Brunsing Associates, Inc.

RO 514

September 17, 2002 Project 029.17

Mr. Barney Chan
Alameda County Health Care Services Agency
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Alameda County
SEP 20 2002
Environmental Health

Report on Groundwater Sampling Event
May 15 through May 17, 2002
Pacific Supply Company
1735 24th Street
Oakland, California 94607

Dear Mr. Chan:

This correspondence has been prepared by Brunsing Associates, Inc. (BAI) to provide you with a report summarizing the field work completed at the above-referenced site from May 15, 2002 through May 17, 2002, and the laboratory analyses of the groundwater samples collected. The field work was performed to help evaluate the effectiveness of previous remediation activities at the site, and the potential for site closure.

Site Background

Monitoring wells MW-1 through MW-5 were constructed in September 1988 as the first phase of a soil and groundwater investigation. Monitoring wells MW-6 and MW-7 were constructed on December 19, 1989 during Phase II of the same investigation. The construction and sampling of these wells are documented in BAI's Report of Findings, dated March 23, 1990.

Vapor recovery wells VRW-1 through VRW-9 were constructed in August 1993 as part of a vapor recovery system. Installation of these wells were documented in a February 7, 1994 report. A vapor extraction system was installed in the Fall of 1993 as an interim remedial action, and the system began operation on December 26, 1993. This system consisted of an internal combustion engine with a spray aeration tank for treatment of groundwater, and an activated carbon treatment polishing step prior to groundwater discharge. The internal combustion unit and spray aeration unit was manufactured by Remediation Service International (RSI), under the trade name Spray Aeration Vapor Extraction (SAVE) system.

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On June 28, 1996, the treatment system was shut down with the concurrence of Pacific Supply Company. Prior to shut down, the system had destroyed an estimated 6,550 pounds of petroleum hydrocarbons since start of operations on December 26, 1993. After shut down, the water in the water tank was treated and discharged to the sanitary sewer under the existing permit and the inside of the tank was cleaned on July 15, 1996.

The permit with the Bay Area Air Quality Management District (BAAQMD) expired on September 1, 1996, and was not renewed. The water discharge permit was discontinued on July 31, 1996. The total volume of water discharged to the sanitary sewer was 151,089 gallons. In December 1996, the shut down and decommissioning of the system was authorized by Jennifer Eberle of the Alameda County Department of Health Services.

Groundwater monitoring was continued following the shutdown of the vapor extraction system. In August 2000 BAI supervised the drilling of 3 soil borings in 24th Street, on the north side of the Pacific Supply Company building in a downgradient direction from the former UST location. Grab groundwater samples were collected to evaluate whether off-site migration of hydrocarbon contamination in groundwater was occurring. One of the three groundwater samples was reported to contain low levels of TPH as gasoline, BTEX, and petroleum oxygenates. The results of the field investigation are presented in BAI's *Groundwater Investigation and Monitoring Report* dated December 14, 2000.

Scope of Work

The scope of work performed for this sampling event included collecting groundwater samples for laboratory analysis from monitoring wells MW-1 and MW-2 and vapor extraction wells VRW-2 through VRW-9. The groundwater sampling work was completed on May 15, 2002 through May 17, 2002. Groundwater levels were also measured in all wells On May 15, 2002, prior to sampling any wells. The purpose of the sampling work was to further evaluate the effectiveness of the vapor extraction remediation that was performed at the site between December 1993 and June 1996.

Groundwater Flow Direction

No groundwater flow direction was calculated for this sampling event because the tops of the vapor recovery well casings have not been surveyed relative to mean sea level. They were not surveyed because their original use was not intended to be for groundwater monitoring. Historical groundwater elevation surveys and

groundwater flow calculations completed as part of groundwater monitoring indicate that the predominant on-site groundwater flow direction is towards the north/northwest to northwest with a shallow gradient.

Groundwater Sampling and Analytical Results

Groundwater samples for laboratory analysis were collected from vapor recovery wells VRW-4 and VRW-6 on May 15, 2002, monitoring well MW-1 and vapor recovery wells VRW-5, VRW-7, VRW-8 and VRW-9 on May 16, 2002, and monitoring well MW-2 and vapor recovery wells VRW-2 and VRW-3 on May 17, 2002. Groundwater sampling was performed in accordance with the sampling protocol presented in Appendix A. Groundwater samples were analyzed by BACE Analytical and Field Services (BAFS), a state-certified analytical laboratory, for TPH as gasoline by EPA Test Method 8015, and BTEX, petroleum oxygenates and lead scavengers by EPA Test Method 8260 (EPA 8260). A copy of the laboratory analytical report for this sampling event is presented in Appendix B.

Table 1 presents a summary of groundwater analytical results for monitoring well sampling events at the site. The results of the May 2002 groundwater analyses for monitoring wells MW-1 and MW-2 are included in the summary. The groundwater sample collected from monitoring well MW-1 was reported to contain TPH as gasoline at a concentration of 0.35 milligrams per liter (mg/l), with no detectable BTEX, petroleum oxygenates or lead scavengers (Table 1). Monitoring well MW-2 was reported to contain TPH as gasoline at 3.3 mg/l, and benzene at 25.4 micrograms per liter (µg/l), with no detectable toluene, ethylbenzene, xylenes, petroleum oxygenates or lead scavengers. The reporting limit for the EPA 8260 analyses was raised due to dilution.

Table 2 presents a summary of the groundwater analytical results for vapor recovery wells VRW-2 through VRW-9 (Plate 2) for the two times the wells have been sampled. The wells were first sampled after their installation in November 1993, and were resampled in May 2002. For well VRW-2 the May 2002 analyses reported TPH as gasoline at a concentration of 2.8 mg/l and benzene at a concentration of 471 µg/l. No other analytes were detected. For well VRW-3, the only analytes found above the reporting limits were TPH as gasoline at a concentration of 0.42 mg/l, benzene at 10.9 µg/l and xylenes at 1.07 µg/l. For well VRW-4 TPH as gasoline was reported at 11 mg/l, benzene was reported at 4,270 µg/l and toluene, ethylbenzene and xylenes were reported at 741 µg/l, 512 µg/l and 1,130 µg/l, respectively. No petroleum oxygenates or lead scavengers were reported with a dilution factor of 50.

For well VRW-5, the only analytes found above the reporting limits were TPH as gasoline at a concentration of 0.87 mg/l and benzene at 44.3 µg/l. For well VRW-6, TPH as gasoline was reported at 0.73 mg/l, benzene was reported at 178 µg/l and toluene, ethylbenzene and xylenes were reported at 4.58 µg/l, 1.41 µg/l and 6.10 µg/l, respectively. No petroleum oxygenates or lead scavengers were reported. For well VRW-7, the only analytes found above the reporting limits were TPH as gasoline at a concentration of 1.6 mg/l, benzene at 28.9 µg/l and toluene at 0.980 µg/l. For well VRW-8, TPH as gasoline, benzene and toluene were the only analytes found above the reporting limits at concentrations of 3.3 mg/l, 248 µg/l and 16.0 µg/l, respectively. For well VRW-9, the only analytes found above the reporting limits were TPH as gasoline at a concentration of 0.08 mg/l, benzene at 0.990 µg/l, toluene at 2.00 µg/l and xylenes at 5.93 µg/l.

Discussion of Groundwater Analytical Results

Plates 2 and 3 present isoconcentration maps for concentrations of TPH as gasoline and benzene for the May 2002 sampling event. Plates 4 and 5 present isoconcentration maps for the sampling event in November 1993, when the vapor recovery wells were first sampled. Comparison of the two maps indicates that the current groundwater contamination plume is centered near the southwest corner of the former UST location, at well VRW-4. The plume appears to be elongated to the northwest and south of the former UST Location. The contamination plume for the November 1993 sampling event primarily centers around the former UST location, with an east/west elongation. A secondary area of higher concentration is centered around vapor recovery wells VRW-8 and VRW-9, with an area of lower concentrations in between.

In evaluating the changes from 1993 to 2002 for concentrations of TPH as gasoline and benzene in individual vapor recovery wells, significant reductions in hydrocarbon levels were found in wells at the margins of the contamination plume. Reported TPH as gasoline concentrations declined by 93% for well VRW-3, 83% for well VRW-9 and 61% for well VRW-2. For benzene concentrations reductions were 91%, 97% and 86% for wells VRW-3, VRW-9 and VRW-3, respectively. For well VRW-8 reductions in TPH as gasoline and benzene were 44% and 46% respectively.

Concentrations of TPH as gasoline and benzene in vapor recovery wells VRW-6 and VRW-7 increased significantly, and the TPH as gasoline concentration in well VRW-4 increased by 22% while the benzene concentration decreased by 3%. For downgradient monitoring well MW-2 the TPH as gasoline concentration increased by 32%, while the benzene concentration decreased by 89%. In general, the change in the configuration of the contamination plume is consistent with a drawing in of

the plume towards vapor recovery wells VRW-4, VRW-6 and VRW-7. This may be a result of the vapor extraction work performed between 1993 and 1996 at the site.

Recommendations for Additional Site Work

Based on the results of the groundwater monitoring work reported in this letter, BAI recommends that a revised groundwater monitoring program be implemented at the site. Our recommendation is that monitoring be performed on a semi-annual basis with sampling events scheduled for October and April to cover wet and dry season conditions. BAI recommends that monitoring include wells MW-1, MW-2, VRW-2, VRW-3, VRW-4, VRW-5, VRW-6, VRW-7, VRW-8 and VRW-9. We also recommend that these wells be surveyed using GPS technology so that monitoring results can be reported to the state Geotracker database. BAI recommends that monitoring wells MW-4, MW-5, MW-6 and MW-7 not be included in semi-annual groundwater monitoring, based on historical analytical results which indicate that the wells have not been impacted by hydrocarbon contamination, or were impacted by contamination from off-site tanks.

BAI also recommends that a Feasibility Study/Corrective Action Plan (FS/CAP) be prepared for the site. The FS/CAP should evaluate what additional remediation, if any, would be appropriate for the site and provide a plan for the most feasible option for bringing the site to closure.

If you should have any questions regarding this report, please contact Carl Schwab or Diana Dickerson at (707) 838-3027.

Sincerely,

Carl Schwab

Carl Schwab, R.G.
Senior Geologist

Diana M. Dickerson

Diana M. Dickerson, R.G., R.E.A.
Principal Geologist

cc: Ms. Normita Callison, Pacific Coast Building Supply

LIST OF ATTACHMENTS

TABLE 1: SUMMARY OF GROUNDWATER ANALYTICAL DATA

Pacific Supply Company, 1735 24th Street, Oakland, California

Well Name	Sampling Date	Depth to Groundwater (feet)	Groundwater Elevation (feet, MSL)	TPH as gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Lead (mg/L)	MTBE (µg/L)
MW-1	10/14/88	7.99	0.88	1.1	1.1	ND	–	ND	–	–
MW-1	12/29/89	7.74	1.13	ND	ND	ND	ND	ND	ND (1)	–
MW-1	5/28/92	7.81	1.06	ND	ND	ND	ND	ND	0.003(2)	–
MW-1	9/3/92	7.90	0.97	ND	ND	ND	ND	ND	0.12 (2)	–
MW-1	11/24/92	7.90	0.97	ND	ND	ND	ND	ND	0.017 (2)	–
MW-1	3/9/93	7.38	1.49	ND	ND	ND	ND	ND	ND (1)	–
MW-1	7/21/93	7.68	1.19	ND	ND	ND	ND	ND	ND (1)	–
MW-1	11/3/93	7.83	1.04	ND	ND	ND	ND	ND	ND (1)	–
MW-1	2/1/94	7.30	1.57	ND	ND	ND	ND	ND	ND (1)	–
MW-1	6/2/94	7.43	1.44	ND	ND	ND	ND	ND	ND (1)	–
MW-1	9/1/94	7.70	1.17	ND	ND	ND	ND	ND	ND (1)	–
MW-1	12/13/94	6.90	1.97	ND	ND	ND	ND	ND	–	–
MW-1	3/7/95	7.30	1.57	0.06	3.8	ND	ND	ND	–	–
MW-1	6/9/95	7.87	1.00	0.09	12	0.8	0.5	1.3	–	–
MW-1	9/21/95	7.67	1.20	ND	4.1	ND	ND	ND	–	–
MW-1	12/18/95	7.15	1.72	ND	ND	ND	ND	ND	–	–
MW-1	2/29/96	6.74	2.13	0.09	1.4	0.5	ND	0.8	–	–
MW-1	7/15/96	7.76	1.11		–	–	–	–	–	–
MW-1	1/7/97	6.80	2.07	0.06	0.6	<0.5	<0.5	<0.5	–	–
MW-1	7/12/97	7.67	1.20	–	–	–	–	–	–	–
MW-1	1/26/98	6.93	1.94	<0.05	<0.5	<0.5	<0.5	1.1	–	–
MW-1	7/3/98	7.51	1.36	–	–	–	–	–	–	–
MW-1	1/13/99	7.63	1.24	<0.05	<0.5	<0.5	<0.5	<0.5	–	–
MW-1	9/27/99	7.77	1.10	–	–	–	–	–	–	–
MW-1	1/28/00	6.85	2.02	<0.05	<0.5	<0.5	<0.5	<0.5	–	<5.0
MW-1	5/16/02	7.45	1.42	0.35	<0.5	<0.5	<0.5	<0.5	–	<1.0
MW-2	10/14/88	7.29	0.85	11	23	20	–	16	–	–
MW-2	12/29/89	6.87	1.27	4	200	6.7	ND	ND	0.22 (1)	–
MW-2	5/28/92	6.92	1.22	8.9	550	48	ND	13	ND (2)	–
MW-2	9/3/92	7.26	0.88	2.1	760	6.2	1.8	5.1	0.006 (2)	–

