 returned to the normal range (29 to 41 psi).
January 21, 2003	LACO performed systems check. LACO discovered run time clock for Unit 2 has not been working since approximately December 18, 2002. The run time error was caused by improper setting on the current sensing relay. No problems discovered with the rest of the system. Current relay was reset to its operational range and the dial was taped in place.
January 30, 2003	LACO performed systems check and LACO and a representative of the NCRWQCB collected split samples for the 25 percent milestone. They were submitted to NCL and Alpha Analytical for analysis of the COCs.
February 12, 2003	LACO performed systems check and collected performance monitoring samples. This event coincided with the quarterly sampling for the remainder of the wells associated with this site. Additionally, this event marks the transition to monthly sampling for the Pay-for-performance (PFP) project wells. While running the pressure test for the ozone panels, the technician noted that Unit 2 was not receiving any power. The run time clock indicated that the short circuit occurred February 7, 2003.
February 13, 2003	A LACO senior technician visited the site to diagnose the reason for the lack of power in Unit 2. It was determined that the main power receptacle into the unit had experienced a short circuit. The receptacle was dismantled, and a replacement part was ordered.
February 14, 2003	LACO technicians replaced the receptacle and performed a pressure test. During the pressure test, tubing into port 5, Unit 1 sheared off after being bumped. The damaged section was replaced. Cracked tubing between the backflow valve and the well head connection for sparge point 2S was noticed after inspection prompted by abnormally high pressure during the Unit 2 pressure test. The section of tubing was replaced and the pressure test proceeded normally. Both units were left up and running.
March 3-4, 2003	Lake's and LACO installed three continuous core borings to 16 feet bellow ground surface (bgs) for the collection of soil samples. Hydropunch borings were installed adjacent to each continuous core, with groundwater samples collected from water-bearing zones identified in the continuous cores. Monitoring wells MW6 through MW8 were redeveloped due to anomalous depth-to-water (DTW) readings. The sparge system was shut off during the installations. The crew performed a pressure test at the end of the field activities. All readings were within the normal range.
March 7, 2003	Humboldt Petroleum, Incorporated (HPI) performed periodic vacuum tests of the vapor recovery system, and found that the lines were not holding pressure. It was determined that one of the borings had compromised the vapor recovery line. The station was shut down pending repairs.
March 10-11, 2003	Beacom Construction began repair of the vapor recovery line. LACO personnel were onsite to monitor activities. A small hole in the vapor recovery line was found to have been caused by the boring installation. It was able to be repaired with a patch, and the crew worked on it until it was

	completely sealed, at the end of the first day. The second day was spent performing repairs to the secondary containment system for the product piping lines into the dispensers. (Not sure which dispenser). The ozone system was shut down at the start of work on March 10 and restarted at the end of work on March 11, 2003.
March 12, 2003	LACO performed monthly performance monitoring. An additional round of vapor samples was collected to document any vapor release associated with the breach in the vapor recovery line.
April 17, 2003	LACO performed monthly performance monitoring. The ozone generator for Unit 1 was noticed to be turned off, apparently since the last site visit. It was also noted that the air compressor in Unit 1 sounded "rough/choppy." Field technician noted that the supply tubing on sparge point SP4S was cracked; this was fixed. It was noted that sparge point SP4D had leaky backflow valve at the well head; this was replaced. A slight ozone leak from the master panel of Unit 1 was noted, but all connections were tested and found to be tight.
April 29, 2003	Performed a mid-cycle site check to sample vapor points for fugitive ozone using a Dräger pump with an ozone detector tube. Arrived on site and found Unit 1 down. Technicians determined the problem to be a shorted out main power switch. Disconnected the switch and called KVA to have a replacement sent out overnight. Measured ozone concentrations at the port and wellhead of sparge point SP1S, and in vapor points VP1 and VP2. Technicians replaced air filter on Unit 2 air compressor, and the particulate filter on the Unit 2 oxygen concentrator.
May 2, 2003	Project manager (PM) arrived onsite to replace main power switch. After replacing the switch, the air compressor was operating at sub-normal pressures. Removed the head from the compressor body and discovered that the rubber band around the piston was shredded. Called KVA to have replacement piston and gasket set shipped. The PM completed the pressure test on Unit 2 and switched out Teflon tubing from two of the unused ports on Unit 2 with two ports that are in use. We will use these new lines to monitor the buildup of the discoloration.
May 5, 2003	PM arrived on site to replace piston. After taking the air compressor apart to make the repair, we noticed that the shaft through which the piston travels was cracked. The PM called KVA for a replacement air compressor.
May 8, 2003	PM arrived on site to replace air compressor; pressure output still sub-normal. Used soap solution to check for leaks and found that the seal in the head was not tight. Had not brought the gasket set that was shipped out for the previous compressor, so we could not fix the leak. Left the system off.
May 9, 2003	Senior technician replaced gasket and ran pressure test on Unit 1. All pressures were normal.
May 14, 2003	Technicians arrived on-site for quarterly monitoring. Performed system checks on both units; all appeared normal and operational.

June 2, 2003	Technician arrived on-site for a systems check. Found the GFI on Unit 1 had tripped. Reset the GFI. Run time indicated that the system shut down on May 26, 2003 at 0335.
June 10, 2003	Technicians arrived on-site for monthly performance monitoring with vapor monitoring postponed from last month due to pump failure. Found Unit 1 down with shorted and melted GFI and main power switch. Found that neither unit was grounded. Grounded both units and replaced shorted parts. Run times in Unit 1 indicated failure occurred on June 3, 2003 at 2146. Unit was restarted at 1445 on June 10, 2003.
June 15, 2003	PM arrived on-site to perform systems check on both Units 1 and 2; all appears normal and operational.
June 24, 2003	Technician arrived on-site to perform system check. Unit 1 appears normal and operational. Compression fittings on Stations 4 and 5 of Unit 2 were observed to be leaking; the technician replaced compression fittings; all appears normal and operational.
July 9, 2003	Technician arrived on-site to perform systems check. Several of the ports on Unit 1 were observed to have leaking compression fittings; compression fittings on Stations 2, 4, and 5 were replaced. Compression fittings on Stations 1 and 6 of Unit 1 may still need to be replaced. Nothing unusual was observed on Unit 2. Units were left operational.
July 16, 2003	Technicians arrived on site for monthly performance monitoring. Performed system checks on both units; all appeared operational. The front supports for the Unit 2 compressor were observed to be cracked.
July 22, 2003	A staff geologist and drill crew visited the site to install two soil borings (B15 and B16) adjacent to borings B12 and B13 to assess the possible degradation of sorbed-phase contaminants on site. Soil and respective depth hydro-punch samples were collected from the two borings. A systems check was performed on both units by the staff geologist during that visit. The compression fitting for Station 2 on Unit 2 was replaced. All else appeared functional.
July 28, 2003	Technician arrived on site to perform a system check on both Units 1 and 2. The HDPE tubing was not connected from Station 6 to Unit 1, the tubing was re-connected and the Unit then appeared fully operational. The compression fitting for Station 8 on Unit 2 was replaced. Nothing else unusual was observed and the units were left operational.
August 8, 2003	Technicians arrived on site to collect groundwater samples to analyze for chromium and replace HDPE tubing at the C-Sparger and well heads with Teflon tubing. HDPE tubing experiencing ozone corrosion was replaced with Teflon and Teflon lined LDPE tubing on stations 3 and 9 on Unit 1 and stations 1 to 3 on Unit 2 at the C-Sparger system. HDPE tubing was replaced with Teflon tubing at well heads 1S to 4S, 6S, and 7S and 1D to 3D, and 7D. In addition, the compression fitting on the Unit 1 compressor outflow was replaced.
August 15, 2003	Technicians arrived on site for monthly performance monitoring. Systems check was not performed due to lack of time.

