

P & D ENVIRONMENTAL

A Division of Paul H. King, Inc.

4020 Panama Court

Oakland, CA 94611

(510) 658-6916

December 12, 1997
Report 0047.R19

Mr. L.B. Patel
Mr. P. Gupta
VIP Service
385 Century Circle
Danville, CA 94526

SUBJECT: Quarterly Groundwater Monitoring and Sampling Report
VIP Service
3889 Castro Valley Blvd.
Castro Valley, CA

Gentlemen:

P&D Environmental, a division of Paul H. King, Inc. (P&D) is pleased to present this report documenting the results of the quarterly monitoring of groundwater monitoring wells MW1, MW2, and MW3 and the sampling of groundwater monitoring well MW3 at the subject site. This work was performed in accordance with P&D's proposal 082897.P1 dated August 28, 1997. The work was performed in accordance with requirements set forth in a letter from Mr. Scott Seery of the Alameda County Department of Environmental Health (ACDEH) dated March 18, 1994 for the subject site. Based upon a telephone conversation with Mr. Seery on July 31, 1995, the sampling of monitoring wells MW1 and MW2 was reduced to semi-annually. In addition, no further analysis for TPH-D was required for well MW3. All three wells were monitored and well MW3 was sampled once during this quarter.

The monitoring and sampling was performed on November 18, 1997. The reporting period is for August through October, 1997. A Site Location Map (Figure 1) and Site Plan (Figure 2) are attached with this report.

BACKGROUND

It is P&D's understanding that the site was purchased by VIP Service in December, 1984. Prior to purchase of the property by VIP Service, the site was operated as a retail gasoline station for an undetermined period of time. The site was operated as a retail gasoline station from the time of purchase by VIP Service until the tanks were removed by Accutite on April 26, 1993. The underground tank system consisted of three 10,000 gallon capacity gasoline tanks, two dispenser islands, and one 550 gallon waste oil tank. It is P&D's understanding that the fuel tanks contained leaded and unleaded gasoline while in use by VIP Service. In addition, VIP Service reported that diesel fuel was not stored at the site at any time.

It is P&D's understanding that at the time of tank removal, eight soil samples were collected from the sidewalls of the fuel tank pit, and one soil sample was collected from the waste oil tank pit. Groundwater was reported to have been encountered in the fuel tank pit at a depth of approximately 11 feet. One water sample was collected from the water in the fuel tank pit. On April 28, 1993 Accutite returned to the site and collected seven soil samples from beneath the dispenser islands.

All of the samples were analyzed at Sequoia Analytical in Redwood City, California for Total Petroleum Hydrocarbons as Gasoline (TPH-G); Benzene, Toluene, Ethylbenzene and Xylenes (BTEX); and for Total Lead. In addition, the samples from the waste oil tank were analyzed for Total Petroleum Hydrocarbons as Diesel (TPH-D); Total Oil and Grease (TOG); Halogenated Volatile Organic Compounds using EPA Method 8010; Semi-Volatile Organic Compounds using EPA Method 8270; and for the metals Cadmium, Chromium, Lead, Nickel and Zinc.

The results of the soil samples collected from the fuel tank pit showed TPH-G concentrations ranging from 120 to 6,200 parts per million (ppm), and total

lead results ranging from not detected to 13 ppm. The results of the water sample from the fuel tank pit showed 140 ppm TPH-G, and 0.095 ppm total lead.

The results of the soil samples collected from beneath the fuel dispensers showed TPH-G values ranging from not detected to 4.7 ppm, and total lead values ranging from not detected to 7.6 ppm.

The results of the sample collected from the waste oil tank pit showed 670 ppm TPH-G; 410 ppm TPH-D; 1,300 ppm TOG; 0.023 ppm 1,2-Dichloroethane and 0.0094 ppm Tetrachloroethene in the EPA Method 8010 analysis; 2.7 ppm 2-Methylnaphthalene and 3.8 ppm Naphthalene in the EPA Method 8270 analysis; and various metals concentrations, none of which exceeded ten times their respective STLC values. The laboratory identified the TPH-D results as being a "non-diesel mix," and indicated that the compounds reported as diesel were diesel-range gasoline and diesel-range oil compounds.