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MW-2	11/24/92	7.28	0.86	4.2	370	15	3.4	9.5	ND (2)	–
MW-2	3/9/93	6.73	1.41	4.3	280	14	3.7	7.1	ND (1)	–
MW-2	7/21/93	7.02	1.12	3.4	250	9.6	2.5	11	ND(1)	–
MW-2	11/4/93	7.22	0.92	2.5	230	7.8	2.1	9.9	ND(1)	–
MW-2	2/1/94	6.93	1.21	3.4	240	17	ND	15	ND(1)	–
MW-2	6/2/94	6.86	1.28	3.0	150	9.8	3.0	10	ND(1)	–
MW-2	9/1/94	7.10	1.04	2.1	120	9.8	2.0	9.6	ND(1)	–
MW-2	12/13/94	6.58	1.56	2.0	200	10	2.7	11	–	–
MW-2	3/7/95	6.69	1.45	3.0	500	15	5.8	16	–	–
MW-2	6/9/95	7.00	1.14	2.1	300	14	5.8	13	–	–
MW-2	9/21/95	6.91	1.23	1.6	120	9.6	ND	15	–	–
MW-2	12/18/95	6.73	1.41	2.8	120	16	5.2	19	–	–
MW-2	2/29/96	6.36	1.78	1.7	170	15	2.9	17	–	–
MW-2	7/15/96	7.11	1.03	2.8	160	22	3.5	17	–	–
MW-2	1/7/97	6.40	1.74	3.0	350	25	8.1	24	–	–
MW-2	7/12/97	6.98	1.16	2.1	55	11	<2.5	18	–	–
MW-2	1/26/98	6.45	1.69	1.8	310	29	5.0	15	–	–
MW-2	7/3/98	6.91	1.23	1.9	85	9.3	1.8	17	–	–
MW-2	1/13/99	7.07	1.07	2.1	48	33	2.0	16	–	–
MW-2	9/27/99	7.22	0.92	1.5	20	6.8	2.6	11	–	–
MW-2	1/28/00	6.61	1.53	1.3	22	6.4	1.5	11	–	<5.0
MW-2	5/17/02	6.95	1.19	3.3	25.4	<5.0	<5.0	<5.0	–	<10
MW-3	10/14/88	8.25	0.88	3.4	ND	ND	–	2.8	–	–
MW-3	12/29/89	7.79	1.34	ND	ND	ND	ND	ND	0.205 (1)	–
MW-3	5/28/92	7.83	1.30	ND	0.8	0.5	ND	ND	0.016 (2)	–
MW-3	9/3/92	8.22	0.91	ND	ND	ND	ND	ND	0.033 (2)	–
MW-3	11/24/92	8.29	0.84	ND	ND	ND	ND	ND	0.011 (2)	–
MW-3	3/9/93	7.30	1.83	0.1	1.8	ND	ND	ND	ND(1)	–
MW-3	7/21/93	7.87	1.26	ND	ND	ND	ND	ND	ND(1)	–
MW-3	11/4/93	8.23	0.90	0.07	0.6	0.5	ND	ND	ND(1)	–

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MW-3	2/1/94	7.56	1.57	ND	ND	ND	ND	ND	ND(1)	–
MW-3	6/2/94	7.46	1.67	0.06	ND	ND	ND	ND	ND(1)	–
MW-3	9/1/94	7.83	1.30	0.07	1.7	0.9	ND	ND	ND(1)	–
MW-3	12/13/94	7.07	2.06	0.06	1.4	ND	ND	ND	–	–
MW-3	3/8/95	7.27	1.86	0.06	1.5	ND	ND	ND	–	–
MW-3	6/9/95	7.79	1.34	0.10	5.7	ND	ND	ND	–	–
MW-3	9/21/95	7.87	1.26	ND	1.5	ND	ND	ND	–	–
MW-3	12/18/95	7.30	1.83	ND	1.3	ND	ND	ND	–	–
MW-3	2/29/96	6.84	2.29	ND	2.1	0.6	ND	0.7	–	–
MW-3	7/15/96	7.79	1.34	–	–	–	–	–	–	–
MW-3	1/7/97	6.62	2.51	0.05	1.0	<0.5	<0.5	<0.5	–	–
MW-3	7/12/97	7.83	1.30	–	–	–	–	–	–	–
MW-3	1/26/98	6.60	2.53	<0.05	0.8	<0.5	<0.5	<0.5	–	–
MW-3	7/3/98	7.48	1.65	–	–	–	–	–	–	–
MW-3	1/13/99	7.63	1.50	<0.05	<0.5	<0.5	<0.5	<0.5	–	–
MW-3	9/27/99	7.94	1.19	–	–	–	–	–	–	–
MW-3	1/28/00	7.12	2.01	<0.05	<0.5	<0.5	<0.5	<0.5	–	<5.0
MW-4	10/14/88	8.33	0.74	4.6	1.2	ND	–	2.2	–	–
MW-4	12/29/89	8.08	0.99	0.5	0.7	ND	ND	ND	ND (1)	–
MW-4	5/28/92	8.19	0.88	0.27	8.8	1	ND	3.2	0.030 (2)	–
MW-4	9/3/92	8.37	0.70	0.20	4.5	4.4	ND	1.9	0.022 (2)	–
MW-4	11/24/92	8.28	0.79	0.14	3.2	3.2	ND	1.0	0.005 (2)	–
MW-4	3/9/93	7.98	1.09	0.47	10	ND	ND	2.5	ND (1)	–
MW-4	7/21/93	8.17	0.90	0.28	4.4	5.9	ND	ND	ND(1)	–
MW-4	11/4/93	8.14	0.93	0.08	1.3	1.6	ND	ND	ND(1)	–
MW-4	2/1/94	7.79	1.28	0.08	ND	ND	ND	ND	ND(1)	–
MW-4	6/2/94	7.53	1.54	0.30	3.1	2.9	ND	0.8	ND(1)	–
MW-4	9/1/94	7.69	1.38	0.12	1.6	ND	ND	ND	ND(1)	–
MW-4	12/13/94	6.70	2.37	ND	ND	ND	ND	ND	–	–
MW-4	3/8/95	6.83	2.24	0.09	ND	ND	ND	ND	–	–

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MW-4	6/9/95	7.66	1.41	0.19	ND	ND	ND	ND	–	–
MW-4	9/21/95	7.93	1.14	0.09	ND	ND	ND	ND	–	–
MW-4	12/18/95	6.98	2.09	–	–	–	–	–	–	–
MW-4	2/29/96	6.54	2.53	0.14	1.6	1.0	ND	0.6	–	–
MW-4	7/15/96	7.74	1.33	–	–	–	–	–	–	–
MW-4	1/7/97	6.46	2.61	0.09	1.0	0.5	<0.5	<0.5	–	–
MW-4	7/12/97	7.82	1.25	–	–	–	–	–	–	–
MW-4	1/26/98	6.67	2.40	0.09	1.1	0.8	<0.5	<0.5	–	–
MW-4	7/3/98	7.45	1.62	--	–	–	–	–	–	–
MW-4	1/13/99	7.51	1.56	0.12	1.1	0.62	<0.5	0.57	–	–
MW-4	9/27/99	7.88	1.19	–	–	–	–	–	–	–
MW-4	1/28/00	6.73	2.34	0.072	<0.5	<0.5	<0.5	<0.5	–	<5.0
MW-5	10/14/88	8.04	0.89	3.2	ND	ND	–	ND	–	–
MW-5	12/29/89	7.40	1.53	ND	ND	ND	ND	ND	ND (1)	–
MW-5	5/28/92	7.53	1.40	ND	ND	ND	ND	ND	0.008 (2)	–
MW-5	9/3/92	8.02	0.91	ND	ND	ND	ND	ND	0.034 (2)	–
MW-5	11/24/92	7.75	1.18	ND	ND	ND	ND	ND	0.011 (2)	–
MW-5	3/9/93	6.91	2.02	ND	ND	ND	ND	ND	ND (1)	–
MW-5	7/21/93	7.57	1.36	ND	ND	ND	ND	ND	ND(1)	–
MW-5	11/4/93	7.77	1.16	ND	ND	ND	ND	ND	ND(1)	–
MW-5	2/1/94	7.05	1.88	ND	ND	ND	ND	ND	ND(1)	–
MW-5	6/2/94	7.18	1.75	ND	ND	ND	ND	ND	ND(1)	–
MW-5	9/1/94	7.53	1.40	ND	ND	ND	ND	ND	–	–
MW-5	3/8/95	6.67	2.26	ND	ND	ND	ND	ND	–	–
MW-5	6/9/95	7.33	1.60	ND	ND	ND	ND	ND	–	–
MW-5	9/21/95	7.67	1.26	ND	ND	ND	ND	ND	–	–
MW-5	12/18/95	6.62	2.31	–	–	–	–	–	–	–
MW-5	2/29/96	6.16	2.77	ND	ND	ND	ND	ND	–	–
MW-5	7/15/96	7.47	1.46	–	–	–	–	–	–	–
MW-5	1/7/97	6.11	2.82	<0.05	<0.5	<0.5	<0.5	<0.5	–	–

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MW-5	7/12/97	7.61	1.32	–	–	–	–	–	–	–
MW-5	1/26/98	6.17	2.76	<0.05	<0.5	<0.5	<0.5	<0.5	–	–
MW-5	7/3/98	7.23	1.70	–	–	–	–	–	–	–
MW-5	1/13/99	7.27	1.66	<0.05	<0.5	<0.5	<0.5	<0.5	–	–
MW-5	9/27/99	7.76	1.17	–	–	–	–	–	–	–
MW-5	1/28/00	6.43	2.50	<0.05	<0.5	<0.5	<0.5	<0.5	–	<5.0
MW-6	12/29/89	5.02	1.11	**1.1**	**5.4**	**4.5**	ND	ND	ND (1)	–
MW-6	3/9/93	5.10	1.03	**2.3**	**2.3**	**2.8**	ND	**3.1**	ND (1)	–
MW-6	7/21/93	5.23	0.90	**0.59**	ND	**7.6**	ND	ND	ND(1)	–
MW-6	11/4/93	5.25	0.88	**1.5**	ND	**1.2**	ND	**0.7**	ND(1)	–
MW-6	2/1/94	5.05	1.08	**1.9**	**2.5**	**3.9**	**1.6**	**1.1**	ND(1)	–
MW-6	6/2/94	4.49	1.64	**1.3**	ND	**1**	ND	ND	ND(1)	–
MW-6	9/1/94	4.53	1.60	**2.2**	ND	**1.7**	ND	ND	ND(1)	–
MW-6	12/13/94	4.27	1.86	**0.66 (3)**	ND	ND	ND	ND	–	–
MW-6	3/8/95	3.37	2.76	**1.0 (3)**	ND	ND	ND	ND	–	–
MW-6	6/9/95	4.40	1.73	**1.5**	ND	**3.3**	ND	ND	–	–
MW-6	9/21/95	4.69	1.44	**0.28**	ND	ND	ND	ND	–	–
MW-6	12/18/95	4.42	1.71	–	–	–	–	–	–	–
MW-7	12/29/89	8.35	-3.32	ND	ND	ND	ND	ND	**0.235 (1)**	–
MW-7	3/9/93	13.60	-8.57	ND	ND	ND	ND	ND	ND (1)	–
MW-7	7/21/93	12.59	-7.56	ND	ND	ND	ND	ND	ND(1)	–
MW-7	11/4/93	9.84	-4.81	ND	ND	ND	ND	ND	ND(1)	–
MW-7	2/1/94	10.38	-5.35	ND	ND	ND	ND	ND	ND(1)	–
MW-7	6/2/94	10.10	-5.07	ND	ND	ND	ND	ND	ND(1)	–
MW-7	9/1/94	9.63	-4.60	ND	ND	ND	ND	ND	ND(1)	–
MW-7	12/13/94	11.27	-6.24	ND	ND	ND	ND	ND	–	–
MW-7	3/7/95	9.68	-4.65	ND	ND	ND	ND	ND	–	–
MW-7	6/9/95	9.37	-4.34	ND	ND	ND	ND	ND	–	–
MW-7	9/21/95	9.43	-4.40	ND	ND	ND	ND	ND	–	–
MW-7	12/18/95	13.28	-8.25	–	–	–	–	–	–	–

TABLE 1: SUMMARY OF GROUNDWATER ANALYTICAL DATA

Pacific Supply Company, 1735 24th Street, Oakland, California

Well Name	Sampling Date	Depth to Groundwater (feet)	Groundwater Elevation (feet, MSL)	TPH as gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Lead (mg/L)	MTBE (µg/L)
MW-7	2/29/96	11.70	-6.67	ND	ND	ND	ND	ND	–	–
MW-7	7/15/96	11.12	-6.09	–	–	–	–	–	–	–
MW-7	1/7/97	14.35	-9.32	<0.05	<0.5	<0.5	<0.5	<0.5	–	–
MW-7	7/12/97	15.12	-10.09	–	–	–	–	–	–	–
MW-7	1/26/98	15.28	-10.25	<0.05	<0.5	<0.5	<0.5	<0.5	–	–
MW-7	7/3/98	14.10	-9.07	–	–	–	–	–	–	–
MW-7	1/13/99	14.55	-9.52	<0.05	<0.5	<0.5	<0.5	<0.5	–	–
MW-7	9/27/99	14.03	-9.00	–	–	–	–	–	–	–
MW-7	1/28/00	10.91	-5.88	<0.05	<0.5	<0.5	<0.5	<0.5	–	<5.0

Notes:

MTBE = methyl tertiary butyl ether. TPH = total petroleum hydrocarbons.