August 25, 2003	Technicians arrived on site to perform systems operation and maintenance check on Units 1 and 2. The technician noted the top of the main power plug on Unit 1 appeared burnt around the black wire but the wire appeared fine. The C-Sparger on Unit 2 was non-operational upon arrival and the rain-bird had an error reading on its display. The technician observed the main power switch to the unit was burnt; the technician removed the main power switch and hot wired the unit. The oxygen compressors for both units were turned off. Pressure tests were performed on both units and both units were left running upon departure.
September 2, 2003	PM and a technician arrived on site to replace main power switches and associated wiring on both Units 1 and 2. A yellowish, acidic smelling liquid was observed in the Teflon feed tube from the oxygen compressor to the ozone unit on Unit 1; a similar liquid was observed in the pressure release valve, below the ozone unit, on Unit 2. This liquid may be nitric acid, resulting from the passive flow of ambient air through the oxygen booster that had been off since the August 25 visit. A system pressure test was performed; a leak was observed and noted for port 8 on Unit 2. The tubing was replaced and both units were left in good condition.
September 16, 2003	Technicians arrived on site for monthly performance monitoring and perform systems operation and maintenance check on Units 1 and 2. Both units were fully operational.
September 30, 2003	Technician arrived on site for quarterly monitoring and system check. Found singed wires on the master relay of Unit 1 – unit not operational. The technician removed and cleaned the wire before replacing. Ran system check on both units.
October 10, 2003	Technician arrived on site for bimonthly performance monitoring. The master circuit breaker had tripped, which the technician reset. The Unit 1 case fan was non-operational; it was replaced.
October 15, 2003	Technicians arrived on site for monthly performance monitoring and perform systems operation and maintenance check on Units 1 and 2. Both units were fully operational.
October 29, 2003	Technicians arrived on site to perform systems operation and maintenance check on Units 1 and 2. Leaks were discovered in HDPE lines to stations 2 and 6 on Unit 1 and station 4 on Unit 2. Compression fittings were replaced on the three lines. Both units were left in good condition.
November 19, 2003	Technicians arrive on-site to collect quarterly groundwater monitoring samples. A systems check was not performed due to time constraints.
December 11, 2003	Technicians arrived on site to perform monthly performance monitoring in conjunction with a split sampling event to meet requirements for the 75 percent milestone. Leon Perrault of the DNCEHD collected duplicate samples. In addition, a systems operation and maintenance check was performed on both Units 1 and 2. Unit 1 was not running when the technician arrived; a fuse was found in the off position. A systems check was attempted on Unit 1 but the fuse failed. Unit 1 was left non-operational. The line pressure on station 8 on Unit 2 was over-range, the line may be plugged. Unit 2 was left in good condition and operational.

January 12, 2004	Technicians arrived on site to replace the air compressors on both Units 1 and 2. In addition, a surge protector outlet was installed on each unit. Both units were left in good condition and operational.
January 14, 2004	A LACO technician arrived on site to perform monthly performance monitoring and systems operation and maintenance check. Both Units 1 and 2 were fully operational.
January 28, 2004	A LACO technician arrived on site to collect vapor samples from vapor extraction wells VP1 and VP2. Vapor samples were not collected from vapor extraction wells VP3 through VP6 because of shallow saturated conditions.
February 9, 2004	LACO technicians arrived on site to collect quarterly groundwater samples. A monthly systems operation and maintenance check was also performed. Both Units 1 and 2 were observed to be operational.
February 25, 2004	Technicians arrived on site to perform a systems operation and maintenance check. Unit 1 was fully operational. The new compressor on Unit 2 was observed to be non-operational. The compressor was removed to rebuild. The drive shaft was broken.
February 26, 2004	Technicians arrived on site to replace the compressor. Unit 2 was left in operating condition.
March 10, 2004	LACO technicians arrived on site to collect monthly groundwater samples.
March 16, 2004	LACO technicians arrived on site to perform a systems operation and maintenance check. Unit 1 was observed to be operational. Unit 2 was taken off-line to return failed compressor to shop.
March 24, 2004	LACO technicians arrived on site to perform a systems operation and maintenance check. Both Units 1 and 2 were observed to be operational.
April 6, 2004	LACO technicians arrived on site to perform a systems operation and maintenance check. Both Units 1 and 2 were observed to be operational.
April 14, 2004	Technicians arrived on site to collect monthly groundwater samples. A systems operation and maintenance check was also performed. Both Units 1 and 2 were observed to be operational.
April 20, 2004	LACO technicians arrived on site to perform a systems operation and maintenance check. Both Units 1 and 2 were observed to be operational.
April 29, 2004	LACO technicians arrived on site to perform a systems operation and maintenance check. Both Units 1 and 2 were observed to be operational. System run times were reduced to one minute per sparge point in order to test for rebound while keeping the sparge points pressurized.
May 13, 2004	LACO technicians arrive on site to collect quarterly groundwater samples. Vapor samples were collected from vapor extraction wells VP1 through VP6. A systems operation and maintenance check was also performed. Both Units 1 and 2 were observed to be operational.
June 7, 2004	LACO technicians arrived on site to remove the oxygen concentrator and KV sparge panel for Unit 1. Unit 1, lines 1 through 6 were connected to Unit 2, lines 1 through 6 (using Kynar tube x 3-Tees). The LACO technicians performed a systems operation and maintenance check. Unit 2 was observed to be operational.

June 24, 2004	LACO technicians arrived on site to perform a systems operation and maintenance check. Unit 2 was observed to be operational. Monthly groundwater sampling was also performed.
July 27, 2004	LACO technicians arrived on site to perform monthly groundwater sampling.
August 11, 2004	LACO technicians arrived on site to perform a systems operation and maintenance check. Unit 2 was observed to be operational.
August 17, 2004	LACO technicians arrived on site to perform a systems operation and maintenance check. Unit 2 was observed to be operational, and the Station 5 solenoid was rebuilt. Additionally, a compressor filter was installed, and a peroxide injection was performed on site.
August 26, 2004	LACO technicians arrived on site to perform a systems operation and maintenance check. Unit 2 was observed to be operational, and the Station 6 solenoid was rebuilt. Quarterly groundwater sampling was also performed.
September 21, 2004	LACO technicians arrived on site to perform monthly ground water sampling. Vapor points were also sampled for laboratory analysis.
October 18, 2004	LACO technicians arrived on site to develop observation wells OW3, OW4 and OW 5.
October 19, 2004	LACO technicians arrived on site to perform quarterly groundwater sampling.

P:\5200\5282 PFP CC Shell\Project mgmt\project chronology.doc

Attachment 2

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

Project Name: HPI/PFP C.C. Shell
Project No.: 5282.01
Date: 10-19-04
Golbal ID No.: T0601500022
PM: CSM

Tech: SJD
Mob/Demob time: .25/.25
Travel time: 3.5
Time on site: 7:40
Time off site: 2:05
Mileage: 156

WELL No.:	MW1		MW2		MW4		MW5		MW6	
DIAMETER (in)	2.00		2.00		2.00		4.00		2.00	
SCREENED INTERVAL (ft)	5-15		5-15		4-14		4-19		10 - 14	
DEPTH TO WATER (ft)	8.72		7.53		8.09		8.95		9.25	
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
FIELD INTRINSICS: pH	8.1	7.4	7.2	6.3	7.0	6.8	6.9	7.1	7.0	6.8
TEMP (°C)	14.6	17.2	14.6	18.1	14.8	17.6	14.7	16.5	15.0	17.9
Ecw (µmohs)	420	342	254	225	293	279	237	231	194	180
ORP (mV)	99	24	92	130	177	168	141	124	26	55
DO (mg/L)	7.22	6.86	2.73	2.22	6.29	6.89	10.40	10.88	3.15	1.60
OTHER (units)										
PURGE: TIME	8:57	[illegible]	9:30	9:40	10:08	10:16	10:42	10:52	11:18	11:30
METHOD (DHP/CB/B)	DHP		DHP		DHP		DHP		CAM PUMP	
RATE (Lpm)	0.18		0.18				0.20			
VOLUME (L)	1.75		1.75		1.50		2.0		1.90	
COLOR	LT. BROWN CLOUDY	LT. BROWN CLOUDY	CLEAR	CLEAR	DK. BROWN TURBID	LT. BROWN CLOUDY	CLEAR	CLEAR	CLEAR	[illegible]
ODOR	PINE TREE		STRONG SWEET		Slight SWEET		NONE		Slight [illegible]	
INTAKE DEPTH (FEET)	12.0		12.0		12.0		14.0		13.5	
SAMPLE: TIME	9:08		9:41		10:17		10:53		11:35	
METHOD (DHP/CB/B)	DHP		DHP		DHP		DHP		CAM PUMP	
ANALYTES	8260 List 1; Diss Cr; TPHd w/SGC		8260 List 1; Diss Cr; TPHd w/SGC		8260 List 1; Diss Cr; TPHd w/SGC		8260 List 1; Diss Cr; TPHd w/SGC		8260 List 1; Diss Cr; TPHd w/SGC	
TOTAL DRAWDOWN (FEET)	0.64		0.37		1.61		0.02		3.30	
REMARKS										
WELL CONDITION	good		good		good		good		good	
WASTE DRUMS	3 DOT DRUMS ONSITE									

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
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Project Name: **HPI/PFP C.C. Shell**
Project No.: **5282.01**
Date: 10-19-04
Golbal ID No.: **T0601500022**
PM: **CSM**

Tech: SJD
Mob/Demob time: .25 | .25
Travel time: 3.5
Time on site: 7:40
Time off site: 2:05
Mileage: 156