Between August 27 and November 1, 1993 P&D personnel collected stockpiled soil samples for stockpiled soil disposal characterization and oversaw the excavation of approximately 680 cubic yards of soil from the vicinity of the fuel tank pit in an effort to remove petroleum hydrocarbon-impacted soil. In addition, during this time the soil which was stockpiled by Accutite during the tank removal activities and during the subsequent soil excavation activities was disposed of at an appropriate disposal facility, and the tank pit backfilled and compacted. A total of eight confirmation soil samples were collected from the sidewalls of the tank pit on November 19, 1993 at a depth of 10 feet after over-excavation and prior to backfilling. The analytical results of the samples ranged from 33 to 3,200 ppm TPH-G. The sample collection locations are shown on the attached Site Plan, Figure 3. Documentation of excavation, stockpiled soil characterization and disposal, and backfilling of the pit are provided in P&D's report 0047.R1 dated January 24, 1994. The samples results associated with the removal of the tanks by Accutite are also summarized in P&D's report 0047.R1.

On November 10, 1993 P&D personnel oversaw the installation of three groundwater monitoring wells, designated as MW1 through MW3, and one exploratory soil boring, designated as B1, at the subject site. The wells were developed on November 12 and sampled on November 16, 1993. The results of the water samples showed that TPH-G was not detected in wells MW1 and MW2, and that BTEX was not detected in MW2. In well MW1, 0.0022 ppm of benzene was detected. In well MW3, TPH-G was detected at 12 ppm; BTEX was detected with benzene detected at 3.3 ppm; TRPH was not detected; EPA Method 8010 compounds were not detected except for 0.027 ppm 1,2-Dichloroethane; and EPA Method 8270 compounds were not detected except for 0.009 ppm Phenol, 0.006 ppm Benzyl Alcohol, 0.006 2-Methylphenol, 0.007 ppm 2,4-Dimethylphenol, 0.088 ppm Benzoic Acid, 0.042 ppm Naphthalene, and 0.015 2-Methylnaphthalene.

Documentation of the monitoring well and soil boring installation and associated sample results are presented in P&D's report 0047.R2 dated January 24, 1994. The locations of the monitoring wells are shown in Figure 2.

In response to a letter dated March 18, 1994 from Mr. Scott Seery ACDEH which commented upon the results of the initial groundwater sampling associated with the installation of the monitoring wells at the subject site, a quarterly groundwater monitoring and sampling program was initiated.

FIELD ACTIVITIES

On November 18, 1997 all three of the monitoring wells at the site were monitored and well MW3 was sampled by P&D personnel. The wells were monitored for depth to water and the presence of free product or sheen. Depth to water was measured to the nearest 0.01 foot using an electric water level indicator. The presence of free product or sheen was evaluated using a transparent bailer. No

free product or sheen was observed in any of the wells. Depth to water level measurements are presented in Table 1.

Prior to sampling, monitoring well MW3 was purged of a minimum of three casing volumes of water. During purging operations, the field parameters of electrical conductivity, temperature and pH were monitored. Once the field parameters were observed to stabilize, and a minimum of three casing volumes had been purged, a water sample was collected using a clean Teflon bailer.

The water sample was transferred to 40-milliliter glass Volatile Organic Analysis (VOA) vials and 1-liter amber glass bottles which were sealed with Teflon-lined screw caps. The VOA vials were overturned and tapped to assure that no air bubbles were present.

The VOA vials and bottles were labeled and then transferred to a cooler with ice, until they were transported to McCampbell Analytical, Inc. in Pacheco, California. McCampbell Analytical, Inc. is a State-certified hazardous waste testing laboratory. Chain of custody documentation accompanied the samples to the laboratory. Records of the field parameters measured during well purging are attached with this report. Water purged from the well during purging operations was stored in a DOT-approved 55-gallon drum pending appropriate disposal.

HYDROGEOLOGY

Water levels were measured in the monitoring wells once during the quarter. The measured depth to water at the site on November 21, 1997 ranged from 8.97 to 9.71 feet. Groundwater levels have decreased in wells MW1, MW2, and MW3 by 0.32, 0.20, and 0.12 feet, respectively, since the previous monitoring on August 12, 1997. The calculated groundwater flow direction at the site on November 18, 1997 was to the west-southwest with a gradient of 0.0094. The apparent groundwater flow direction has shifted slightly to the west and the gradient has increased since the previous quarterly monitoring on August 12, 1997.