(1)=Organic Lead, (2)=Total Lead, and (3)=chromatographic peak array does not match gasoline standard.

ND = not detected at laboratory reporting limit, <= less than given laboratory reporting limit.

µg/L = micrograms per liter. mg/l = milligrams per liter. – = not analyzed.

MSL = mean seal level

Groundwater elevations based on the following well casing elevations in feet above MSL:

MW-1 (8.87'), MW-2 (8.14'), MW-3 (9.13'), MW-4 (9.07'), MW-5 (8.93'), MW-6 (6.13') and MW-7 (5.03').

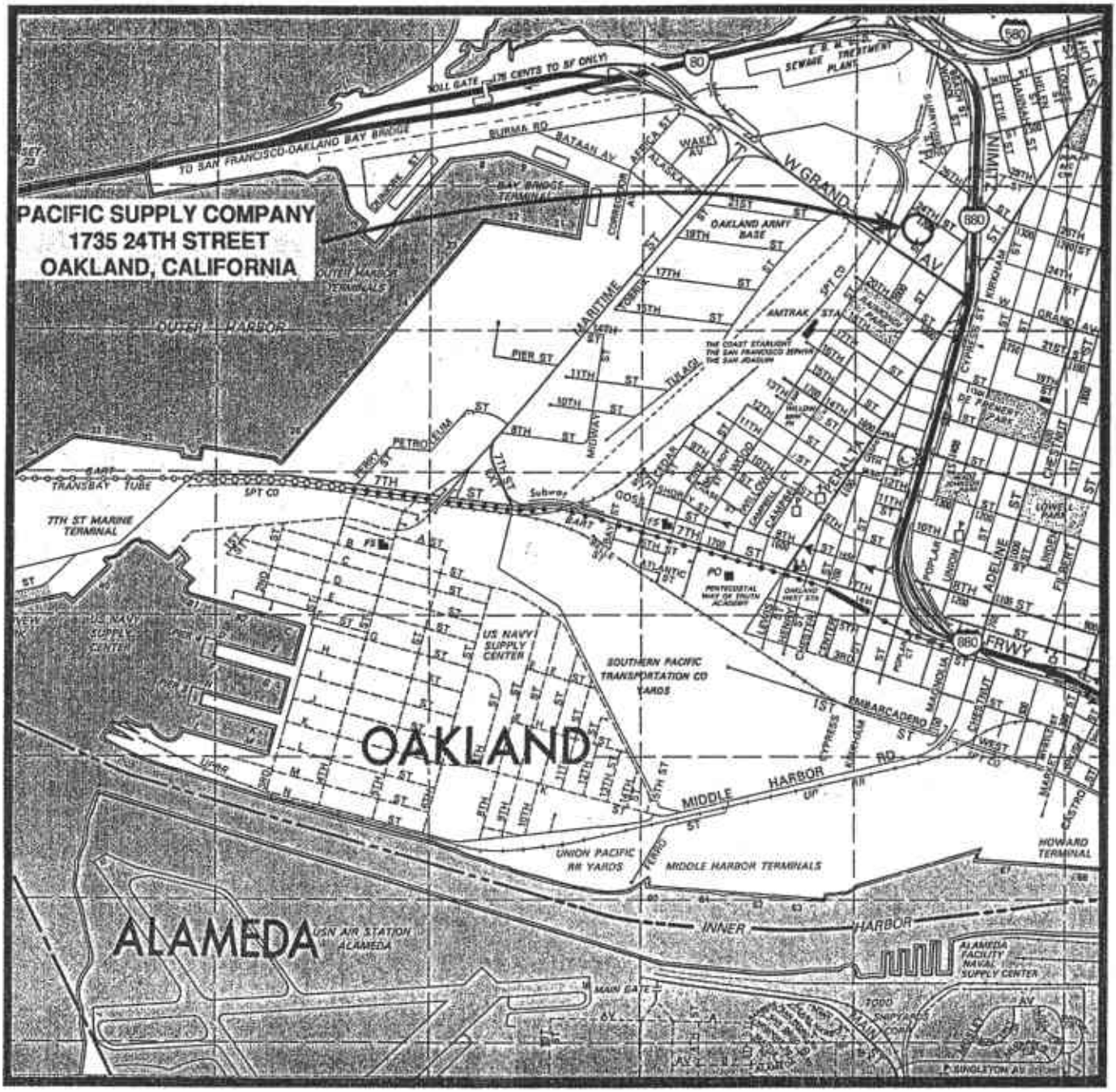
TABLE 2. COMPARISON OF VAPOR EXTRACTION WELL MONITORING RESULTS

Pacific Supply Company, 1735 24th Street, Oakland, California

Sample ID	Sample Collection Date	TPH as gasoline (mg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	TBA (µg/l)	Other Oxygenates & Lead Scavengers (µg/l)
VRW-2	11/4/93	7.2	3,300	600	2.4	870	na	na	na
VRW-2	5/17/02	2.8	471	<10	<10	<10	<20	<200	<10 to <20
VRW-3	11/4/93	5.7	120	41	1.1	380	na	na	na
VRW-3	5/17/02	0.42	10.9	<0.50	<0.50	1.07	<1.0	<10	<0.50 to <1.0
VRW-4	11/4/93	9.0	4,400	900	5.4	990	na	na	na
VRW-4	5/15/02	11	4,270	741	512	1,130	<50	<500	<25 to <50
VRW-5	11/4/93	0.90	68	33	2.5	32	na	na	na
VRW-5	5/16/02	0.87	44.3	<5.0	<5.0	<5.0	<10	<100	<5.0 to <10
VRW-6	11/4/93	0.41	6.6	1.0	ND	31	na	na	na
VRW-6	5/15/02	0.73	178	4.58	1.41	6.10	<1.0	<10	<0.50 to <1.0
VRW-7	11/4/93	0.10	ND	ND	ND	ND	na	na	na
VRW-7	5/16/02	1.6	28.9	0.980	<0.50	<0.50	<1.0	<10	<0.50 to <1.0
VRW-8	11/4/93	5.9	460	54	ND	53	na	na	na
VRW-8	5/16/02	3.3	248	16.0	<10	<10	<20	<200	<10 to <20
VRW-9	11/4/93	0.47	36	18	ND	1.0	na	na	na
VRW-9	5/16/02	0.080	0.990	2.00	<0.50	5.93	<1.0	<10	<0.50 to <1.0

mg/l = milligrams per kilogram which is generally equivalent to parts per million (ppm).

µg/l = micrograms per kilogram which is generally equivalent to parts per billion (ppb).

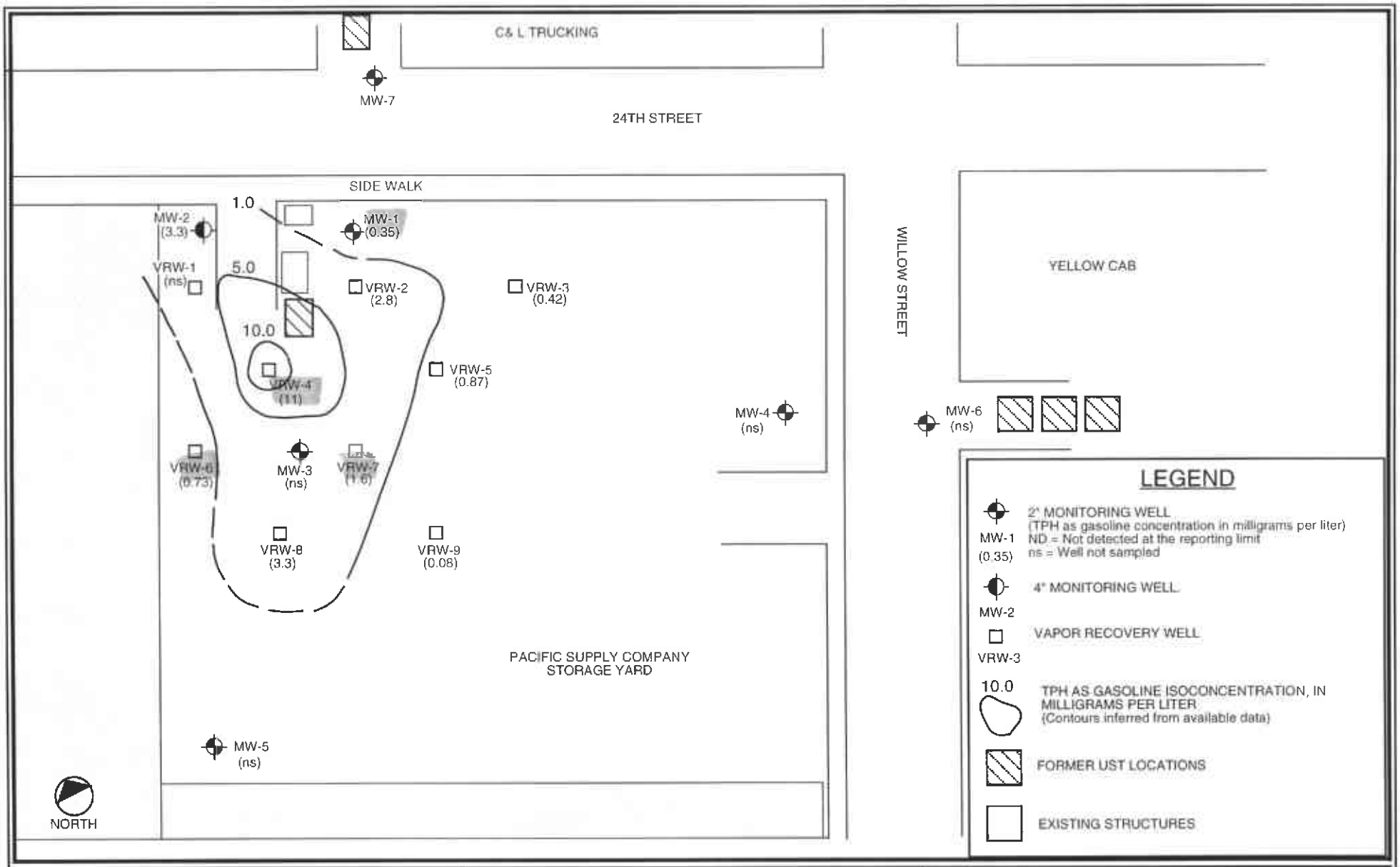


REFERENCE: Thomas Guide, Alameda Couty, 1989

PROJECT NO.: 029.5		
DRAWN BY:	JG	3/21/90
CHECKED BY:	MEV	3/21/90
APPROVED BY:	MEV	3/22/90
REVISION NO.:	2	6/26/90

BRUNSING ASSOCIATES, INC.

FIGURE 1
VICINITY MAP
PACIFIC SUPPLY COMPANY
OAKLAND, CALIFORNIA



PROJECT NUMBER: 29.17 PACIFIC SUPPLY COMPANY OAKLAND, CALIFORNIA		
DRAWING NUMBER: 29.17-01		
DRAWN BY:	CES	9/11/02
APPROVED BY:	DMD	
SCALE: 1 inch = 50 Feet		

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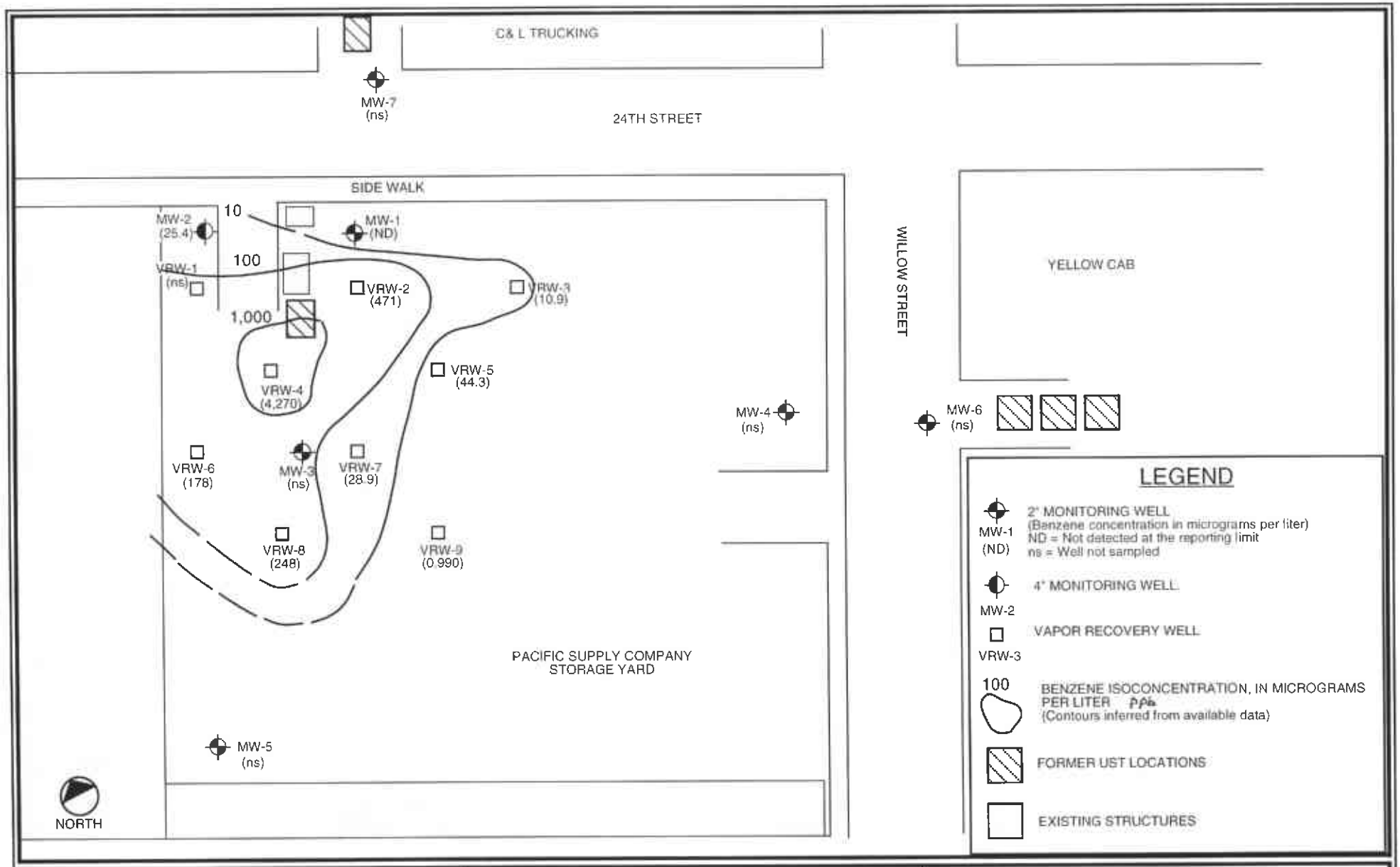
Windsor, California 95492