WELL No.:	MW7		MW8		OW3		OW4		OW5	
DIAMETER (in)	1.25		1.25		1.10		1.10		1.10	
SCREENED INTERVAL (ft)	10-15		10-15		5 - 10		5 - 10		5 - 10	
DEPTH TO WATER (ft)	9.09		8.92		9.03		8.81		8.75	
	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL	INITIAL	FINAL
DEPTH MEASUREMENTS ARE REFERENCED TO TOP OF CASING — FIELD INTRINSICS: pH	6.8	7.0	7.4	7.1						
TEMP (°C)	14.5	15.4	15.7	18.0						
Ecw (µmohs)	275	260	297	286						
ORP (mV)	-76	-6	-32	27						
DO (mg/L)	1.75	3.77	5.41	2.42						
OTHER (units)										
PURGE: TIME	11:51	12:05	12:24	12:40						
METHOD (DHP/CB/B)	CAM PUMP		CAM PUMP							
RATE (Lpm)										
VOLUME (L)	1.90		3.0							
COLOR	CLEAR	CLOUDY	CLEAR	CLEAR	LT. BROWN CLOUDY	LT. BROWN CLOUDY	CLOUDY	TURBID	CLOUDY	CLOUDY
ODOR	LT. SWEET		NONE							
INTAKE DEPTH (FEET)	14.0		14.5		9.5		9.5		9.5	
SAMPLE: TIME	12:15		12:50		1:12		1:30		1:47	
METHOD (DHP/CB/B)	CAM PUMP		CAM PUMP		CAM PUMP		CAM PUMP		CAM PUMP	
ANALYTES	8260 list 1; Diss. Cr; TPHd w/SGC		8260 List 1; Diss Cr; TPHd w/SGC		8260 List 1; Diss Cr; TPHd w/SGC		8260 List 1; Diss Cr; TPHd w/SGC		8260 List 1; Diss Cr; TPHd w/SGC	
TOTAL DRAWDOWN (FEET)	3.51		0.74							
REMARKS					WELL NOT RE-CHARGING - LIMITED		WELL NOT RE-CHARGING LIMITED VOLUME			
WELL CONDITION	good		good		good	VOLUME IN 1 Hr. SAMPLE BOTTLE	good	IN 1 Hr. SAMPLE BOTTLE	good	
WASTE DRUMS	3 DOT DRUMS ONSITE									

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
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FAX 707.443.0553

Project Name: HPI/DFP C. [illegible] SHELL
Project No.: 52582.01
Tech: [illegible]
Date: 10-19-04

METER ACCURACY RANGE

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

WELL ID: MW1

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
8:59	8.0	15.9	394	63	7.02
9:01	7.8	16.8	373	40	7.16
9:03	7.7	17.3	355	28	7.03
9:05	7.5	17.3	348	25	6.90
9:07	7.4	17.2	342	24	6.86

WELL ID: MW2

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
8:32	6.8	16.7	239	96	2.21
8:34	6.6	17.7	233	115	2.02
8:36	6.4	18.0	231	127	2.19
8:38	6.3	18.0	229	129	2.20
8:40	6.3	18.1	225	130	2.22

WELL ID: MW4

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
10:10	6.9	16.2	284	173	6.00
10:12	6.9	17.1	281	171	6.76
10:14	6.9	17.4	280	169	7.00
10:16	6.8	17.6	279	168	6.89

WELL ID: MW5

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
10:44	6.9	15.7	231	136	9.80
10:46	7.0	16.4	231	130	10.55
10:48	7.0	16.6	229	126	10.45
10:50	7.1	16.5	230	125	10.81
10:52	7.1	16.5	231	124	10.88

WELL ID: MW6

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
11:20	6.9	16.1	189	40	2.45
11:22	6.9	16.7	185	65	2.38
11:24	6.9	17.0	185	70	2.14
11:26	6.9	17.4	184	60	1.45
11:28	6.8	17.8	182	54	1.52
11:30	6.8	17.9	180	55	1.60

WELL ID: MW7

TIME	pH	TEMP (°C)	Ecw (µmohs)	ORP (mV)	DO (mg/L)
11:53	6.8	14.7	272	-76	1.36
11:55	6.8	15.5	267	-50	2.90
11:57	6.9	15.6	265	-35	3.39
11:59	6.9	15.6	263	-24	3.53
12:01	6.9	15.5	262	-14	3.68
12:03	6.9	15.5	261	-8	3.74
12:05	7.0	15.4	260	-6	3.77

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

Project Name: HPI/PFP C. CINY SHELL
Project No.: 5282.01
Tech: SJD
Date: 10-19-04

METER ACCURACY RANGE

WELL ID: MW8	+/- 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)
12:26	7.4	17.1	296	-40	3.10
12:28	7.3	17.8	293	-37	3.04
12:30	7.3	17.9	290	-13	2.72
12:32	7.2	18.0	289	1	2.62
12:34	7.2	18.1	287	12	2.53
12:36	7.2	18.1	287	20	2.46
12:38	7.1	18.0	287	25	2.44
12:40	7.1	18.0	286	27	2.42

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)

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: HPV/PFP GLOTY SHELL

Project No.: 5282.01

Tech: SJD

Date: 10-19-04

WELL ID: mw1		WELL ID: mw2		WELL ID: mw4		WELL ID: mw5		WELL ID: mw6		WELL ID: mw7	
TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)
7:58	8.69	8:04	7.56	8:06	8.05	8:07	8.93	8:09	9.22	8:11	9.55
8:22	8.70	8:27	7.58	8:29	8.07	8:31	8.95	8:32	9.25	8:33	9.55
8:45	8.75	9:20	7.59	8:47	8.07	8:49	8.95	8:50	9.25		
		9:28	7.59								

WELL ID: mw8		WELL ID: ow3		WELL ID: ow4		WELL ID: ow5		WELL ID:		WELL ID:	
TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)	TIME	DTW (ft)
11:12	8.90	8:14	9.03	8:16	8.81	8:18	8.75				
11:36	8.87	8:38	9.03	8:40	8.81	8:42	8.75				
11:10	8.87										

WELL ID:		WELL ID:		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)

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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; Christine Manhart
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: 5282.01
Project Name: HPI/PFP C.C. Shell
Purchase Order Number: task 3017

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	ANALYSIS: 8260 list 1 (CONTAINER 9, PRESERVATIVE b)	ANALYSIS: TPHd w/SGC (CONTAINER 7, PRESERVATIVE ------)	ANALYSIS: Diss. Cr (CONTAINER 2, PRESERVATIVE ------)	SAMPLE CONDITION/SPECIAL INSTRUCTIONS
	5282-MW1-W	10-19-04	AM	GW	3	1	1	GEOTRACKER
	5282-MW2-W	↓	↓	↓	3	1	1	
	5282-MW4-W				3	1	1	
	5282-MW5-W				3	1	1	
	5282-MW6-W				3	1	1	
	5282-MW7-W				3	1	1	
	5282-MW8-W				3	1	1	End of Coding
	5282-OW3-W				3	1	1	LIMITED VOLUME FOR DIESEL - No SG
	5282-OW4-W				3	1	1	LIMITED VOLUME FOR DIESEL - No SG
	5282-OW5-W	↓	PM	↓	3	1	1	

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
STEVE DAVIS	10-19-04 4:00 pm		10/19/04 1600

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; Christine Manhart

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: 5282.01
Project Name: HPI/PFP C.C. Shell
Purchase Order Number: task 3017

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	PRESERVATIVE	CONTAINER	ANALYSIS
	5282-QCTB-W	10-19-04	AM/PM	GW	b	9	8260 list1
							1

SAMPLE CONDITION/SPECIAL INSTRUCTIONS

End of cooling

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
STEVE DAVIS	10-19-04 4:00 pm		10/19/04 1600

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 W. 4th Street
Eureka, California 95502
707-443-5054

PROJECT CRESCENT CITY SHELL	BY BWN	SHEET NO. 1/1
LOCATION CRESCENT CITY	DATE 10/18/04	
CLIENT HUMBOLDT PETROLEUM	CHECKED	JOB NO. 5282.01 TASK 3000
	DATE	

ARRIVE ONSITE 0925
SHOWERS - WIND S 5-15 K

PURPOSE: DEVELOP OW 3, 4, 5

ALL WELLS INITIALLY DRY - AND ~1' OF SILT/SAND

INITIAL TOTAL DEPTHS			FINAL TOTAL DEPTHS		
OW-3	OW-4	OW-5	OW-3	OW-4	OW-5
8.72	8.80	8.82	10.00	9.91	9.95

PUMPED SILT / FINES AND WATER WITH FOOT VALVE
ADDED WATER WITH HOPE BUCKET AND SPIGOT 10 GALLONS PER WELL
SURGED WITH ½" SCH 80 PVC x 12' LONG x ½" SLIP CAP (OD 1.08")

RECHARGE RATES AFTER DEVELOPMENT
SECONDS PER 1/10 FOOT

OW-3	OW-4	OW-5
22	18	32

INITIALLY OW5 HAD VERY STRONG FUEL/DIESEL ODOR

OW4 HAD 2/16 SAND IN IT THAT KEPT PUMPING OUT EVEN WHEN WELL WAS STARTING TO CLEAR UP.