Groundwater level data collected during the quarter are presented in Table 1. The groundwater flow direction at the site on November 18, 1997 is shown on Figure 2.

LABORATORY RESULTS

The groundwater sample from monitoring well MW3 (near the former waste oil tank) was analyzed for TPH-G using EPA Method 5030 in conjunction with Modified EPA Method 8015 (GCFID), BTEX and MTBE using EPA Method 8020, Halogenated Volatile Organic Compounds using EPA Method 8010, and for Semi-volatile Organic Compounds using EPA Method 8270.

The laboratory analytical results of the groundwater sample collected from monitoring well MW3 shows that TPH-G was detected at a concentration of 21 ppm; benzene was detected at a concentration of 0.48 ppm; MTBE was not detected; EPA Method 8010 compounds were not detected except for 1,2-Dichloroethane which was detected at a concentration of 0.021 ppm; and EPA Method 8270 compounds were not detected except for 0.0026 4-Methylphenol and 0.0058 ppm Naphthalene.

DISCUSSION AND RECOMMENDATIONS

Based on the laboratory analytical results of the water samples collected from monitoring well MW3, P&D recommends that the quarterly groundwater monitoring of wells MW1, MW2, and MW3, the quarterly sampling of well MW3 and the semi-annual sampling of wells MW1 and MW2 be continued. During the next quarter, all of the wells should be monitored and sampled.

DISTRIBUTION

Copies of this report should be distributed to Mr. Scott Seery at the Alameda County Department of Environmental Health, and to Mr. Kevin Graves at the San Francisco Bay Regional Water Quality Control Board. Copies of the report should be accompanied by a transmittal letter signed by the principal executive officer of VIP Service.

LIMITATIONS

This report was prepared solely for the use of VIP Service. The content and conclusions provided by P&D in this assessment are based on information collected during our investigation, which may include, but not be limited to, visual site inspections; interviews with site owner, regulatory agencies and other pertinent individuals; review of available public documents; subsurface exploration and our professional judgement based on said information at the time of preparation of this document. Any subsurface sample results and observations presented herein are considered to be representative of the area of investigation; however, geological conditions may vary between borings and may not necessarily apply to the general site as a whole. If future subsurface or other conditions are revealed which vary from these findings, the newly-revealed conditions must be evaluated and may invalidate the findings of this report.

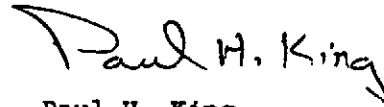
This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the owner to properly dispose of any hazardous materials or hazardous wastes left onsite, in accordance with existing laws and regulations.

This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. P&D is not responsible for the accuracy or completeness of information provided by other individuals or entities which is used in this report. This report presents our professional judgement based upon data and findings identified in this report and interpretation of such data based upon our experience and background, and no warranty, either express or implied, is made. The conclusions presented are based upon the current regulatory climate and may require revision if future regulatory changes occur.

Should you have any questions, please do not hesitate to contact us at
(510) 658-6916.

Sincerely,

P&D Environmental



Paul H. King
Hydrogeologist



Don R. Braun
Certified Engineering Geologist
Registration No. : 1310
Expires: 6/30/98



PHK
0047.R19

Attachments: Tables 1 & 2
Site Location Map (Figure 1)
Site Plan (Figure 2)
Field Parameter Form
Laboratory Analytical Results
Chain of Custody Documentation