PLATE 2
Concentrations of TPH as Gasoline in Groundwater, May 2002
Pacific Supply Company
1735 24th Street
Oakland, California



PROJECT NUMBER: 29.17 PACIFIC SUPPLY COMPANY OAKLAND, CALIFORNIA		
DRAWING NUMBER: 29.17-02		
DRAWN BY:	CES	9/11/02
APPROVED BY:	DMD	
SCALE: 1 inch = 50 Feet		

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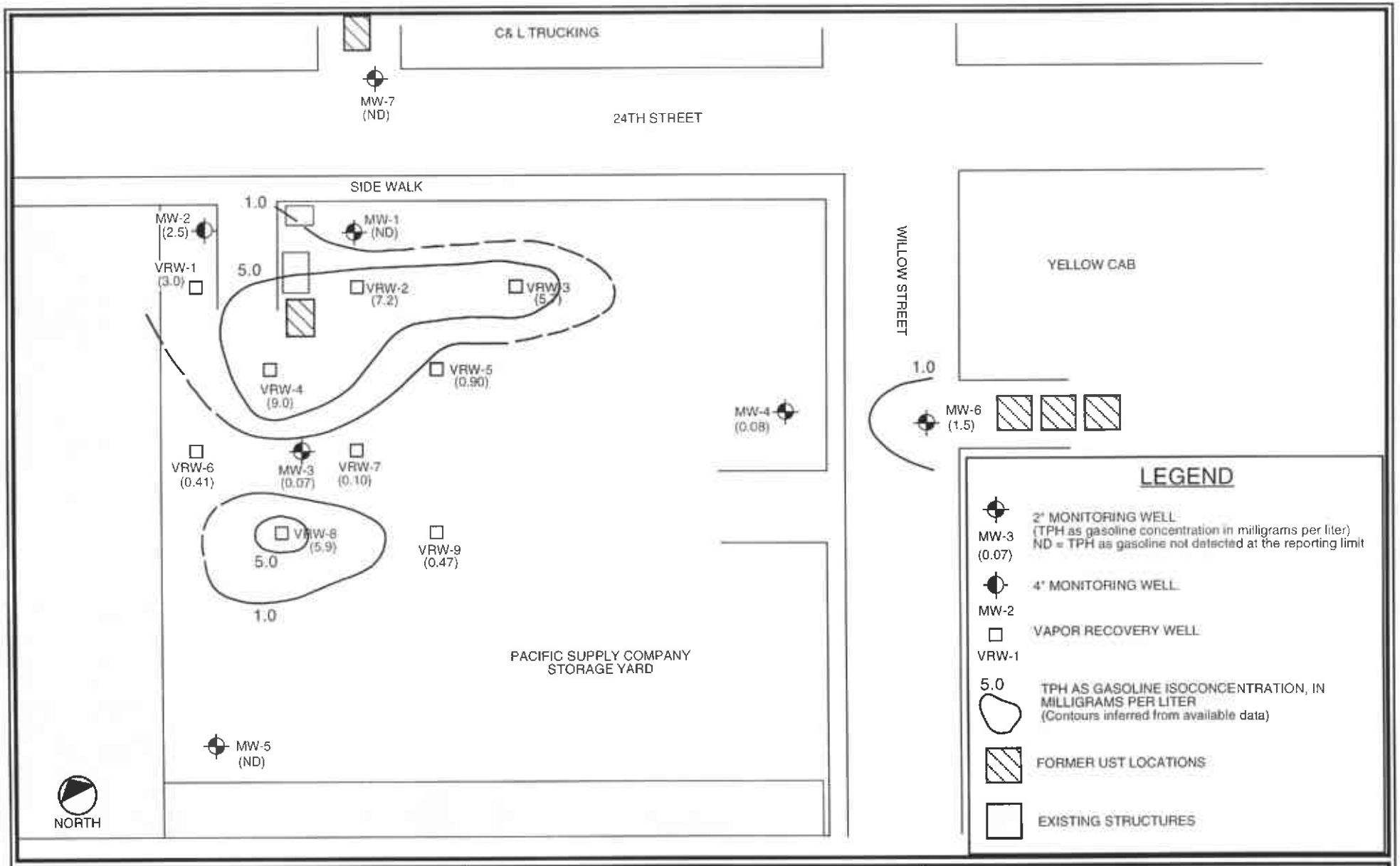
Windsor, California 95492

PLATE 3
Concentrations of Benzene in Groundwater, May 2002
Pacific Supply Company
1735 24th Street
Oakland, California



PROJECT NUMBER: 29.17 PACIFIC SUPPLY COMPANY OAKLAND, CALIFORNIA		
DRAWING NUMBER: 29.17-03		
DRAWN BY:	CES	9/11/02
APPROVED BY:	DMD	
SCALE: 1 inch = 50 Feet		

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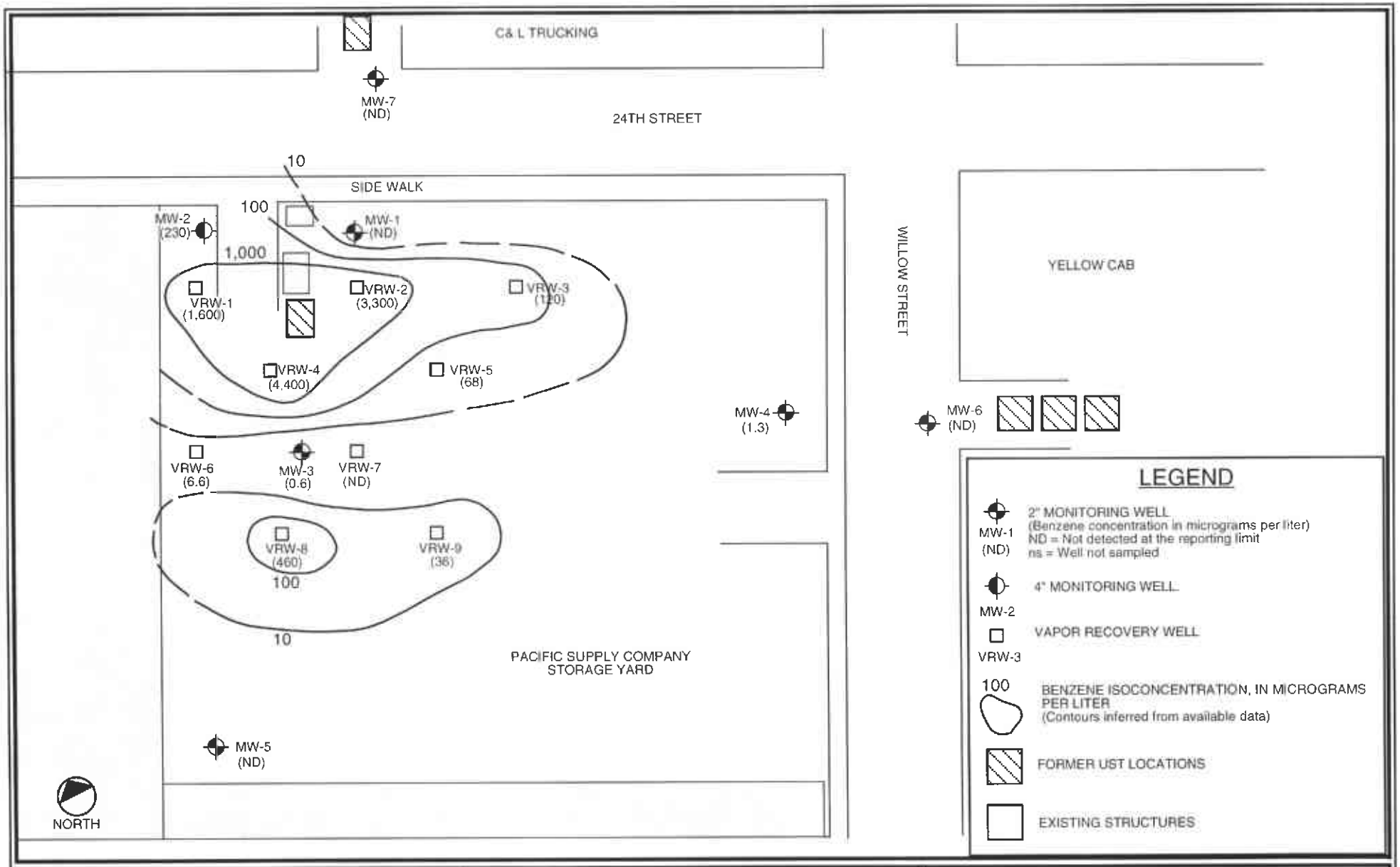
PLATE 4
Concentrations of TPH as Gasoline in Groundwater, November 1993
Pacific Supply Company
1735 24th Street
Oakland, California



PROJECT NUMBER: 29.17 PACIFIC SUPPLY COMPANY OAKLAND, CALIFORNIA		
DRAWING NUMBER: 29.17-02		
DRAWN BY:	CES	9/11/02
APPROVED BY:	DMD	
SCALE: 1 inch = 50 Feet		

Brunsing Associates, Inc.
P. O. Box 588
Windsor, California 95492

PLATE 5
Concentrations of Benzene in Groundwater, November 1993
Pacific Supply Company
1735 24th Street
Oakland, California

APPENDIX A

Monitoring Well Sampling Protocol and Field Reports

Groundwater Sampling Protocol

Monitoring Wells

Prior to purging a monitoring well, groundwater levels are measured with a Solinst electric depth measurement device, or an interface probe, in all wells that are to be measured. At sites where petroleum hydrocarbons are possible contaminants, the well is checked for floating product using a clear bailer, a steel tape with water/oil paste, or an interface probe, during the initial sampling round. If floating product is measured during the initial sampling round or noted during subsequent sampling rounds, floating product measurements are continued.

After the water level and floating product measurements are complete, the monitoring well is purged until a minimum of three casing volumes of water are removed, water is relatively clear of sediment, and pH, conductivity, and temperature measurements of the water become relatively stabile. If the well is purged dry, groundwater samples are collected after the water level in the well recovers to at least 80 percent of the original water column measured in the well prior to sampling, or following a maximum recovery period of two hours. The well is purged using a factory-sealed, disposable, polyethylene bailer, a four-inch diameter submersible Grundfos pump, a two-inch diameter ES-40 purge pump, or a peristaltic pump. The purge water is stored on-site in clean, 55-gallon drums.

A groundwater sample is collected from each monitoring well following re-equilibration of the well after purging. The groundwater sample is collected using a factory-sealed disposable, polyethylene bailer with a sampling port, or a factory-sealed Teflon bailer. A factory provided attachment designed for use with volatile organic compounds (VOCs) is attached to the polyethylene bailer sampling port when collecting samples to be analyzed for VOCs. The groundwater sample is transferred from the bailer into sample container(s) that are obtained directly from the analytical laboratory.

The sample container(s) is labelled with a self-adhesive tag. The following information is included on the tag:

Project number
Sample number
Date and time sample is collected
Initials of sample collector(s).

Individual log sheets are maintained throughout the sampling operations. The following information is recorded:

Sample number
Date and time well sampled and purged
Sampling location
Types of sampling equipment used
Name of sampler(s)
Volume of water purged.

Following collection of the groundwater sample, the sample is immediately stored on blue ice in an appropriate container. A chain-of-custody form is completed with the following information:

Date the sample was collected
Sample number and the number of containers
Analyses required
Remarks including preservatives added and any special conditions.

The original copy of the chain-of-custody form accompanies the sample containers to a California-certified laboratory. A copy is retained by BAI and placed in company files.

Sampling equipment including thermometers, pH electrodes, and conductivity probes are cleaned both before and after their use at the site. The following cleaning procedures are used:

Scrub with a potable water and detergent solution or other solutions deemed appropriate using a hard bristle brush
Rinse with potable water
Double-rinse with organic-free or deionized water
Package and seal equipment in plastic bags or other appropriate containers to prevent contact with solvents, dust, or other contaminants.

In addition, the pumps are cleaned by pumping a potable water and detergent solution and deionized water through the system. Cleaning solutions are contained on-site in clean 55-gallon drums.