NONE OF THE WELLS WOULD MAKE ENOUGH WATER WITH THE COLE PARMER CAM PUMP. SUGGEST TO SAMPLER STEVE TO RESTRICT TUBE FURTHER WITH CLAMP

GAVE THIS INFORMATION TO SJD NIGHT BEFORE SAMPLE.

Attachment 3

NORTH COAST
LABORATORIES LTD.

RECEIVED
LACO ASSOCIATES
NOV 03 2004
BY:

LMO
ORG
GH
FRB
DNL
CSM
PROJECT
FILE

November 01, 2004

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

Attn: Accounts Payable

RE: 5282.01 HPI/PFP C.C. Shell

Order No.: 0410476
Invoice No.: 45884
PO No.: TASK 3017
ELAP No. 1247-Expires July 2006

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	5282-MW1-W
01D	5282-MW1-W
01E	5282-MW1-W (Dissolved)
02A	5282-MW2-W
02D	5282-MW2-W
02E	5282-MW2-W (Dissolved)
03A	5282-MW4-W
03D	5282-MW4-W
03E	5282-MW4-W (Dissolved)
04A	5282-MW5-W
04D	5282-MW5-W
04E	5282-MW5-W (Dissolved)
05A	5282-MW6-W
05D	5282-MW6-W
05E	5282-MW6-W (Dissolved)
06A	5282-MW7-W
06D	5282-MW7-W
06E	5282-MW7-W (Dissolved)
07A	5282-MW8-W
07D	5282-MW8-W
07E	5282-MW8-W (Dissolved)
08A	5282-OW3-W
08D	5282-OW3-W
08E	5282-OW3-W (Dissolved)
09A	5282-OW4-W
09D	5282-OW4-W
09E	5282-OW4-W (Dissolved)
10A	5282-OW5-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

Lab Manager

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

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November 01, 2004

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

Order No.: 0410476
Invoice No.: 45884
PO No.: TASK 3017
ELAP No. 1247-Expires July 2006

Attn: Accounts Payable

RE: 5282.01 HPI/PFP C.C. Shell

SAMPLE IDENTIFICATION

10D	5282-OW5-W
10E	5282-OW5-W (Dissolved)
11A	5282-QCTB-W

CASE NARRATIVE

All samples submitted for a silica gel cleanup were initially analyzed for diesel. The samples showing no detectable levels of the analyte were not subjected to the cleanup procedure.

TPH as Diesel with Silica Gel Cleanup:
Sample 5282-MW1-W contains material in the diesel range of molecular weights, but the material does not exhibit the peak pattern typical of diesel oil.

Samples 5282-OW3-W and 5282-OW4-W contain some material lighter than diesel. However, some of this material extends into the diesel range of molecular weights. These samples also contain material in the diesel range of molecular weights, but the material does not exhibit the peak pattern typical of diesel oil.

Gasoline Components/Additives:
The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries were above the upper acceptance limit for the surrogate. All of the analyte recoveries were within the acceptance limits; therefore, the data were accepted.

Samples 5282-MW1-W, 5282-OW3-W and 5282-OW4-W appear to be similar to gasoline but certain peak ratios are not that of a fresh gasoline standard. The reported results represent the amount of material in the gasoline range.

The gasoline value for sample 5282-MW2-W includes the reported gasoline components and additives in addition to other peaks in the gasoline range.

The gasoline value for sample 5282-OW5-W includes the reported gasoline additives in addition to other peaks in the gasoline range.

The gasoline value for sample 5282-MW7-W is primarily from the reported gasoline additives.

Some reporting limits were raised for samples 5282-MW1-W, 5282-MW2-W, 5282-MW7-W and 5282-OW3-W due to matrix interference.

TPH as Diesel:
The LCS/LCSD recoveries were above the upper acceptance limit for diesel. These recoveries indicate that the sample results may be erroneously high. There were no detectable levels of the analyte in the samples; therefore, the data were accepted.

The surrogate recoveries were above the upper acceptance limit for samples 5282-MW5-W, 5282-MW7-W, 5282-MW8-W and the LCS/LCSD. These recoveries indicate that the sample results may be

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erroneously high. There were no detectable levels of the analyte in the samples; therefore, the data were accepted.

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Date: 01-Nov-04
WorkOrder: 0410476

ANALYTICAL REPORT

Client Sample ID: 5282-MW1-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-01A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	27	1.0	µg/L	1.0		10/26/04
Tert-butyl alcohol (TBA)	ND	50	µg/L	1.0		10/26/04
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/26/04
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/26/04
Benzene	40	0.50	µg/L	1.0		10/26/04
Tert-amyl methyl ether (TAME)	5.2	1.0	µg/L	1.0		10/26/04
Toluene	8.2	0.50	µg/L	1.0		10/26/04
Ethylbenzene	13	0.50	µg/L	1.0		10/26/04
m,p-Xylene	50	0.50	µg/L	1.0		10/26/04
o-Xylene	28	0.50	µg/L	1.0		10/26/04
Surrogate: 1,4-Dichlorobenzene-d4	99.6	72.5-109	% Rec	1.0		10/26/04

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	570	50	µg/L	1.0		10/26/04

Client Sample ID: 5282-MW1-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-01D **Matrix:** Groundwater

Test Name: TPH as Diesel with Silica Gel Cleanup **Reference:** EPA 3510/3630/GCFID(LUFT)/8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Diesel	78	50	µg/L	1.0	10/25/04	10/26/04
Surrogate: N-Tricosane	97.7	34-145	% Rec	1.0	10/25/04	10/26/04

Client Sample ID: 5282-MW1-W (Dissolved) **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-01E **Matrix:** Groundwater

Test Name: ICAP Metals with Acid Digestion **Reference:** EPA 200.7

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Chromium	ND	10	µg/L	1.0	10/19/04	10/28/04

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Date: 01-Nov-04
WorkOrder: 0410476

ANALYTICAL REPORT

Client Sample ID: 5282-MW2-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-02A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	680	50	µg/L	50		10/26/04
Tert-butyl alcohol (TBA)	ND	200	µg/L	1.0		10/29/04
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/29/04
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/29/04
Benzene	26	0.50	µg/L	1.0		10/29/04
Tert-amyl methyl ether (TAME)	77	1.0	µg/L	1.0		10/29/04
Toluene	ND	0.50	µg/L	1.0		10/29/04
Ethylbenzene	ND	0.50	µg/L	1.0		10/29/04
m,p-Xylene	ND	0.50	µg/L	1.0		10/29/04
o-Xylene	ND	0.50	µg/L	1.0		10/29/04
Surrogate: 1,4-Dichlorobenzene-d4	91.2	72.5-109	% Rec	1.0		10/29/04

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	680	50	µg/L	1.0		10/29/04

Client Sample ID: 5282-MW2-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-02D **Matrix:** Groundwater

Test Name: TPH as Diesel with Silica Gel Cleanup **Reference:** EPA 3510/3630/GCFID(LUFT)/8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Diesel	ND	50	µg/L	1.0	10/25/04	10/26/04
Surrogate: N-Tricosane	99.5	34-145	% Rec	1.0	10/25/04	10/26/04

Client Sample ID: 5282-MW2-W (Dissolved) **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-02E **Matrix:** Groundwater

Test Name: ICAP Metals with Acid Digestion **Reference:** EPA 200.7

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Chromium	48	10	µg/L	1.0	10/19/04	10/28/04

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Date: 01-Nov-04
WorkOrder: 0410476

ANALYTICAL REPORT

Client Sample ID: 5282-MW4-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-03A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	13	1.0	µg/L	1.0		10/26/04
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		10/26/04
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/26/04
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/26/04
Benzene	ND	0.50	µg/L	1.0		10/26/04
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		10/26/04
Toluene	ND	0.50	µg/L	1.0		10/26/04
Ethylbenzene	ND	0.50	µg/L	1.0		10/26/04
m,p-Xylene	ND	0.50	µg/L	1.0		10/26/04
o-Xylene	ND	0.50	µg/L	1.0		10/26/04
Surrogate: 1,4-Dichlorobenzene-d4	83.8	72.5-109	% Rec	1.0		10/26/04