TABLE 1
WELL MONITORING DATA

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW1	11/18/97	180.83	9.71	171.12
	08/12/97		9.39	171.44
	04/25/97		8.37	172.46
	01/31/97		7.62	173.21
	07/19/96		8.81	172.02
	04/23/96		8.17	172.66
	01/17/96		9.66	171.17
	10/26/95		10.00	170.83
	08/15/95		9.23	171.60
	05/02/95		8.56	172.27
	01/30/95		9.50	171.33
	10/31/94		11.55	169.28
	07/29/94		10.86	169.97
	04/25/94		10.70	170.13
	11/16/93		11.63	169.20
11/12/93*	11.53	169.30		
MW2	11/18/97	179.70	9.26	170.44
	08/12/97		9.06	170.64
	04/25/97		8.10	171.60
	01/31/97		7.22	172.48
	07/19/96		8.57	171.13
	04/23/96		7.85	171.85
	01/17/96		8.94	170.76
	10/26/95		9.68	170.02
	08/15/95		8.91	170.79
	05/02/95		8.17	171.53
	01/30/95		8.68	171.02
	10/31/94		10.99	168.71
	07/29/94		10.34	169.36
	04/25/94		10.04	169.66
	11/16/93		11.10	168.60
11/12/93*	10.95	168.75		

NOTES:

Elevations are in feet Mean Sea Level.
ft. = Feet.

* = Depth to water measurements prior to groundwater monitoring well development.

TABLE 1
WELL MONITORING DATA
(Continued)

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
MW3	11/18/97	178.98	8.97	170.01
	08/12/97		8.85	170.13
	04/25/97		7.99	170.99
	01/31/97		7.30	171.68
	07/19/96		8.42	170.56
	04/23/96		7.76	171.22
	01/17/96		8.61	170.37
	10/26/95		9.39	169.59
	08/15/95		8.62	170.36
	05/02/95		8.04	170.94
	01/30/95		8.46	170.52
	10/31/94		10.58	168.40
	07/29/94		10.03	168.95
	04/25/94		9.64	169.34
	11/16/93		10.63	168.35
	11/12/93*		10.66	168.32

NOTES:

Elevations are in feet Mean Sea Level.

ft. = Feet.

* = Depth to water measurements prior to groundwater monitoring well development.

TABLE 2
 GROUNDWATER
 LABORATORY ANALYTICAL RESULTS

Sample Location	TPH-D	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes
Samples Collected on November 18, 1997						
MW1	NA	NA	NA	NA	NA	NA
MW2	NA	NA	NA	NA	NA	NA
MW3+	NA	2.1	0.48	0.052	0.071	0.19
Samples Collected on August 12, 1997						
MW1	NA	ND	ND	ND	ND	ND
MW2	NA	ND	ND	ND	ND	ND
MW3++	NA	16	4.2	0.45	0.54	1.9
Samples Collected on April 25, 1997						
MW1	NA	NA	NA	NA	NA	NA
MW2	NA	NA	NA	NA	NA	NA
MW3+++	NA	30	5.3	0.52	0.95	3.0

NOTES:

TPH-D = Total Petroleum Hydrocarbons as Diesel.
 TPH-G = Total Petroleum Hydrocarbons as Gasoline.
 ND = Not Detected.
 NA = Not Analyzed.

+ = In MW3, MTBE was not detected; EPA Method 8010 compounds were not detected except for 0.0021 ppm 1,2-Dichloroethane; and EPA Method 8270 compounds were not detected except for Naphthalene and 2-Methylnaphthalene which were detected at concentrations of 0.058 and 0.026 ppm, respectively.

++ = In MW3, MTBE was not detected; EPA Method 8010 compounds were not detected except for 0.0091 ppm 1,2-Dichloroethane; and EPA Method 8270 compounds were not detected except for Bis(2-ethylhexyl) Phthalate, Naphthalene, and 2-Methylnaphthalene which were detected at concentrations of 0.021, 0.087, and 0.024 ppm, respectively.

+++ = In MW3, MTBE was not detected; EPA Method 8010 compounds were not detected except for 0.012 ppm 1,2 Dichloroethane; and EPA Method 8270 compounds were not detected except for Phenol, 4-Methylphenol, 2,4-Dimethylphenol, Naphthalene, and 2-Methylnaphthalene which were detected at concentrations of 0.0028, 0.0024, 0.0028, 0.066 ppm, and 0.015 ppm, respectively.

Results are in parts per million (ppm), unless otherwise specified.