Domestic and Irrigation Wells

Groundwater samples collected from domestic or irrigation wells are collected from the spigot that is the closest to the well. Prior to collecting the sample, the spigot is allowed to flow for at least 5 minutes to purge the well. The sample is then collected directly into laboratory-supplied containers, sealed, labeled, and stored on blue ice in an appropriate container, as described above. A chain-of-custody form is completed and submitted with the samples to the analytical laboratory.

BRUNSING ASSOCIATES, INC.
ENVIRONMENTAL DIVISION

FILE COPY

FIELD REPORT

JOB NO: 29.016
INITIAL: CDS
DATE: 5-15-02

PROJECT: PACIFIC SUPPLY
SUBJECT: GROUNDWATER SAMPLING
PROJECT PHASE NUMBER: 04
VEHICLE USED: Ford F-150

TOTAL MILEAGE: 71

TIME	DESCRIPTION OF WORK AND CONVERSATION RECORD
0726	LOAD EQUIPMENT AND SUPPLIES.
0829	TO SITE.
1035	ARRIVE AT SITE. LOCATE ON-SITE WELLS FOR SAMPLING
	ARRANGE FOR ACCESS TO MW-1 AND VRW-8.
	SET-UP DECON CONTAINERS. SET-UP FOR GROUNDWATER SAMPLING.
	MEASURED TWO-ROUNDS OF DISTANCE TO WATER AT WELLS MW-1,
	MW-2, VRW-2, VRW-3, VRW-4, VRW-5, VRW-6, VRW-7, VRW-8
	AND VRW-9. WELLS EQUILIBRATED.
	PERFORMED SAMPLING AT WELLS VRW-4 AND VRW-6.
	EMPTIED PURGEWATER INTO DRUMS LOCATED IN THE FORMER
	COMPOUND AREA.
	DECON ALL SAMPLING EQUIPMENT.
	CLOSED ALL WELLS AND MONUMENTS
	LOADED EQUIPMENT AND SUPPLIES.
1651	LEAVE SITE.
1721	COMPLETED FIELD NOTES AND SAMPLING SHEETS.
	LOGGED SAMPLES ON A CHAIN OF CUSTODY.
1743	FINISHED WITH WORK.

WATER LEVELS

PROJECT: PACIFIC SUPPLY PROJECT NUMBER: 29,016

INSTRUMENT TYPE: ET (WLP) INITIALS: CDS DATE: 5-15-02

WELL NUMBER	DEPTH TO PRODUCT	DISTANCE TO WATER	TIME (24 HOUR)	EQUILIBRATED (CHECK FOR YES)	NOTES
MW-1	–	7.45	1304		
MW-2	–	6.95	1307		
VRW-2	–	6.96	1311		
VRW-3	–	7.50	1313		
VRW-4	–	7.09	1314		
VRW-5	–	7.43	1316		
VRW-6	–	7.19	1321		
VRW-7	–	7.49	1319		
VRW-8	–	7.46	1323		
VRW-9	–	7.69	1325		
MW-1	–	7.45	1336	✓	
MW-2	–	6.95	1334	✓	
VRW-2	–	6.96	1337	✓	
VRW-3	–	7.50	1338	✓	
VRW-4	–	7.09	1342	✓	
VRW-5	–	7.44	1345	✓	
VRW-6	–	7.19	1351	✓	
VRW-7	–	7.49	1348	✓	
VRW-8	–	7.46	1355	✓	
VRW-9	–	7.69	1354	✓	

WELL SAMPLING

SHEET 3 OF 4

PROJECT: Pacific Supply | PROJECT NUMBER: 29.016

WELL# VMW-4 | PRECIP. IN LAST 5 DAYS: — | WIND ✓ | DATE: 5-15-02

STARTING TIME: 1400 | FINISHING TIME: 1509 | INITIALS: CDS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: [ ] - D.T.W. [ ] = H20 COLUMN: [ ] CONV.= [ ]

4" WELL DEPTH: [20.00] - D.T.W. [7.09] = H20 COLUMN: [12.91] CONV.= [25.82]

THEREFORE TOTAL PURGE GALLONS EQUALS 2" WELL [ ] 4" WELL [26]

GALLONS

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
1417	1	6.72	369 µS	23.6	TURBID GREY-BLACK, PHC ODOR, SHEEN, SANDY
1427	14	6.84	1166 µS	21.7	TURBID GREEN-BROWN, PHC ODOR, SHEEN, SANDY
1452	26	7.12	5.34 mS	22.0	SAME

SAMPLING: SAMPLE ANALYSIS: TPH.GAS | EPA 8260 | | | |

SAMPLE TIME: 1501 DID WELL GO DRY? NO

WATER LEVELS: TIME	D.T.W.	NOTES:
1509	15.30	SLOW RECOVERY

WELL SAMPLING

PROJECT: Pacific Supply | PROJECT NUMBER: 29.016

WELL# VEW-6 | PRECIP. IN LAST 5 DAYS: — | WIND ✓ | DATE: 5-15-02

STARTING TIME: 1510 | FINISHING TIME: 1613 | INITIALS: CDS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: [ ] - D.T.W. [ ] = H20 COLUMN: [ ] CONV.= [ ]

4" WELL DEPTH: [20.00] - D.T.W. [7.19] = H20 COLUMN: [12.81] CONV.= [25.62]

THEREFORE TOTAL PURGE GALLONS EQUALS 2" WELL [ ] 4" WELL [26]

GALLONS

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
1516	1	7.14	3.75 ms	19.8	CLEAR BROWN, PHC ODOR, SHEEN, SEDIMENT
1524	13	6.82	9.93 ms	19.8	TURBID GREY-BLACK, PHC ODOR, SEDIMENT
1548	26	7.07	10.84 ms	19.7	SAME

SAMPLING: SAMPLE ANALYSIS: TPH-GAS | EPA 8260

SAMPLE TIME: 1557 DID WELL GO DRY? NO

WATER LEVELS: TIME	D.T.W.	NOTES:
1613	17.21	SLOW RECOVERY

BRUNSING ASSOCIATES, INC.
ENVIRONMENTAL DIVISION

FIELD REPORT

JOB NO: 29.016
INITIAL: COS
DATE: 5-16-02

PROJECT: PACIFIC SUPPLY
SUBJECT: GROUNDWATER SAMPLING
PROJECT PHASE NUMBER: 04
VEHICLE USED: Ford F-150

PAGE 1 OF 6
TOTAL MILEAGE: 15

TIME	DESCRIPTION OF WORK AND CONVERSATION RECORD:
0621	TO SITE
0637	ARRIVE AT SITE. SET-UP FOR GROUNDWATER SAMPLING
	PERFORMED SAMPLING AT WELLS MW-1, VRW-5, VRW-7,
	VRW-8 AND VRW-9
	EMPTIED PURGEWATER INTO DRUMS LOCATED IN THE FORMER
	COMPOUND AREA
	CLOSED ALL WELLS AND MONUMENTS.
	LOADED SUPPLIES AND EQUIPMENT
1442	LEAVE SITE
1458	COMPLETED FIELD NOTES AND SAMPLING SHEETS. LOGGED
	SAMPLES ON CHAIN OF CUSTODY
1525	FINISHED WITH WORK

WELL SAMPLING

SHEET 2 OF 6

PROJECT: Pacific Supply PROJECT NUMBER: 29.016

WELL# MW-1 PRECIP. IN LAST 5 DAYS: — WIND ✓ DATE: 5-16-02

STARTING TIME: 1139 FINISHING TIME: 1315 INITIALS: CDS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: 19.00 - D.T.W. 7.45 = H2O COLUMN: 11.55 CONV.= 5.78

4" WELL DEPTH: - D.T.W. = H2O COLUMN: CONV.=

THEREFORE TOTAL PURGE GALLONS EQUALS 2" WELL 6 4" WELL

GALLONS

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
1211	1	7.38	5.49 mS	19.4	TURBID GREY-BLACK, ORGANIC ODOR, SEDIMENT, SANDY
1227	3	7.12	3.07 mS	18.1	TURBID DARK GREY, ORGANIC ODOR, SHEEN, SEDIMENT, SANDY
1243	6	7.22	1692 µS	20.1	TURBID GREY-BROWN, ORGANIC ODOR, SANDY

SAMPLING: SAMPLE ANALYSIS: TPH.GAS | EPA 8260 | | | |

SAMPLE TIME: 1254 DID WELL GO DRY? NO

WATER LEVELS:

TIME	D.T.W.
1315	8.55

NOTES:

WELL SAMPLING

SHEET 3 OF 6

PROJECT: Pacific Supply | PROJECT NUMBER: 29.016

WELL# VEW-5 | PRECIP. IN LAST 5 DAYS: — | WIND ✓ | DATE: 5-16-02

STARTING TIME: 0912 | FINISHING TIME: 1027 | INITIALS: CDS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: [ ] - D.T.W. [ ] = H20 COLUMN: [ ] CONV.= [ ]

4" WELL DEPTH: [20.00] - D.T.W. [7.44] = H20 COLUMN: [12.56] CONV.= [25.12]

THEREFORE TOTAL PURGE GALLONS EQUALS 2" WELL [ ] 4" WELL [25]

GALLONS

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
0927	1	6.94	6.38 mS	19.7	CLEAR, YELLOW-BROWN, PHC ODOR, SEDIMENT
0939	13	6.90	5.51 mS	19.0	TURBID GREEN-BROWN, PHC ODOR, SEDIMENT, SANDY
0953	25	6.84	5.24 mS	19.5	SAME

SAMPLING: SAMPLE ANALYSIS: TPH-GAS | EPA 8260

SAMPLE TIME: 1009 | DID WELL GO DRY? NO

WATER LEVELS: TIME	D.T.W.
1027	7.56

NOTES:

WELL SAMPLING

SHEET 4 OF 6

PROJECT: Pacific Supply | PROJECT NUMBER: 29.016

WELL# VRW-7 | PRECIP. IN LAST 5 DAYS: — | WIND ✓ | DATE: 5-16-02

STARTING TIME: 0709 | FINISHING TIME: 0911 | INITIALS: CDS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: [ ] - D.T.W. [ ] = H2O COLUMN: [ ] CONV.= [ ]

4" WELL DEPTH: [20.00] - D.T.W. [7.49] = H2O COLUMN: [12.51] CONV.= [25.02]

THEREFORE TOTAL PURGE GALLONS EQUALS 2" WELL [ ] 4" WELL [25] (12) GALLONS

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	µS CONDUCTIVITY	TEMP.	OBSERVATIONS
0729	1	6.78	663	18.4	CLEAR, YELLOW-BROWN, PHC ODOR, SHEEN, SEDIMENT
0734	6	6.87	1181	19.3	TURBID GREEN-GREY, PHC ODOR, SHEEN, SEDIMENT
0740	12	6.91	1695	19.4	SAME

SAMPLING: SAMPLE ANALYSIS: TPH-GAS | EPA 8260

SAMPLE TIME: 0849 DID WELL GO DRY? YES

WATER LEVELS: TIME	D.T.W.
0741	18.90
0841	11.20
0911	11.77

NOTES: WELL DRY AT 12 gal. PURGE.

WELL SAMPLING

SHEET 5 OF 6

PROJECT: Pacific Supply | PROJECT NUMBER: 29.016

WELL# VRW-8 | PRECIP. IN LAST 5 DAYS: — | WIND ✓ | DATE: 5-16-02

STARTING TIME: 1028 | FINISHING TIME: 1138 | INITIALS: CDS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: [ ] - D.T.W. [ ] = H2O COLUMN: [ ] CONV.= [ ]

4" WELL DEPTH: [20.00] - D.T.W. [7.46] = H2O COLUMN: [12.54] CONV.= [25.08]

GALLONS

THEREFORE TOTAL PURGE GALLONS EQUALS 2" WELL [ ] 4" WELL [25]

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
1044	1	6.79	6.93 mS	21.7	CLEAR YELLOW-BROWN, PHC ODOR
1055	13	6.89	5.41 mS	19.8	TURBID GREEN-BROWN, PHC ODOR, SEDIMENT, SANDY
1114	25	6.89	4.94 mS	19.8	SAME

SAMPLING: SAMPLE ANALYSIS: TPH-GAS | EPA | 8260

SAMPLE TIME: 1128 | DID WELL GO DRY? No

WATER LEVELS: TIME	D.T.W.
1138	7.55

NOTES:

WELL SAMPLING

SHEET 6 OF 6

PROJECT: Pacific Supply PROJECT NUMBER: 29.016

WELL# VRW-9 PRECIP. IN LAST 5 DAYS: — WIND ✓ DATE: 5-16-02

STARTING TIME: 0742 FINISHING TIME: 0848 INITIALS: CDS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: [ ] - D.T.W. [ ] = H20 COLUMN: [ ] CONV.= [ ]

4" WELL DEPTH: [20.00] - D.T.W. [7.69] = H20 COLUMN: [12.31] CONV.= [24.62]

GALLONS

THEREFORE TOTAL PURGE GALLONS EQUALS 2" WELL [ ] 4" WELL [25]

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
0754	1	7.30	6.11 ms	17.9	CLEAR YELLOW-BROWN, PHC ODOR
0811	13	7.13	6.55 ms	19.9	TURBID GREEN-BROWN, PHC ODOR, SANDY
0823	25	6.21	441 µs	16.5	SAME

SAMPLING: SAMPLE ANALYSIS: [TPH-GAS] [EPA] [8260] [ ] [ ] [ ]

SAMPLE TIME: [0840] DID WELL GO DRY? [NO]

WATER LEVELS: TIME	D.T.W.
0848	7.79

NOTES:

BRUNSING ASSOCIATES, INC.
ENVIRONMENTAL DIVISION

FIELD REPORT

JOB NO: 29.016 PROJECT: PACIFIC SUPPLY PAGE 1 OF 4
INITIAL: LDS SUBJECT: GROUND WATER SAMPLING
DATE: 5-17-02 PROJECT PHASE NUMBER: 04
VEHICLE USED: Ford F-150 TOTAL MILEAGE: 71

TIME	DESCRIPTION OF WORK AND CONVERSATION RECORD
0626	TO SITE
0654	ARRIVE AT SITE. SET-UP FOR GROUND WATER SAMPLING.
	PERFORMED SAMPLING AT WELLS MW-2, VRW-2
	AND VRW-3
	EMPTIED PURGE WATER INTO DRUMS LOCATED IN THE
	FORMER COMPOUND AREA.
	CLOSED ALL WELLS AND MONUMENTS
	DECON ALL SAMPLING EQUIPMENT
	LOAD EQUIPMENT AND SUPPLIES
1305	LEAVE SITE.
1457	ARRIVE AT OFFICE. UNLOAD EQUIPMENT AND SUPPLIES.
	COMPLETED FIELD NOTES.
	COMPLETED SAMPLE LOG ON CHAIN OF CUSTODY AND
	SUBMITTED SAMPLES FOR ANALYSIS.
1602	FINISHED WITH WORK.