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		10/26/04

Client Sample ID: 5282-MW4-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-03D **Matrix:** Groundwater

Test Name: TPH as Diesel **Reference:** EPA 3510/GCFID(LUFT)/EPA 8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Diesel	ND	50	µg/L	1.0	10/22/04	10/24/04
Surrogate: N-Tricosane	104	27.6-107	% Rec	1.0	10/22/04	10/24/04

Client Sample ID: 5282-MW4-W (Dissolved) **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-03E **Matrix:** Groundwater

Test Name: ICAP Metals with Acid Digestion **Reference:** EPA 200.7

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Chromium	ND	10	µg/L	1.0	10/19/04	10/28/04

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Date: 01-Nov-04
WorkOrder: 0410476

ANALYTICAL REPORT

Client Sample ID: 5282-MW5-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-04A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1.0		10/26/04
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		10/26/04
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/26/04
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/26/04
Benzene	ND	0.50	µg/L	1.0		10/26/04
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		10/26/04
Toluene	ND	0.50	µg/L	1.0		10/26/04
Ethylbenzene	ND	0.50	µg/L	1.0		10/26/04
m,p-Xylene	ND	0.50	µg/L	1.0		10/26/04
o-Xylene	ND	0.50	µg/L	1.0		10/26/04
Surrogate: 1,4-Dichlorobenzene-d4	85.5	72.5-109	% Rec	1.0		10/26/04

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		10/26/04

Client Sample ID: 5282-MW5-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-04D **Matrix:** Groundwater

Test Name: TPH as Diesel **Reference:** EPA 3510/GCFID(LUFT)/EPA 8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Diesel	ND	50	µg/L	1.0	10/22/04	10/24/04
Surrogate: N-Tricosane	111	27.6-107	% Rec	1.0	10/22/04	10/24/04

Client Sample ID: 5282-MW5-W (Dissolved) **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-04E **Matrix:** Groundwater

Test Name: ICAP Metals with Acid Digestion **Reference:** EPA 200.7

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Chromium	ND	10	µg/L	1.0	10/19/04	10/28/04

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Date: 01-Nov-04
WorkOrder: 0410476

ANALYTICAL REPORT

Client Sample ID: 5282-MW6-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-05A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	4.6	1.0	µg/L	1.0		10/28/04
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		10/28/04
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/28/04
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/28/04
Benzene	ND	0.50	µg/L	1.0		10/28/04
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		10/28/04
Toluene	ND	0.50	µg/L	1.0		10/28/04
Ethylbenzene	ND	0.50	µg/L	1.0		10/28/04
m,p-Xylene	ND	0.50	µg/L	1.0		10/28/04
o-Xylene	ND	0.50	µg/L	1.0		10/28/04
Surrogate: 1,4-Dichlorobenzene-d4	90.5	72.5-109	% Rec	1.0		10/28/04

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		10/28/04

Client Sample ID: 5282-MW6-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-05D **Matrix:** Groundwater

Test Name: TPH as Diesel with Silica Gel Cleanup **Reference:** EPA 3510/3630/GCFID(LUFT)/8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Diesel	ND	50	µg/L	1.0	10/25/04	10/26/04
Surrogate: N-Tricosane	96.7	34-145	% Rec	1.0	10/25/04	10/26/04

Client Sample ID: 5282-MW6-W (Dissolved) **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-05E **Matrix:** Groundwater

Test Name: ICAP Metals with Acid Digestion **Reference:** EPA 200.7

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Chromium	ND	10	µg/L	1.0	10/19/04	10/28/04

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Date: 01-Nov-04
WorkOrder: 0410476

ANALYTICAL REPORT

Client Sample ID: 5282-MW7-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-06A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	90	1.0	µg/L	1.0		10/29/04
Tert-butyl alcohol (TBA)	ND	60	µg/L	1.0		10/29/04
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/29/04
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/29/04
Benzene	ND	0.50	µg/L	1.0		10/29/04
Tert-amyl methyl ether (TAME)	7.0	1.0	µg/L	1.0		10/29/04
Toluene	ND	0.50	µg/L	1.0		10/29/04
Ethylbenzene	ND	0.50	µg/L	1.0		10/29/04
m,p-Xylene	ND	0.50	µg/L	1.0		10/29/04
o-Xylene	ND	0.50	µg/L	1.0		10/29/04
Surrogate: 1,4-Dichlorobenzene-d4	85.2	72.5-109	% Rec	1.0		10/29/04

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	65	50	µg/L	1.0		10/29/04

Client Sample ID: 5282-MW7-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-06D **Matrix:** Groundwater

Test Name: TPH as Diesel **Reference:** EPA 3510/GCFID(LUFT)/EPA 8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Diesel	ND	50	µg/L	1.0	10/22/04	10/24/04
Surrogate: N-Tricosane	126	27.6-107	% Rec	1.0	10/22/04	10/24/04

Client Sample ID: 5282-MW7-W (Dissolved) **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-06E **Matrix:** Groundwater

Test Name: ICAP Metals with Acid Digestion **Reference:** EPA 200.7

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Chromium	ND	10	µg/L	1.0	10/19/04	10/28/04

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Date: 01-Nov-04
WorkOrder: 0410476

ANALYTICAL REPORT

Client Sample ID: 5282-MW8-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-07A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	1.6	1.0	µg/L	1.0		10/28/04
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		10/28/04
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/28/04
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/28/04
Benzene	ND	0.50	µg/L	1.0		10/28/04
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		10/28/04
Toluene	ND	0.50	µg/L	1.0		10/28/04
Ethylbenzene	ND	0.50	µg/L	1.0		10/28/04
m,p-Xylene	ND	0.50	µg/L	1.0		10/28/04
o-Xylene	ND	0.50	µg/L	1.0		10/28/04
Surrogate: 1,4-Dichlorobenzene-d4	88.7	72.5-109	% Rec	1.0		10/28/04

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		10/28/04

Client Sample ID: 5282-MW8-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-07D **Matrix:** Groundwater

Test Name: TPH as Diesel **Reference:** EPA 3510/GCFID(LUFT)/EPA 8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Diesel	ND	50	µg/L	1.0	10/22/04	10/24/04
Surrogate: N-Tricosane	118	27.6-107	% Rec	1.0	10/22/04	10/24/04

Client Sample ID: 5282-MW8-W (Dissolved) **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-07E **Matrix:** Groundwater

Test Name: ICAP Metals with Acid Digestion **Reference:** EPA 200.7

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Chromium	ND	10	µg/L	1.0	10/19/04	10/28/04

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Date: 01-Nov-04
WorkOrder: 0410476

ANALYTICAL REPORT

Client Sample ID: 5282-OW3-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-08A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	71	1.0	µg/L	1.0		10/29/04
Tert-butyl alcohol (TBA)	ND	60	µg/L	1.0		10/29/04
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/29/04
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/29/04
Benzene	74	0.50	µg/L	1.0		10/29/04
Tert-amyl methyl ether (TAME)	35	1.0	µg/L	1.0		10/29/04
Toluene	59	0.50	µg/L	1.0		10/29/04
Ethylbenzene	43	0.50	µg/L	1.0		10/29/04
m,p-Xylene	450	25	µg/L	50		10/26/04
o-Xylene	170	25	µg/L	50		10/26/04
Surrogate: 1,4-Dichlorobenzene-d4	102	72.5-109	% Rec	1.0		10/29/04

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	3,600	2,500	µg/L	50		10/26/04

Client Sample ID: 5282-OW3-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-08D **Matrix:** Groundwater

Test Name: TPH as Diesel **Reference:** EPA 3510/GCFID(LUFT)/EPA 8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Diesel	1,200	50	µg/L	1.0	10/22/04	10/24/04
Surrogate: N-Tricosane	90.8	27.6-107	% Rec	1.0	10/22/04	10/24/04

Client Sample ID: 5282-OW3-W (Dissolved) **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-08E **Matrix:** Groundwater

Test Name: ICAP Metals with Acid Digestion **Reference:** EPA 200.7

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Chromium	ND	10	µg/L	1.0	10/19/04	10/28/04

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Date: 01-Nov-04
WorkOrder: 0410476

ANALYTICAL REPORT

Client Sample ID: 5282-OW4-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-09A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1.0		10/29/04
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		10/29/04
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/29/04
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/29/04
Benzene	ND	0.50	µg/L	1.0		10/29/04
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		10/29/04
Toluene	ND	0.50	µg/L	1.0		10/29/04
Ethylbenzene	ND	0.50	µg/L	1.0		10/29/04
m,p-Xylene	ND	0.50	µg/L	1.0		10/29/04
o-Xylene	ND	0.50	µg/L	1.0		10/29/04
Surrogate: 1,4-Dichlorobenzene-d4	83.9	72.5-109	% Rec	1.0		10/29/04