TABLE 2
GROUNDWATER
LABORATORY ANALYTICAL RESULTS
(Continued)

Sample Location	TPH-D	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes
Samples Collected on January 31, 1997						
MW1	NA	ND	ND	ND	ND	ND
MW2	NA	ND	ND	ND	ND	ND
MW3++++	NA	5.5	1.6	0.10	0.19	0.41
Samples Collected on July 19, 1996						
MW1	NA	NA	NA	NA	NA	NA
MW2	NA	NA	NA	NA	NA	NA
MW3+++++	NA	18	4.8	0.61	0.76	2.8
Samples Collected on April 23, 1996						
MW1	NA	ND	ND	ND	ND	ND
MW2	NA	ND	ND	ND	ND	ND
MW3@	NA	9.7	2.9	0.17	0.38	0.68

NOTES:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

ND = Not Detected.

NA = Not Analyzed.

++++ = In MW3, MTBE was detected at a concentration of 0.063 ppm; EPA Method 8010 compounds were not detected except for 0.014 ppm 1,2-Dichloroethane; and EPA Method 8270 compounds were not detected except for Phenol, 2,4-Dimethylphenol, Naphthalene, and 2-Methylnaphthalene which were detected at concentrations of 0.0094, 0.0028, 0.031, and 0.0048 ppm, respectively.

+++++ = In MW3, EPA Method 8010 compounds were not detected; EPA Method 8270 compounds were not detected except for 0.0022 ppm 2,4-Dimethylphenol, 0.1 ppm Naphthalene, and 0.022 ppm 2-Methylnaphthalene. The EPA Method 8020 showed that MTBE was detected in MW3 at a concentration of 0.21 ppm.

@ = In MW3, EPA 8010 compounds were not detected except for 0.0051 ppm 1,2-Dichloroethane; EPA 8270 compounds were not detected except for Naphthalene and Phenol which were detected at concentrations of 0.056 and 0.025 ppm, respectively. The EPA Method 8020 results showed that MTBE was not detected in MW1 or MW2, and was detected in MW3 at a concentration of 0.15 ppm.

Results are in parts per million (ppm), unless otherwise specified.

TABLE 2
GROUNDWATER
LABORATORY ANALYTICAL RESULTS
(Continued)

Sample Location	TPH-D	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes
Samples Collected on January 17, 1996						
MW1	NA	NA	NA	NA	NA	NA
MW2	NA	NA	NA	NA	NA	NA
MW3@@	NA	21	4.1	0.37	0.52	1.5
Samples Collected on October 26, 1995						
MW1@@@	NA	ND	ND	ND	ND	ND
MW2@@@	NA	ND	ND	ND	ND	ND
MW3@@@	NA	19	4.0	0.48	0.64	1.8
Samples Collected on August 15, 1995						
MW1	NA	NA	NA	NA	NA	NA
MW2	NA	NA	NA	NA	NA	NA
MW3@@@@	NA	7.0	2.4	0.23	0.26	0.73

NOTES:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

ND = Not Detected.

NA = Not Analyzed.

@@ = In MW3, EPA 8010 compounds were not detected except for 0.011 ppm 1,2-Dichloroethane; EPA 8270 compounds were not detected except for 0.0022 ppm Phenol, 0.0051 ppm 4-Methylphenol, 0.0029 ppm 2,4-Dimethylphenol, 0.032 ppm Naphthalene, and 0.010 ppm 2-Methylnaphthalene.

@@@ = In MW3, EPA 8010 compounds were not detected except for 0.011 ppm 1,2-Dichloroethane; EPA 8270 compounds were not detected except for 0.043 ppm Naphthalene. The EPA Method 8020 results showed that MTBE was not detected in MW1 or MW2, and was detected in MW3 at a concentration of 0.24 ppm.

@@@@ = EPA 8010 compounds were not detected except for 0.0091 ppm 1,2-Dichloroethane; EPA 8270 compounds were not detected except for 0.003 ppm 4-Methylphenol, 0.005 ppm 2,4-Dimethyl Phenol, 0.019 ppm Naphthalene, and 0.003 ppm 2-Methylnaphthalene.

Results are in parts per million (ppm), unless otherwise specified.