WELL SAMPLING

SHEET 2 OF 4

PROJECT: Pacific Supply PROJECT NUMBER: 29.016

WELL# MW-2 PRECIP. IN LAST 5 DAYS: — WIND ✓ DATE: 5-17-02

STARTING TIME: 0738 FINISHING TIME: 0851 INITIALS: CDS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: [ ] - D.T.W. [ ] = H20 COLUMN: [ ] CONV.= [ ]

4" WELL DEPTH: [20.00] - D.T.W. [6.92] = H20 COLUMN: [13.08] CONV.= [26.16]

THEREFORE TOTAL PURGE GALLONS EQUALS 2" WELL [ ] 4" WELL [26]

GALLONS

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
0752	1	6.84	1047 µS	17.4	CLEAR YELLOW-BROWN, PHC ODOR, SEDIMENT
0802	13	6.90	4.06 mS	18.3	CLOUDY YELLOW-BROWN, NO ODOR, SEDIMENT
0823	26	6.98	3.12 mS	18.7	SAME

SAMPLING: SAMPLE ANALYSIS: TPH-GAS | EPA 8260 | | | |

SAMPLE TIME: 0837 DID WELL GO DRY? NO

WATER LEVELS: TIME	D.T.W.
0722	6.92
0733	6.92
0851	7.06

NOTES:

WELL SAMPLING

SHEET 3 OF 4

PROJECT: Pacific Supply PROJECT NUMBER: 29.016

WELL# VRW-2 PRECIP. IN LAST 5 DAYS: — WIND ✓ DATE: 5-17-02

STARTING TIME: 0852 FINISHING TIME: 0947 INITIALS: CDS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: [ ] - D.T.W. [ ] = H20 COLUMN: [ ] CONV.= [ ]

4" WELL DEPTH: [20.00] - D.T.W. [7.00] = H20 COLUMN: [13.00] CONV.= [26]

GALLONS

THEREFORE TOTAL PURGE GALLONS EQUALS 2" WELL [ ] 4" WELL [26]

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
0858	1	7.13	4.10 mS	19.6	CLEAR YELLOW-BROWN, PHCODOR, SEDIMENT
0910	13	6.91	3.63 mS	19.7	TURBIDGREY-BLACK, PHCODOR, SEDIMENT
0922	26	7.10	3.21 mS	18.3	SAME

SAMPLING: SAMPLE ANALYSIS: TPH.GAS | EPA | 8260

SAMPLE TIME: 0937 DID WELL GO DRY? No

WATER LEVELS: TIME	D.T.W.
0728	7.00
0735	7.00
0947	7.25

NOTES:

WELL SAMPLING

SHEET 4 OF 4

PROJECT: Pacific Supply PROJECT NUMBER: 29.016

WELL# VRW-3 PRECIP. IN LAST 5 DAYS: — WIND ✓ DATE: 5-17-02

STARTING TIME: 0948 FINISHING TIME: 1057 INITIALS: CDS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: [ ] - D.T.W. [ ] = H2O COLUMN: [ ] CONV.= [ ]

4" WELL DEPTH: [20.00] - D.T.W. [7.54] = H2O COLUMN: [12.46] CONV.= [24.92]

GALLONS

THEREFORE TOTAL PURGE GALLONS EQUALS 2" WELL [ ] 4" WELL [25]

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
0959	1	7.03	1878 µS	20.2	CLEAR YELLOW-BROWN, ORGANIC ODOR, SEDIMENT
1009	13	6.83	9.02 mS	19.7	TURBID GREY-BLACK, ORGANIC ODOR, SHEEN, SEDIMENT, SANDY
1029	25	7.18	4.47 mS	20.6	SAME

SAMPLING: SAMPLE ANALYSIS: TPH-GAS | EPA | 8260

SAMPLE TIME: 1045 DID WELL GO DRY? No

WATER LEVELS: TIME	D.T.W.
0730	7.54
0737	7.54
1057	15.10

NOTES: SLOW RECOVERY

Chain-of Custody Form

Project #	Project Name				Analysis													C.O.C. No. 10241
29,016	PACIFIC SUPPLY																	
L.P. No.	Sampler's Signature: Chris Scott																	Remarks:
Date Sampled	Sample I.D.	Time (24 Hour)	Sample Type	No. of Containers	TPH-GAS	EPA 8260 -	OXYLENATES, LEAD SCAVENGERS, & BTEX											
5.16.02	MW-1	1254	WATER	4	X	X												
5.17.02	MW-2	0857			X	X												
5.17.02	VRW-2	0937			X	X												
5.17.02	VRW-3	1045			X	X												
5.15.02	VRW-4	1501			X	X												
5.16.02	VRW-5	1009			X	X												
5.15.02	VRW-6	1557			X	X												
5.16.02	VRW-7	0849			X	X												
5.16.02	VRW-8	1128			X	X												
5.16.02	VRW-9	0840	↓	↓	X	X												

Laboratory: BAFS

Preservation: A - HCL: B - H2SO4: C - NaOH: D - HNO3: E - Ice: F - (specify)

Relinquished by: (signed)	Date/Time	Received by: (signed)	Remarks:
Chris Scott	5/17/02 1502		STANDARD TAT
Relinquished by: (signed)	Date/Time	Received by: (signed)	ATTN: CARL SCHLAB
Relinquished by: (signed)	Date/Time	Received for Laboratory by: (signed)	

Brunsing Associates, Inc.
P.O. Box 588
5803 Skylane Blvd.
Windsor, CA 95492
(707) 838-3027
(707) 838-4420 fax

APPENDIX B

Analytical Laboratory Report

Laboratory Report Project Overview

EDF 1.2a

Laboratory:	Bace Analytical, Windsor, CA
Lab Report Number:	3869
Project Name:	PACIFIC SUPPLY
Work Order Number:	29.016
Control Sheet Number:	NA

FILE COPY

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run Sub
3869	MW-1	3869-1	W	CS	CATPH-G	SW5030A	05/16/2002	05/20/2002	05/20/2002	052002	7
3869	MW-1	3869-1	W	CS	SW8260B	SW5030B	05/16/2002	05/21/2002	05/21/2002	020521	7
3869	MW-2	3869-2	W	CS	CATPH-G	SW5030A	05/17/2002	05/20/2002	05/20/2002	052002	3
3869	MW-2	3869-2	W	CS	SW8260B	SW5030B	05/17/2002	05/21/2002	05/21/2002	020521	8
3869	VRW-2	3869-3	W	CS	CATPH-G	SW5030A	05/17/2002	05/20/2002	05/20/2002	052002	10
3869	VRW-2	3869-3	W	CS	SW8260B	SW5030B	05/17/2002	05/21/2002	05/21/2002	020521	9
3869	VRW-3	3869-4	W	CS	CATPH-G	SW5030A	05/17/2002	05/20/2002	05/20/2002	052002	8
3869	VRW-3	3869-4	W	CS	SW8260B	SW5030B	05/17/2002	05/21/2002	05/21/2002	020521	10
3869	VRW-4	3869-5	W	CS	CATPH-G	SW5030A	05/15/2002	05/20/2002	05/20/2002	052002	5
3869	VRW-4	3869-5	W	CS	SW8260B	SW5030B	05/15/2002	05/21/2002	05/21/2002	020521	11
3869	VRW-5	3869-6	W	CS	CATPH-G	SW5030A	05/16/2002	05/20/2002	05/20/2002	052002	9
3869	VRW-5	3869-6	W	CS	SW8260B	SW5030B	05/16/2002	05/21/2002	05/21/2002	020521	12
3869	VRW-6	3869-7	W	CS	CATPH-G	SW5030A	05/15/2002	05/20/2002	05/20/2002	052002	4
3869	VRW-6	3869-7	W	CS	SW8260B	SW5030B	05/15/2002	05/21/2002	05/21/2002	020521	13
3869	VRW-7	3869-8	W	CS	CATPH-G	SW5030A	05/16/2002	05/20/2002	05/20/2002	052002	12
3869	VRW-7	3869-8	W	CS	SW8260B	SW5030B	05/16/2002	05/21/2002	05/21/2002	020521	14
3869	VRW-8	3869-9	W	CS	CATPH-G	SW5030A	05/16/2002	05/20/2002	05/20/2002	052002	6
3869	VRW-8	3869-9	W	CS	SW8260B	SW5030B	05/16/2002	05/21/2002	05/21/2002	020521	15
3869	VRW-9	3869-10	W	CS	CATPH-G	SW5030A	05/16/2002	05/20/2002	05/20/2002	052002	11
3869	VRW-9	3869-10	W	CS	SW8260B	SW5030B	05/16/2002	05/21/2002	05/21/2002	020521	16
		020521DI	W	NC	SW8260B	SW5030B	/ /	05/21/2002	05/21/2002	020521	1
		3869MB	W	LB1	CATPH-G	SW5030B	/ /	05/20/2002	05/20/2002	052002	1
		3869MB	W	LB1	SW8260B	SW5030B	/ /	05/21/2002	05/21/2002	020521	1
		3869MS	W	MS1	CATPH-G	SW5030B	/ /	05/20/2002	05/20/2002	052002	13
		3869MS	W	MS1	SW8260B	SW5030B	/ /	05/21/2002	05/21/2002	020521	5
		3869SD	W	SD1	CATPH-G	SW5030B	/ /	05/20/2002	05/20/2002	052002	14
		3869SD	W	SD1	SW8260B	SW5030B	/ /	05/21/2002	05/21/2002	020521	6

Bace Analytical, Windsor, CA

Lab Report No.: 3869 Date: 05/22/2002 Page: 1

Project Name:	PACIFIC SUPPLY	Analysis:	CA LUFT Method for Gasoline Range Organics
Project No:	29.016	Method:	CATPH-G
		Prep Meth:	SW5030A

Field ID:	MW-1	Lab Samp ID:	3869-1
Descr/Location:		Rec'd Date:	05/17/2002
Sample Date:	05/16/2002	Prep Date:	05/20/2002
Sample Time:	1254	Analysis Date:	05/20/2002
Matrix:	Water	QC Batch:	052002
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Gasoline	0.020	0.050	PQL		0.35	MG/L	1

Approved by: WHQ Date: 5/22/02

Project Name:	PACIFIC SUPPLY	Analysis:	CA LUFT Method for Gasoline Range Organics
Project No:	29.016	Method:	CATPH-G
		Prep Meth:	SW5030A

Field ID:	MW-2	Lab Samp ID:	3869-2
Descr/Location:		Rec'd Date:	05/17/2002
Sample Date:	05/17/2002	Prep Date:	05/20/2002
Sample Time:	0837	Analysis Date:	05/20/2002
Matrix:	Water	QC Batch:	052002
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Gasoline	0.200	0.500	PQL		3.3	MG/L	10

Approved by: WNQ Date: 5/22/02

Project Name:	PACIFIC SUPPLY	Analysis:	CA LUFT Method for Gasoline Range Organics
Project No:	29.016	Method:	CATPH-G
		Prep Meth:	SW5030A

Field ID:	VRW-2	Lab Samp ID:	3869-3
Descr/Location:		Rec'd Date:	05/17/2002
Sample Date:	05/17/2002	Prep Date:	05/20/2002
Sample Time:	0937	Analysis Date:	05/20/2002
Matrix:	Water	QC Batch:	052002
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Gasoline	0.020	0.050	PQL		2.8	MG/L	1

Approved by: WAQ Date: 5/22/02

Project Name:	PACIFIC SUPPLY	Analysis:	CA LUFT Method for Gasoline Range Organics
Project No:	29.016	Method:	CATPH-G
		Prep Meth:	SW5030A

Field ID:	VRW-3	Lab Samp ID:	3869-4
Descr/Location:		Rec'd Date:	05/17/2002
Sample Date:	05/17/2002	Prep Date:	05/20/2002
Sample Time:	1045	Analysis Date:	05/20/2002
Matrix:	Water	QC Batch:	052002
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Gasoline	0.020	0.050	PQL		0.42	MG/L	1

Approved by: _____ Date: 5/22/02

Project Name:	PACIFIC SUPPLY	Analysis:	CA LUFT Method for Gasoline Range Organics
Project No:	29.016	Method:	CATPH-G
		Prep Meth:	SW5030A