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	500	50	µg/L	1.0		10/29/04

Client Sample ID: 5282-OW4-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-09D **Matrix:** Groundwater

Test Name: TPH as Diesel **Reference:** EPA 3510/GCFID(LUFT)/EPA 8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Diesel	180	50	µg/L	1.0	10/22/04	10/24/04
Surrogate: N-Tricosane	100	27.6-107	% Rec	1.0	10/22/04	10/24/04

Client Sample ID: 5282-OW4-W (Dissolved) **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-09E **Matrix:** Groundwater

Test Name: ICAP Metals with Acid Digestion **Reference:** EPA 200.7

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Chromium	ND	10	µg/L	1.0	10/19/04	10/28/04

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Date: 01-Nov-04
WorkOrder: 0410476

ANALYTICAL REPORT

Client Sample ID: 5282-OW5-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-10A **Matrix:** Groundwater

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	4.3	1.0	µg/L	1.0		10/29/04
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		10/29/04
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/29/04
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/29/04
Benzene	ND	0.50	µg/L	1.0		10/29/04
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		10/29/04
Toluene	ND	0.50	µg/L	1.0		10/29/04
Ethylbenzene	ND	0.50	µg/L	1.0		10/29/04
m,p-Xylene	ND	0.50	µg/L	1.0		10/29/04
o-Xylene	ND	0.50	µg/L	1.0		10/29/04
Surrogate: 1,4-Dichlorobenzene-d4	83.2	72.5-109	% Rec	1.0		10/29/04

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

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	62	50	µg/L	1.0		10/29/04

Client Sample ID: 5282-OW5-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-10D **Matrix:** Groundwater

Test Name: TPH as Diesel **Reference:** EPA 3510/GCFID(LUFT)/EPA 8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Diesel	ND	50	µg/L	1.0	10/22/04	10/24/04
Surrogate: N-Tricosane	103	27.6-107	% Rec	1.0	10/22/04	10/24/04

Client Sample ID: 5282-OW5-W (Dissolved) **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-10E **Matrix:** Groundwater

Test Name: ICAP Metals with Acid Digestion **Reference:** EPA 200.7

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Chromium	ND	10	µg/L	1.0	10/19/04	10/28/04

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Date: 01-Nov-04
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ANALYTICAL REPORT

Client Sample ID: 5282-QCTB-W **Received:** 10/19/04 **Collected:** 10/19/04 0:00
Lab ID: 0410476-11A **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		10/26/04
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		10/26/04
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/26/04
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/26/04
Benzene	ND	0.50	µg/L	1.0		10/26/04
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		10/26/04
Toluene	ND	0.50	µg/L	1.0		10/26/04
Ethylbenzene	ND	0.50	µg/L	1.0		10/26/04
m,p-Xylene	ND	0.50	µg/L	1.0		10/26/04
o-Xylene	ND	0.50	µg/L	1.0		10/26/04
Surrogate: 1,4-Dichlorobenzene-d4	87.1	72.5-109	% Rec	1.0		10/26/04

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		10/26/04

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North Coast Laboratories, Ltd.

Date: 01-Nov-04

CLIENT: LACO Associates
Work Order: 0410476
Project: 5282.01 HPI/PFP C.C. Shell

QC SUMMARY REPORT

Method Blank

Sample ID **MB 102604** Batch ID: **R31712** Test Code: **8260OXYW** Units: **µg/L** Analysis Date **10/26/04 7:05:00 AM** Prep Date
Client ID: Run ID: **ORGCMS2_041028B** SeqNo: **460693**

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	0.1488	0.50									J
Ethylbenzene	ND	0.50									
m,p-Xylene	ND	0.50									
o-Xylene	ND	0.50									
1,4-Dichlorobenzene-d4	0.900	0.10	1.00	0	90.0%	73	109	0			

Sample ID **MB 102604** Batch ID: **R31714** Test Code: **GASW-MS** Units: **µg/L** Analysis Date **10/26/04 7:05:00 AM** Prep Date
Client ID: Run ID: **ORGCMS2_041028C** SeqNo: **460720**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	17.38	50									J

Sample ID **MB-12340P** Batch ID: **12340** Test Code: **ICPX** Units: **µg/L** Analysis Date **10/28/04 1:28:00 PM** Prep Date **10/19/04**
Client ID: Run ID: **INICP1_041028B** SeqNo: **460509**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	10									

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: 0410476
Project: 5282.01 HPI/PFP C.C. Shell

QC SUMMARY REPORT

Method Blank

Sample ID **MB-12371** Batch ID: **12371** Test Code: **SGTPHDW** Units: **µg/L** Analysis Date **10/26/04 4:32:47 PM** Prep Date **10/25/04**
Client ID: Run ID: **ORGC5_041026A** SeqNo: **459624**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel	ND	50									
N-Tricosane	48.0	0.10	50.0	0	96.0%	34	145	0			

Sample ID **MB-12360** Batch ID: **12360** Test Code: **TPHDIW** Units: **µg/L** Analysis Date **10/24/04 2:50:36 PM** Prep Date **10/22/04**
Client ID: Run ID: **ORGC7_041024A** SeqNo: **459073**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel	ND	50									
N-Tricosane	47.7	0.10	50.0	0	95.3%	28	107	0			

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: 01-Nov-04

CLIENT: LACO Associates
Work Order: 0410476
Project: 5282.01 HPI/PFP C.C. Shell

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID **LCS-04620** Batch ID: **R31712** Test Code: **8260OXYW** Units: **µg/L** Analysis Date **10/26/04 3:03:00 AM** Prep Date

Client ID: Run ID: **ORGCMS2_041028B** SeqNo: **460690**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	17.93	1.0	20.0	0	89.6%	78	131	0			
Tert-butyl alcohol (TBA)	448.7	10	400	0	112%	48	166	0			
Di-isopropyl ether (DIPE)	18.08	1.0	20.0	0	90.4%	80	128	0			
Ethyl tert-butyl ether (ETBE)	19.33	1.0	20.0	0	96.7%	75	137	0			
Benzene	18.83	0.50	20.0	0	94.1%	79	123	0			
Tert-amyl methyl ether (TAME)	19.94	1.0	20.0	0	99.7%	70	158	0			
Toluene	18.95	0.50	20.0	0	94.7%	84	111	0			
Ethylbenzene	20.14	0.50	20.0	0	101%	85	107	0			
m,p-Xylene	41.49	0.50	40.0	0	104%	87	108	0			
o-Xylene	19.79	0.50	20.0	0	99.0%	80	124	0			
1,4-Dichlorobenzene-d4	1.16	0.10	1.00	0	116%	73	109	0			S

Sample ID **LCSD-04620** Batch ID: **R31712** Test Code: **8260OXYW** Units: **µg/L** Analysis Date **10/26/04 3:34:00 AM** Prep Date

Client ID: Run ID: **ORGCMS2_041028B** SeqNo: **460691**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	16.68	1.0	20.0	0	83.4%	78	131	17.9	7.23%	20	
Tert-butyl alcohol (TBA)	373.1	10	400	0	93.3%	48	166	449	18.4%	20	
Di-isopropyl ether (DIPE)	17.46	1.0	20.0	0	87.3%	80	128	18.1	3.48%	20	
Ethyl tert-butyl ether (ETBE)	18.45	1.0	20.0	0	92.2%	75	137	19.3	4.70%	20	
Benzene	18.28	0.50	20.0	0	91.4%	79	123	18.8	2.95%	20	
Tert-amyl methyl ether (TAME)	18.82	1.0	20.0	0	94.1%	70	158	19.9	5.77%	20	
Toluene	18.66	0.50	20.0	0	93.3%	84	111	19.0	1.56%	20	
Ethylbenzene	20.37	0.50	20.0	0	102%	85	107	20.1	1.12%	20	
m,p-Xylene	40.75	0.50	40.0	0	102%	87	108	41.5	1.79%	20	
o-Xylene	19.64	0.50	20.0	0	98.2%	80	124	19.8	0.809%	20	
1,4-Dichlorobenzene-d4	1.10	0.10	1.00	0	110%	73	109	1.16	5.24%	20	S

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: 0410476
Project: 5282.01 HPI/PFP C.C. Shell

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID **LCS-04621** Batch ID: **R31714** Test Code: **GASW-MS** Units: **µg/L** Analysis Date **10/26/04 5:05:00 AM** Prep Date
Client ID: Run ID: **ORGCMS2_041028C** SeqNo: **460717**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	1,010	50	1,000	0	101%	88	108	0			