TABLE 2
GROUNDWATER
LABORATORY ANALYTICAL RESULTS
(Continued)

Sample Location	TPH-D	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes
Samples Collected on May 2, 1995						
MW1	NA	ND	ND	ND	ND	ND
MW2	NA	ND	ND	ND	ND	ND
MW3@@@@	0.84	18	5.4	0.39	0.65	1.7
Samples Collected on January 30, 1995						
MW1	NA	ND	ND	ND	ND	ND
MW2	NA	ND	ND	ND	ND	ND
MW3#	0.70	24	7.6	0.35	0.90	2.2
Samples Collected on October 31, 1994						
MW1	NA	ND	ND	ND	ND	ND
MW2	NA	ND	ND	ND	ND	ND
MW3##	0.60	8.7	2.6	0.26	0.32	0.92

NOTES:

TPH-D = Total Petroleum Hydrocarbons as Diesel.
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
ND = Not Detected.
NA = Not Analyzed.

@@@@=- Review of the laboratory report and discussions with the laboratory indicate that the results reported as TPH-D are gasoline-range compounds. EPA 8010 compounds not detected except for 0.014 ppm 1,2-Dichloroethane; EPA 8270 compounds were not detected except for 0.010 ppm 2-Methyl naphthalene and 0.062 ppm Naphthalene.

= Review of the laboratory report and discussions with the laboratory indicate that the results reported as TPH-D are gasoline-range compounds. EPA 8010 compounds not detected except for 0.018 ppm 1,2-Dichloroethane; EPA 8270 compounds were not detected except for 0.014 ppm 2-Methyl naphthalene and 0.11 ppm Naphthalene.

= Review of the laboratory report and discussions with the laboratory indicate that the results reported as TPH-D are gasoline-range compounds. EPA 8010 compounds not detected except for 0.019 ppm 1,2-Dichloroethane; EPA 8270 compounds were not detected except for 0.008 ppm 2-Methyl naphthalene, 0.047 ppm Naphthalene, and 0.002 ppm Bis(2-Ethylhexyl) Phthalate.

Results are in parts per million (ppm), unless otherwise specified.

TABLE 2
GROUNDWATER
LABORATORY ANALYTICAL RESULTS
(Continued)

Sample Location	TPH-D	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes
Samples Collected on July 29, 1994						
MW1	NA	ND	0.0012	ND	ND	ND
MW2	NA	ND	ND	ND	ND	ND
MW3###	0.67	6.3	2.0	0.13	0.22	0.52
Samples Collected on April 25, 1994						
MW1	ND	ND	ND	ND	ND	ND
MW2	ND	ND	ND	ND	ND	ND
MW3####	2.1	17	4.8	0.47	0.29	1.6
Samples Collected on November 16, 1993						
MW1	NA	ND	0.0022	ND	ND	ND
MW2	NA	ND	ND	ND	ND	ND
MW3#####	NA	12	3.3	0.66	0.24	1.6

NOTES:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

ND = Not Detected.

NA = Not Analyzed.

= Review of the laboratory report and discussions with the laboratory indicate that the results reported as TPH-D are gasoline-range compounds. EPA 8010 compounds not detected except for 0.0077 ppm 1,2-Dichloroethane; EPA 8270 compounds not detected except for 0.008 ppm 2-Methylnaphthalene and 0.044 ppm Naphthalene.

= Review of the laboratory report and discussions with the laboratory indicate that the results reported as TPH-D are gasoline-range compounds. EPA 8010 compounds not detected except for 0.28 ppm 1,2-Dichloroethane; EPA 8270 compounds not detected except for 0.013 ppm 2-Methylnaphthalene and 0.084 ppm Naphthalene.

= TRPH not detected; EPA 8010 compounds not detected except for 0.027 ppm 1,2-Dichloroethane; EPA 8270 compounds not detected except for 0.009 ppm Phenol, 0.006 ppm Benzyl Alcohol, 0.006 ppm 2-Methylphenol, 0.007 ppm 2,4-Dimethylphenol, 0.088 ppm Benzoic Acid, 0.042 ppm Naphthalene, and 0.015 ppm 2-Methylnaphthalene.

Results are in parts per million (ppm), unless otherwise specified.

P & D ENVIRONMENTAL

A Division of Paul H. King, Inc.