Field ID:	VRW-4	Lab Samp ID:	3869-5
Descr/Location:		Rec'd Date:	05/17/2002
Sample Date:	05/15/2002	Prep Date:	05/20/2002
Sample Time:	1501	Analysis Date:	05/20/2002
Matrix:	Water	QC Batch:	052002
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Gasoline	0.200	0.500	PQL		11.	MG/L	10

Approved by: _____ Date: 5/22/02

Project Name:	PACIFIC SUPPLY	Analysis:	CA LUFT Method for Gasoline Range Organics
Project No:	29.016	Method:	CATPH-G
		Prep Meth:	SW5030A

Field ID:	VRW-5	Lab Samp ID:	3869-6
Descr/Location:		Rec'd Date:	05/17/2002
Sample Date:	05/16/2002	Prep Date:	05/20/2002
Sample Time:	1009	Analysis Date:	05/20/2002
Matrix:	Water	QC Batch:	052002
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Gasoline	0.020	0.050	PQL		0.87	MG/L	1

Approved by: _____ Date: 5/22/02

Project Name:	PACIFIC SUPPLY	Analysis:	CA LUFT Method for Gasoline Range Organics
Project No:	29.016	Method:	CATPH-G
		Prep Meth:	SW5030A

Field ID:	VRW-6	Lab Samp ID:	3869-7
Descr/Location:		Rec'd Date:	05/17/2002
Sample Date:	05/15/2002	Prep Date:	05/20/2002
Sample Time:	1557	Analysis Date:	05/20/2002
Matrix:	Water	QC Batch:	052002
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Gasoline	0.020	0.050	PQL		0.73	MG/L	1

Approved by: _____ Date: 5/22/02

Project Name:	PACIFIC SUPPLY	Analysis:	CA LUFT Method for Gasoline Range Organics
Project No:	29.016	Method:	CATPH-G
		Prep Meth:	SW5030A

Field ID:	VRW-7	Lab Samp ID:	3869-8
Descr/Location:		Rec'd Date:	05/17/2002
Sample Date:	05/16/2002	Prep Date:	05/20/2002
Sample Time:	0849	Analysis Date:	05/20/2002
Matrix:	Water	QC Batch:	052002
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Gasoline	0.020	0.050	PQL		1.6	MG/L	1

Approved by: _____ Date: 5/22/02

Project Name:	PACIFIC SUPPLY	Analysis:	CA LUFT Method for Gasoline Range Organics
Project No:	29.016	Method:	CATPH-G
		Prep Meth:	SW5030A

Field ID:	VRW-8	Lab Samp ID:	3869-9
Descr/Location:		Rec'd Date:	05/17/2002
Sample Date:	05/16/2002	Prep Date:	05/20/2002
Sample Time:	1128	Analysis Date:	05/20/2002
Matrix:	Water	QC Batch:	052002
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Gasoline	0.020	0.050	PQL		3.3	MG/L	1

Approved by: _____ Date: 5/22/02

Project Name:	PACIFIC SUPPLY	Analysis:	CA LUFT Method for Gasoline Range Organics
Project No:	29.016	Method:	CATPH-G
		Prep Meth:	SW5030A

Field ID:	VRW-9	Lab Samp ID:	3869-10
Descr/Location:		Rec'd Date:	05/17/2002
Sample Date:	05/16/2002	Prep Date:	05/20/2002
Sample Time:	0840	Analysis Date:	05/20/2002
Matrix:	Water	QC Batch:	052002
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Gasoline	0.020	0.050	PQL		0.080	MG/L	1

Approved by: _____ Date: 5/22/02

Project Name: PACIFIC SUPPLY
Project No: 29.016

Analysis: Volatile Organic Compounds by GC/MS
Method: SW8260B
Prep Meth: SW5030B

Field ID: MW-1
Descr/Location:
Sample Date: 05/16/2002
Sample Time: 1254
Matrix: Water
Basis: Not Filtered

Lab Samp ID: 3869-1
Rec'd Date: 05/17/2002
Prep Date: 05/21/2002
Analysis Date: 05/21/2002
QC Batch: 020521
Notes:

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	0.27	0.50	PQL		ND	UG/L	1
1,2-Dibromoethane	0.30	0.50	PQL		ND	UG/L	1
1,2-Dichloroethane	0.30	0.50	PQL		ND	UG/L	1
Ethylbenzene	0.25	0.50	PQL		ND	UG/L	1
Toluene	0.25	0.50	PQL		ND	UG/L	1
Methyl-tert-butyl ether (MTBE)	0.38	1.0	PQL		ND	UG/L	1
Di-isopropyl ether (DIPE)	0.37	1.0	PQL		ND	UG/L	1
Ethyl tert-butyl ether (ETBE)	0.30	1.0	PQL		ND	UG/L	1
tert-Amyl methyl ether (TAME)	0.26	1.0	PQL		ND	UG/L	1
tert-Butyl alcohol (TBA)	2.4	10.	PQL		ND	UG/L	1
Xylenes	0.25	0.50	PQL		ND	UG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		86-115	SMSA		106%		
Toluene-d8		88-110	SMSA		101%		
Dibromofluoromethane		86-118	SMEA		106%		

Approved by: _____ Date: 5/22/02

Project Name: PACIFIC SUPPLY
Project No: 29.016

Analysis: Volatile Organic Compounds by GC/MS
Method: SW8260B
Prep Meth: SW5030B

Field ID: MW-2
Descr/Location:
Sample Date: 05/17/2002
Sample Time: 0837
Matrix: Water
Basis: Not Filtered

Lab Samp ID: 3869-2
Rec'd Date: 05/17/2002
Prep Date: 05/21/2002
Analysis Date: 05/21/2002
QC Batch: 020521
Notes:

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	2.7	5.0	PQL		25.4	UG/L	10
1,2-Dibromoethane	3.0	5.0	PQL		ND	UG/L	10
1,2-Dichloroethane	3.0	5.0	PQL		ND	UG/L	10
Ethylbenzene	2.5	5.0	PQL		ND	UG/L	10
Toluene	2.5	5.0	PQL		ND	UG/L	10
Methyl-tert-butyl ether (MTBE)	3.8	10.	PQL		ND	UG/L	10
Di-isopropyl ether (DIPE)	3.7	10.	PQL		ND	UG/L	10
Ethyl tert-butyl ether (ETBE)	3.0	10.	PQL		ND	UG/L	10
tert-Amyl methyl ether (TAME)	2.6	10.	PQL		ND	UG/L	10
tert-Butyl alcohol (TBA)	24.	100.	PQL		ND	UG/L	10
Xylenes	2.5	5.0	PQL		ND	UG/L	10
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		86-115	SMSA		109%		1
Toluene-d8		88-110	SMSA		101%		1
Dibromofluoromethane		86-118	SMEA		109%		1

Approved by: _____ Date: 5/22/02

Project Name: PACIFIC SUPPLY
Project No: 29.016

Analysis: Volatile Organic Compounds by GC/MS
Method: SW8260B
Prep Meth: SW5030B

Field ID: VRW-2
Descr/Location:
Sample Date: 05/17/2002
Sample Time: 0937
Matrix: Water
Basis: Not Filtered

Lab Samp ID: 3869-3
Rec'd Date: 05/17/2002
Prep Date: 05/21/2002
Analysis Date: 05/21/2002
QC Batch: 020521
Notes:

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	5.4	10.	PQL		471.	UG/L	20
1,2-Dibromoethane	6.0	10.	PQL		ND	UG/L	20
1,2-Dichloroethane	6.0	10.	PQL		ND	UG/L	20
Ethylbenzene	5.0	10.	PQL		ND	UG/L	20
Toluene	5.0	10.	PQL		ND	UG/L	20
Methyl-tert-butyl ether (MTBE)	7.6	20.	PQL		ND	UG/L	20
Di-isopropyl ether (DIPE)	7.4	20.	PQL		ND	UG/L	20
Ethyl tert-butyl ether (ETBE)	6.0	20.	PQL		ND	UG/L	20
tert-Amyl methyl ether (TAME)	5.2	20.	PQL		ND	UG/L	20
tert-Butyl alcohol (TBA)	48.	200.	PQL		ND	UG/L	20
Xylenes	5.0	10.	PQL		ND	UG/L	20
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		86-115	SMSA		100%		2
Toluene-d8		88-110	SMSA		101%		2
Dibromofluoromethane		86-118	SMEA		107%		2

Approved by: WKQ Date: 5/22/02

Project Name: PACIFIC SUPPLY
Project No: 29.016

Analysis: Volatile Organic Compounds by GC/MS
Method: SW8260B
Prep Meth: SW5030B

Field ID: VRW-3
Descr/Location:
Sample Date: 05/17/2002
Sample Time: 1045
Matrix: Water
Basis: Not Filtered

Lab Samp ID: 3869-4
Rec'd Date: 05/17/2002
Prep Date: 05/21/2002
Analysis Date: 05/21/2002
QC Batch: 020521
Notes:

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	0.27	0.50	PQL		10.9	UG/L	1
1,2-Dibromoethane	0.30	0.50	PQL		ND	UG/L	1
1,2-Dichloroethane	0.30	0.50	PQL		ND	UG/L	1
Ethylbenzene	0.25	0.50	PQL		ND	UG/L	1
Toluene	0.25	0.50	PQL		ND	UG/L	1
Methyl-tert-butyl ether (MTBE)	0.38	1.0	PQL		ND	UG/L	1
Di-isopropyl ether (DIPE)	0.37	1.0	PQL		ND	UG/L	1
Ethyl tert-butyl ether (ETBE)	0.30	1.0	PQL		ND	UG/L	1
tert-Amyl methyl ether (TAME)	0.26	1.0	PQL		ND	UG/L	1
tert-Butyl alcohol (TBA)	2.4	10.	PQL		ND	UG/L	1
Xylenes	0.25	0.50	PQL		1.07	UG/L	1

SURROGATE AND INTERNAL STANDARD RECOVERIES:			
4-Bromofluorobenzene	86-115	SMSA	102%
Toluene-d8	88-110	SMSA	102%
Dibromofluoromethane	86-118	SMEA	107%

Approved by: _____ Date: 5/22/02

Project Name: PACIFIC SUPPLY
Project No: 29.016

Analysis: Volatile Organic Compounds by GC/MS
Method: SW8260B
Prep Meth: SW5030B

Field ID: VRW-4
Descr/Location:
Sample Date: 05/15/2002
Sample Time: 1501
Matrix: Water
Basis: Not Filtered

Lab Samp ID: 3869-5
Rec'd Date: 05/17/2002
Prep Date: 05/21/2002
Analysis Date: 05/21/2002
QC Batch: 020521
Notes:

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	14.	25.	PQL		4270.	UG/L	50
1,2-Dibromoethane	15.	25.	PQL		ND	UG/L	50
1,2-Dichloroethane	15.	25.	PQL		ND	UG/L	50
Ethylbenzene	13.	25.	PQL		512.	UG/L	50
Toluene	13.	25.	PQL		741.	UG/L	50
Methyl-tert-butyl ether (MTBE)	19.	50.	PQL		ND	UG/L	50
Di-isopropyl ether (DIPE)	19.	50.	PQL		ND	UG/L	50
Ethyl tert-butyl ether (ETBE)	15.	50.	PQL		ND	UG/L	50
tert-Amyl methyl ether (TAME)	13.	50.	PQL		ND	UG/L	50
tert-Butyl alcohol (TBA)	120.	500.	PQL		ND	UG/L	50
Xylenes	13.	25.	PQL		1130.	UG/L	50
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		86-115	SMSA		103%		
Toluene-d8		88-110	SMSA		103%		
Dibromofluoromethane		86-118	SMEA		108%		

Approved by: _____ Date: 5/22/02

Project Name: PACIFIC SUPPLY
Project No: 29.016

Analysis: Volatile Organic Compounds by GC/MS
Method: SW8260B
Prep Meth: SW5030B

Field ID: VRW-5
Descr/Location:
Sample Date: 05/16/2002
Sample Time: 1009
Matrix: Water
Basis: Not Filtered

Lab Samp ID: 3869-6
Rec'd Date: 05/17/2002
Prep Date: 05/21/2002
Analysis Date: 05/21/2002
QC Batch: 020521
Notes:

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	2.7	5.0	PQL		44.3	UG/L	10
1,2-Dibromoethane	3.0	5.0	PQL		ND	UG/L	10
1,2-Dichloroethane	3.0	5.0	PQL		ND	UG/L	10
Ethylbenzene	2.5	5.0	PQL		ND	UG/L	10
Toluene	2.5	5.0	PQL		ND	UG/L	10
Methyl-tert-butyl ether (MTBE)	3.8	10.	PQL		ND	UG/L	10
Di-isopropyl ether (DIPE)	3.7	10.	PQL		ND	UG/L	10
Ethyl tert-butyl ether (ETBE)	3.0	10.	PQL		ND	UG/L	10
tert-Amyl methyl ether (TAME)	2.6	10.	PQL		ND	UG/L	10
tert-Butyl alcohol (TBA)	24.	100.	PQL		ND	UG/L	10
Xylenes	2.5	5.0	PQL		ND	UG/L	10
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		86-115	SMSA		107%		1
Toluene-d8		88-110	SMSA		105%		1
Dibromofluoromethane		86-118	SMEA		106%		1

Approved by: _____ Date: 5/22/02

Project Name: PACIFIC SUPPLY
Project No: 29.016

Analysis: Volatile Organic Compounds by GC/MS
Method: SW8260B
Prep Meth: SW5030B

Field ID: VRW-6
Descr/Location:
Sample Date: 05/15/2002
Sample Time: 1557
Matrix: Water
Basis: Not Filtered