Sample ID **LCSD-04621** Batch ID: **R31714** Test Code: **GASW-MS** Units: **µg/L** Analysis Date **10/26/04 5:35:00 AM** Prep Date
Client ID: Run ID: **ORGCMS2_041028C** SeqNo: **460718**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	983.0	50	1,000	0	98.3%	88	108	1,010	2.68%	20	

Sample ID **LCS-12340P** Batch ID: **12340** Test Code: **ICPX** Units: **µg/L** Analysis Date **10/28/04 1:31:00 PM** Prep Date **10/19/04**
Client ID: Run ID: **INICP1_041028B** SeqNo: **460510**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	453.0	10	500	0	90.6%	85	115	0			

Sample ID **LCS-12371** Batch ID: **12371** Test Code: **SGTPHDW** Units: **µg/L** Analysis Date **10/26/04 2:32:12 PM** Prep Date **10/25/04**
Client ID: Run ID: **ORGC5_041026A** SeqNo: **459622**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel	382.4	50	500	0	76.5%	33	92	0			
N-Tricosane	57.2	0.10	50.0	0	114%	34	145	0			

Sample ID **LCSD-12371** Batch ID: **12371** Test Code: **SGTPHDW** Units: **µg/L** Analysis Date **10/26/04 3:02:22 PM** Prep Date **10/25/04**
Client ID: Run ID: **ORGC5_041026A** SeqNo: **459623**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel	360.2	50	500	0	72.0%	33	92	382	5.99%	13	
N-Tricosane	54.1	0.10	50.0	0	108%	34	145	57.2	5.49%	11	

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: 0410476
Project: 5282.01 HPI/PFP C.C. Shell

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID **LCS-12360** Batch ID: **12360** Test Code: **TPHDIW** Units: **µg/L** Analysis Date **10/24/04 1:21:01 PM** Prep Date **10/22/04**
Client ID: Run ID: **ORGC7_041024A** SeqNo: **459070**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel	625.4	50	500	0	125%	80	120	0			S
N-Tricosane	71.1	0.10	50.0	0	142%	28	107	0			S

Sample ID **LCSD-12360** Batch ID: **12360** Test Code: **TPHDIW** Units: **µg/L** Analysis Date **10/24/04 1:38:52 PM** Prep Date **10/22/04**
Client ID: Run ID: **ORGC7_041024A** SeqNo: **459071**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel	624.6	50	500	0	125%	80	120	625	0.138%	15	S
N-Tricosane	66.3	0.10	50.0	0	133%	28	107	71.1	7.03%	15	S

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

Chain of Custody

LABORATORY NUMBER: 0410476

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; Christine Manhart
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: 5282.01
Project Name: HPI/PFP C.C. Shell
Purchase Order Number: task 3017

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	ANALYSIS: 8260 list 1 (CONTAINER 9, PRESERVATIVE b)	ANALYSIS: TPHd w/SGC (CONTAINER 7, PRESERVATIVE ------)	ANALYSIS: Diss. Cr (CONTAINER 2, PRESERVATIVE ------)
	5282-MW1-W	10-19-04	AM	GW	3	1	1
	5282-MW2-W	↓	↓	↓	3	1	1
	5282-MW4-W				3	1	1
	5282-MW5-W				3	1	1
	5282-MW6-W				3	1	1
	5282-MW7-W				3	1	1
	5282-MW8-W				3	1	1
	5282-OW3-W				3	1	1
	5282-OW4-W				3	1	1
	5282-OW5-W	↓	PM	↓	3	1	1

SAMPLE CONDITION/SPECIAL INSTRUCTIONS

GEOTRACKER

End of Coding
LIMITED VOLUME FOR DIESEL - No SG
LIMITED VOLUME FOR DIESEL - No SG

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
STEVE DAVIS	10-19-04 4:00 pm		10/19/04 1600

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

Chain of Custody

LABORATORY NUMBER: 0410476

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; Christine Manhart
Sampler (Sign & Print): SJD

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

REPORTING REQUIREMENTS: State Forms [ ]
Preliminary: FAX [x] 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: 5282.01
Project Name: HPI/PFP C.C. Shell
Purchase Order Number: task 3017

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	ANALYSIS	CONTAINER	PRESERVATIVE
	5282-QCTB-W	10-19-04	AM/PM	GW	8260 list1	9	b
						1	

SAMPLE CONDITION/SPECIAL INSTRUCTIONS

End of cooling

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
STEVE DAVIS	10-19-04 4:00 pm		10/19/04 1600

SAMPLE DISPOSAL
[x] 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 4

CONSULTING ENGINEERS

TEL 707.443.5054
FAX 707.443.0553

Project Name: CRESCENT CITY	Tech: Brad
Project No.: 5282.01	Mobe/Demobe time: .25 / .5
Task: 413	Travel time: 2 / 2
Date: 10/15/2004	Time on site: 1430
PM: CSM	Time off site: 1515
	Mileage: M/C - Billed miles Drive

ANCILLIARY INFORMATION

Power Meter (Kwh): 20341	Max. Temperature (°F): 91.6
Max. Humidity (%RH): Hi	Ventilation Fan(s): (ON) / OFF
Surge Suppression: (ON) / OFF	

SYSTEM READINGS

UNIT: C-SPARGER #1	UNIT:
C-Sparger Runtime (Hrs): 7687.48	C-Sparger Runtime (Hrs):
O_2 Concentrator Runtime (Hrs): 10141	O_2 Concentrator Runtime (Hrs):
System Clock Time: 1445 Correct Time	System Clock Time:
LINE PRESSURE (psi)	**LINE PRESSURE (psi)**
STATION 1: 33	STATION 1:
STATION 2: 36	STATION 2:
STATION 3: 37	STATION 3:
STATION 4: 40	STATION 4:
STATION 5: 46	STATION 5:
STATION 6: 32	STATION 6:
STATION 7: X	STATION 7:
STATION 8: 38	STATION 8:
STATION 9:	STATION 9:
STATION 10:	STATION 10:

TROUBLESHOOTING

Ozone Detector Fault: N/A	YES / NO	16A Breaker Fault:	YES / (NO)
Panel GFI Fault:	YES / (NO)	Main Circuit Breaker Fault:	YES / (NO)
Controller Fault:	YES / (NO)	Fasteners: ✓	
Tubing: ✓		Wires: ✓	

MAINTENANCE

O_2 Concentrator Filter	YES / (NO)	Reset Temperature/Humidity	(YES) / NO
Compressor Filter	(YES) / NO	Check Peroxide Level N/A	YES / NO

REVISED:6/8/04

LACO ASSOCIATES CONSULTING ENGINEERS	PROJECT CRESCENT CITY SHELL	BY BWN	SHEET NO.
21 W. 4th Street Eureka, California 95502 707-443-5054	LOCATION CRESCENT CITY	DATE 10/18/07	1/1
	CLIENT HUMBOLDT PETROLEUM	CHECKED	JOB NO. 5282.01
		DATE	

ARRIVE ONSITE 0925
SHOWERS - WIND S 5-15 K

PURPOSE: DEVELOP OW 3, 4, 5

ALL WELLS INITIALLY DRY - AND ~1' OF SILT/SAND

INITIAL TOTAL DEPTHS			FINAL TOTAL DEPTHS		
OW-3	OW-4	OW-5	OW-3	OW-4	OW-5
8 72	8 80	8 82	10 00	9 91	9 95

PUMPED SILT / FINES AND WATER WITH FOOT VALVE
ADDED WATER WITH HDPE BUCKET AND SPIGOT 10 GALLONS PER WELL
SURGED WITH 1/2" SCH 80 PVC x 12' LONG x 1/2" SLIP CAP (OD 1.08")

RECHARGE RATES AFTER DEVELOPMENT
SECONDS PER 1/10 FOOT

OW-3	OW-4	OW-5
22	18	32

INITIALLY OW5 HAD VERY STRONG FUEL/DIESEL ODOR

OW4 HAD 2/16 SAND IN IT THAT KEPT PUMPING OUT EVEN WHEN WELL WAS STARTING TO CLEAR UP.

NONE OF THE WELLS WOULD MAKE ENOUGH WATER WITH THE COLE PARMER CAM PUMP. SUGGEST TO SAMPLER STEVE TO RESTRICT TUBE FURTHER WITH CLAMP

GAVE THIS INFORMATION TO SJD NIGHT BEFORE SAMPLE.

CONSULTING ENGINEERS
TEL 707.443.5054
FAX 707.443.0553

Project Name:	C.C. SHELL PFP / MPI	Tech:	BWN
Project No.:	5282.01	Mobe/Demobe time:	—
Task:	4.3	Travel time:	—
Date:	8/17/2004	Time on site:	—
PM:	CSM	Time off site:	—
		Mileage:	M/C (170)

ANCILLIARY INFORMATION

Power Meter (Kwh):	20142	Max. Temperature (°F):	84.0 F
Max. Humidity (%RH):	H1	Ventilation Fan(s):	(ON) / OFF
Surge Suppression:	(ON) / OFF		

SYSTEM READINGS

UNIT: 2		UNIT:	
C-Sparger Runtime (Hrs):	7532.65	C-Sparger Runtime (Hrs):	
O_2 Concentrator Runtime (Hrs):	N/A	O_2 Concentrator Runtime (Hrs):	
System Clock Time:	1540 CORRECT	System Clock Time:	
LINE PRESSURE (psi)		**LINE PRESSURE (psi)**	
STATION 1:	33	STATION 1:	
STATION 2:	34	STATION 2:	
STATION 3:	36	STATION 3:	
STATION 4:	41	STATION 4:	
STATION 5:	48 REBUILD SOL WAS +60	STATION 5:	
STATION 6:	43	STATION 6:	
STATION 7:	N/A	STATION 7:	
STATION 8:	37	STATION 8:	
STATION 9:	36	STATION 9:	
STATION 10:	36	STATION 10:	

TROUBLESHOOTING

Ozone Detector Fault:	YES / (NO)	16A Breaker Fault:	YES / (NO)
Panel GFI Fault:	YES / (NO)	Main Circuit Breaker Fault:	YES / (NO)
Controller Fault:	YES / (NO)	Fasteners:	✓
Tubing:	✓	Wires:	✓

MAINTENANCE

O_2 Concentrator Filter	(YES) / NO	Reset Temperature/Humidity	(YES) / NO
Compressor Filter ADDED	(YES) / NO	Check Peroxide Level N/A	YES / NO

LACO ASSOCIATES
CONSULTING ENGINEERS
21 W. 4th Street
Eureka, California 95502
707-443-5054

PROJECT	BY	SHEET NO.
LOCATION	DATE	
CLIENT	CHECKED	JOB NO.
	DATE	

SP3

5 gallon total volume

$\frac{5}{100} \times 5 =$ 0.25 gal / 0.35 %

0.71 gallon of 35%

– 0.71 gal 35% 0.249 gall 100%

9:30 mixed up 5% solu of food grade H_2O_2.
move over to SP#4 for injection.

10:00 connect to SP#5 w/ well head valve/backflow assembly.

10:05 pressurize well head to drive out water ~ 5 min @ 1.5 cfm. ~ 2 psi.

10:10 inject ~ 2 L of 5% H_2O_2

10:15 stop peroxide and pressurize w/ air ~ 20 psi for 5 min @ 1.5 cfm.

10:20 fix valve connection that is leaking.

10:25 inject H_2O_2 5%. stop fix leak at compump barbed connection from C-flex to PVC tubing w/ hose clamp

10:40 start inject 5% H_2O_2

10:42 stop. high pressure. Start air pressure up to 40 psi
Drop to 30 psi.

10:45 Dropped to 20 psi Start peroxide.

10:50 High pressure. Stop C-Flex split at barbed connection.

10:52 Start Air ~ 30 psi. dropped to <20 psi
Alternate air/peroxide ~5 min each

11:15 Stop Used ~ 2 g 5% H_2O_2

Made up 10% sol'n

1120 Start inj 10% H_2O_2

1125 Stop, start air initial pressure 35 psi
$\Sigma V \simeq 0.3 \rightarrow 0.4$ g final ~ 20 psi

1128 Start inj ~ 18% H_2O_2

1130 Stop Start air at 45 psi

1131 Stop air, start H_2O_2

1132 Stop H_2O_2, start air @ 40 psi
Stop air @ 20 psi

LACO ASSOCIATES
CONSULTING ENGINEERS
21 W. 4th Street
Eureka, California 95502
707-443-5054

PROJECT	BY	SHEET NO.
LOCATION	DATE	
CLIENT	CHECKED	JOB NO.
	DATE	

SP 35

1340 - Start air injection
1344 + Start 5% H_2O_2 injection
1355 Stop Start air
1356 Stop air, Start 12% H_2O_2
1400 Stop H_2O_2 Start air pressure ~ 27.5 psi
stop to ~ 0
1405 Stop air, Start H_2O_2
1410 Stop H_2O_2 Start air max p = 35 psi
stop to ~ 0
1414 Stop air, Start H_2O_2
1416 Stop H_2O_2 Start air ⟸ 4 g
max p = 32 1 5%
1417 Stop air, Start H_2O_2 3 12%
1420 Stop H_2O_2 Start air max p = 32
1425 Stop air, Start H_2O_2
1428 Stop H_2O_2 Start air max p = 32
1429 Stop air Start H_2O_2
1429 Stop H_2O_2 Start air max p = 30

Power [illegible] 5% H_2O_2 [illegible] for [illegible]
[illegible] pumped [illegible]

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

Project Name: C.C. SHELL PFP/HPI
Project No.: 5287.01
Task: 413
Date: 8-11-04
PM: CSM

Tech: SID
Mobe/Demobe time: —
Travel time: 1.0
Time on site: 9:40
Time off site: 10:35
Mileage: 55

ANCILLIARY INFORMATION

Power Meter (Kwh):	20120	Max. Temperature (°F):	84.0°
Max. Humidity (%RH):	H1 % ?	Ventilation Fan(s):	(ON) / OFF
Surge Suppression:	(ON) / OFF		

SYSTEM READINGS

UNIT: 2		UNIT:	
C-Sparger Runtime (Hrs):	7516.30	C-Sparger Runtime (Hrs):	
O_2 Concentrator Runtime (Hrs):	N/A	O_2 Concentrator Runtime (Hrs):	
System Clock Time:	10:12	System Clock Time:	
LINE PRESSURE (psi)		**LINE PRESSURE (psi)**	
STATION 1:	33	STATION 1:	
STATION 2:	41	STATION 2:	
STATION 3:	35	STATION 3:	
STATION 4:	40	STATION 4:	
STATION 5:	>60	STATION 5:	
STATION 6:	>60	STATION 6:	
STATION 7:	—	STATION 7:	
STATION 8:	37	STATION 8:	
STATION 9:	45	STATION 9:	
STATION 10:	37	STATION 10:	

TROUBLESHOOTING

Ozone Detector Fault:	YES / (NO)	16A Breaker Fault:	YES / (NO)
Panel GFI Fault:	YES / (NO)	Main Circuit Breaker Fault:	YES / (NO)
Controller Fault:	YES / (NO)	Fasteners:	✓
Tubing:	✓	Wires:	✓

MAINTENANCE

O_2 Concentrator Filter	YES / NO	Reset Temperature/Humidity	YES / NO
Compressor Filter	YES / NO	Check Peroxide Level	YES / NO

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

Project Name: C.C. SHELL PEP / HPI
Project No.: 5282.01
Task: 413
Date: 6/24/2004
PM: CSM

Tech: BWN
Mobe/Demobe time: —
Travel time: —
Time on site: 1430
Time off site: 1455
Mileage: N/C

ANCILLIARY INFORMATION

Power Meter (Kwh): 19964	Max. Temperature (°F): 84.2 °F
Max. Humidity (%RH): 88%	Ventilation Fan(s): (ON) / OFF
Surge Suppression: (ON) / OFF	

SYSTEM READINGS

UNIT: 2	UNIT:
C-Sparger Runtime (Hrs): 07391.88	C-Sparger Runtime (Hrs):
O_2 Concentrator Runtime (Hrs): N/A	O_2 Concentrator Runtime (Hrs):
System Clock Time: 1445	System Clock Time:
LINE PRESSURE (psi)	**LINE PRESSURE (psi)**
STATION 1: 34	STATION 1:
STATION 2: 37	STATION 2:
STATION 3: 38	STATION 3:
STATION 4: 40	STATION 4:
STATION 5: 55	STATION 5:
STATION 6: 58	STATION 6:
STATION 7: —	STATION 7:
STATION 8: 40	STATION 8:
STATION 9: 52	STATION 9:
STATION 10: 42	STATION 10:

TROUBLESHOOTING

Ozone Detector Fault:	YES / (NO)	16A Breaker Fault:	YES / (NO)
Panel GFI Fault:	YES / (NO)	Main Circuit Breaker Fault:	YES / (NO)
Controller Fault:	YES / (NO)	Fasteners: ✓	
Tubing: ✓		Wires: ✓	

MAINTENANCE

O_2 Concentrator Filter	YES / NO	Reset Temperature/Humidity	YES / NO
Compressor Filter	YES / NO	Check Peroxide Level	YES / NO