Lab Samp ID: 3869-7
Rec'd Date: 05/17/2002
Prep Date: 05/21/2002
Analysis Date: 05/21/2002
QC Batch: 020521
Notes:

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	0.27	0.50	PQL		178	UG/L	1
1,2-Dibromoethane	0.30	0.50	PQL		ND	UG/L	1
1,2-Dichloroethane	0.30	0.50	PQL		ND	UG/L	1
Ethylbenzene	0.25	0.50	PQL		1.41	UG/L	1
Toluene	0.25	0.50	PQL		4.58	UG/L	1
Methyl-tert-butyl ether (MTBE)	0.38	1.0	PQL		ND	UG/L	1
Di-isopropyl ether (DIPE)	0.37	1.0	PQL		ND	UG/L	1
Ethyl tert-butyl ether (ETBE)	0.30	1.0	PQL		ND	UG/L	1
tert-Amyl methyl ether (TAME)	0.26	1.0	PQL		ND	UG/L	1
tert-Butyl alcohol (TBA)	2.4	10.	PQL		ND	UG/L	1
Xylenes	0.25	0.50	PQL		6.10	UG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		86-115	SMSA		96.8%		
Toluene-d8		88-110	SMSA		101%		
Dibromofluoromethane		86-118	SMEA		107%		

Approved by: _____ Date: 5/22/02

Project Name: PACIFIC SUPPLY
Project No: 29.016

Analysis: Volatile Organic Compounds by GC/MS
Method: SW8260B
Prep Meth: SW5030B

Field ID: VRW-7
Descr/Location:
Sample Date: 05/16/2002
Sample Time: 0849
Matrix: Water
Basis: Not Filtered

Lab Samp ID: 3869-8
Rec'd Date: 05/17/2002
Prep Date: 05/21/2002
Analysis Date: 05/21/2002
QC Batch: 020521
Notes:

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	0.27	0.50	PQL		28.9	UG/L	1
1,2-Dibromoethane	0.30	0.50	PQL		ND	UG/L	1
1,2-Dichloroethane	0.30	0.50	PQL		ND	UG/L	1
Ethylbenzene	0.25	0.50	PQL		ND	UG/L	1
Toluene	0.25	0.50	PQL		0.980	UG/L	1
Methyl-tert-butyl ether (MTBE)	0.38	1.0	PQL		ND	UG/L	1
Di-isopropyl ether (DIPE)	0.37	1.0	PQL		ND	UG/L	1
Ethyl tert-butyl ether (ETBE)	0.30	1.0	PQL		ND	UG/L	1
tert-Amyl methyl ether (TAME)	0.26	1.0	PQL		ND	UG/L	1
tert-Butyl alcohol (TBA)	2.4	10.	PQL		ND	UG/L	1
Xylenes	0.25	0.50	PQL		ND	UG/L	1

SURROGATE AND INTERNAL STANDARD RECOVERIES:

4-Bromofluorobenzene	86-115	SMSA	101%
Toluene-d8	88-110	SMSA	103%
Dibromofluoromethane	86-118	SMEA	107%

Approved by: _____ Date: 5/22/02

Project Name: PACIFIC SUPPLY
Project No: 29.016

Analysis: Volatile Organic Compounds by GC/MS
Method: SW8260B
Prep Meth: SW5030B

Field ID: VRW-8
Descr/Location:
Sample Date: 05/16/2002
Sample Time: 1128
Matrix: Water
Basis: Not Filtered

Lab Samp ID: 3869-9
Rec'd Date: 05/17/2002
Prep Date: 05/21/2002
Analysis Date: 05/21/2002
QC Batch: 020521
Notes:

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	5.4	10.	PQL		248	UG/L	20
1,2-Dibromoethane	6.0	10.	PQL		ND	UG/L	20
1,2-Dichloroethane	6.0	10.	PQL		ND	UG/L	20
Ethylbenzene	5.0	10.	PQL		ND	UG/L	20
Toluene	5.0	10.	PQL		16.0	UG/L	20
Methyl-tert-butyl ether (MTBE)	7.6	20.	PQL		ND	UG/L	20
Di-isopropyl ether (DIPE)	7.4	20.	PQL		ND	UG/L	20
Ethyl tert-butyl ether (ETBE)	6.0	20.	PQL		ND	UG/L	20
tert-Amyl methyl ether (TAME)	5.2	20.	PQL		ND	UG/L	20
tert-Butyl alcohol (TBA)	48.	200.	PQL		ND	UG/L	20
Xylenes	5.0	10.	PQL		ND	UG/L	20
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		86-115	SMSA		100%		2
Toluene-d8		88-110	SMSA		103%		2
Dibromofluoromethane		86-118	SMEA		108%		2

Approved by: _____ Date: 5/22/02

Project Name: PACIFIC SUPPLY
Project No: 29.016

Analysis: Volatile Organic Compounds by GC/MS
Method: SW8260B
Prep Meth: SW5030B

Field ID: VRW-9
Descr/Location:
Sample Date: 05/16/2002
Sample Time: 0840
Matrix: Water
Basis: Not Filtered

Lab Samp ID: 3869-10
Rec'd Date: 05/17/2002
Prep Date: 05/21/2002
Analysis Date: 05/21/2002
QC Batch: 020521
Notes:

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	0.27	0.50	PQL		0.990	UG/L	1
1,2-Dibromoethane	0.30	0.50	PQL		ND	UG/L	1
1,2-Dichloroethane	0.30	0.50	PQL		ND	UG/L	1
Ethylbenzene	0.25	0.50	PQL		ND	UG/L	1
Toluene	0.25	0.50	PQL		2.00	UG/L	1
Methyl-tert-butyl ether (MTBE)	0.38	1.0	PQL		ND	UG/L	1
Di-isopropyl ether (DIPE)	0.37	1.0	PQL		ND	UG/L	1
Ethyl tert-butyl ether (ETBE)	0.30	1.0	PQL		ND	UG/L	1
tert-Amyl methyl ether (TAME)	0.26	1.0	PQL		ND	UG/L	1
tert-Butyl alcohol (TBA)	2.4	10.	PQL		ND	UG/L	1
Xylenes	0.25	0.50	PQL		5.93	UG/L	1

SURROGATE AND INTERNAL STANDARD RECOVERIES:

4-Bromofluorobenzene	86-115	SMSA	103%
Toluene-d8	88-110	SMSA	106%
Dibromofluoromethane	86-118	SMEA	106%

Approved by: _____ Date: 5/22/02

QA/QC Report
Method Blank Summary

Bace Analytical, Windsor, CA

Lab Report No.: 3869 Date: 05/22/2002

QC Batch: 020521
Matrix: Water
Lab Samp ID: 3869MB
Analysis Date: 05/21/2002
Basis: Not Filtered

Analysis: Volatile Organic Compounds by GC/MS
Method: SW8260B
Prep Meth: SW5030B
Prep Date: 05/21/2002
Notes:

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	0.27	0.50	PQL		ND	UG/L	1
1,2-Dibromoethane	0.30	0.50	PQL		ND	UG/L	1
1,2-Dichloroethane	0.30	0.50	PQL		ND	UG/L	1
Ethylbenzene	0.25	0.50	PQL		ND	UG/L	1
Toluene	0.25	0.50	PQL		ND	UG/L	1
Methyl-tert-butyl ether (MTBE)	0.38	1.0	PQL		ND	UG/L	1
Di-isopropyl ether (DIPE)	0.37	1.0	PQL		ND	UG/L	1
Ethyl tert-butyl ether (ETBE)	0.30	1.0	PQL		ND	UG/L	1
tert-Amyl methyl ether (TAME)	0.26	1.0	PQL		ND	UG/L	1
tert-Butyl alcohol (TBA)	2.4	10.	PQL		ND	UG/L	1
Xylenes	0.25	0.50	PQL		ND	UG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		86-115	SMSA		101%		
Toluene-d8		88-110	SMSA		102%		
Dibromofluoromethane		86-118	SMEA		107%		

QA/QC Report
Matrix Spike/Duplicate Matrix Spike Summary

Bace Analytical, Windsor, CA

Lab Report No.: 3869 Date: 05/22/2002

QC Batch: 020521
Matrix: Water
Lab Samp ID: 3869MS
Basis: Not Filtered

Project Name: Lab Generated or Non COE Sample
Project No.: Lab Generated or Non COE Sample
Field ID: Lab Generated or Non COE Sample
Lab Ref ID: 020521DI

Analyte	Analysis Method	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Units	% Recoveries MS	% Recoveries DMS	% Recoveries RPD	Acceptance Criteria % Rec		Acceptance Criteria RPD
1,2-Dibromoethane	SW8260B	10.0	10.0	ND	11.0	10.5	UG/L	110	105	4.7	140-60	MSA	20MSP
1,2-Dichloroethane	SW8260B	10.0	10.0	ND	11.3	10.8	UG/L	113	108	4.5	140-60	MSA	20MSP
Benzene	SW8260B	10.0	10.0	ND	10.6	10.5	UG/L	106	105	0.95	140-60	MSA	20MSP
Di-isopropyl ether (DIPE)	SW8260B	10.0	10.0	ND	9.68	9.48	UG/L	96.8	94.8	2.1	140-60	MSA	20MSP
Ethyl tert-butyl ether (ETBE)	SW8260B	10.0	10.0	ND	9.50	9.22	UG/L	95.0	92.2	3.0	140-60	MSA	20MSP
Ethylbenzene	SW8260B	10.0	10.0	ND	9.65	10.8	UG/L	96.5	108	11	140-60	MSA	20MSP
Methyl-tert-butyl ether (MTBE)	SW8260B	10.0	10.0	ND	10.6	10.2	UG/L	106	102	3.8	140-60	MSA	20MSP
Toluene	SW8260B	10.0	10.0	ND	10.4	9.95	UG/L	104	99.5	4.4	140-60	MSA	20MSP
Xylenes	SW8260B	30.0	30.0	ND	30.2	34.1	UG/L	101	114	12	140-60	MSA	20MSP
tert-Amyl methyl ether (TAME)	SW8260B	10.0	10.0	ND	9.17	8.78	UG/L	91.7	87.8	4.3	140-60	MSA	20MSP
tert-Butyl alcohol (TBA)	SW8260B	50.0	50.0	ND	58.6	53.6	UG/L	117	107	8.9	160-40	MSA	30MSP
4-Bromofluorobenzene	SW8260B	100.	100.	101.	99.	112.	PERCENT	99.0	112	12	115-86	SMSA	25SMSP
Dibromofluoromethane	SW8260B	100.	100.	107.	107.	104.	PERCENT	107	104	2.8	118-86	SMEA	30SMSP
Toluene-d8	SW8260B	100.	100.	102	100.	100.	PERCENT	100	100	0.00	110-88	SMSA	20SMSP

QA/QC Report
Method Blank Summary

Bace Analytical, Windsor, CA

Lab Report No.: 3869 Date: 05/22/2002

QC Batch:	052002	Analysis:	CA LUFT Method for Gasoline Range
Matrix:	Water	Method:	CATPH-G
Lab Samp ID:	3869MB	Prep Meth:	SW5030B
Analysis Date:	05/20/2002	Prep Date:	05/20/2002
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Gasoline	0.020	0.050	PQL		ND	MG/L	1

QA/QC Report
Matrix Spike/Duplicate Matrix Spike Summary

Bace Analytical, Windsor, CA

Lab Report No.: 3869 Date: 05/22/2002

QC Batch: 052002
Matrix: Water
Lab Samp ID: 3869MS
Basis: Not Filtered

Project Name: PACIFIC SUPPLY
Project No.: 29.016
Field ID: VRW-9
Lab Ref ID: 3869-10

Analyte	Analysis Method	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Units	% Recoveries MS	% Recoveries DMS	% Recoveries RPD	Acceptance Criteria % Rec	Acceptance Criteria RPD
Gasoline	CATPH-G	1.5	1.5	0.080	1.6	1.5	MG/L	100	93.4	6.8	150-50	MSA 40MSP

Chain-of Custody Form

Project #	Project Name			No. of Containers	Analysis A												C.O.C. No. 10241
29,016	PACIFIC SUPPLY				TPH-GAS	EPA 8260 –	OXYGENATES, LEAD	SCAVENGERS, 1 BTEX									
L.P. No.	Sampler's Signature: Chris Scott																Remarks:
Date Sampled	Sample I.D.	Time (24 Hour)	Sample Type														
5.16.02	MW-1	1254	WATER	4	X	X											3869-1
5.17.02	MW-2	0837			X	X											-2
5.17.02	VRW-2	0937			X	X											-3
5.17.02	VRW-3	1045			X	X											-4
5.15.02	VRW-4	1501			X	X											-5
5.16.02	VRW-5	1009			X	X											-6
5.15.02	VRW-6	1557			X	X											-7
5.16.02	VRW-7	0849			X	X											-8
5.16.02	VRW-8	1128			X	X											-9
5.16.02	VRW-9	0840	↓	↓	X	X											-10

Laboratory: BAES

Preservation: A - HCL: B - H2SO4: C - NaOH: D - HNO3: E - Ice: F - (specify)

Relinquished by: (signed) Chris Scott	Date/Time 5/17/02 1502	Received by: (signed)	Remarks: STANDARD TAT
Relinquished by: (signed)	Date/Time	Received by: (signed)	ATTN: CARL SCHWAB
Relinquished by: (signed)	Date/Time 5/17/02 1550	Received for Laboratory by: (signed)	

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