4020 Panama Court

Oakland, CA 94611

(510) 658-6916



Base Map From
U.S. Geological Survey
Hayward, Calif.
7.5 Minute Quadrangle
Photorevised 1980



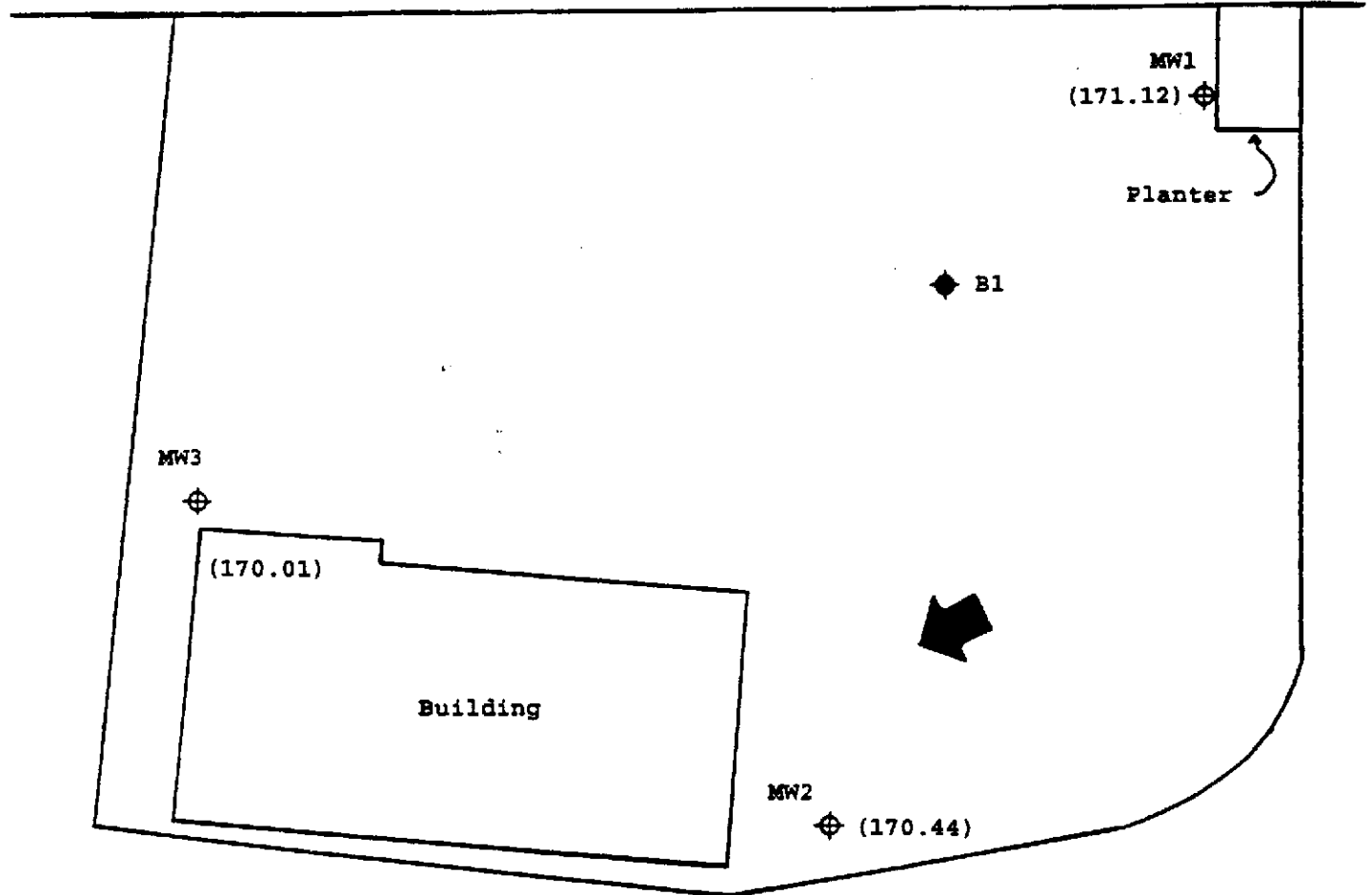
Figure 1
SITE LOCATION MAP
VIP Service
3889 Castro Valley Blvd.
Castro Valley, California

P & D ENVIRONMENTAL





4020 Panama Court
Oakland, CA 94611
Telephone (510) 658-6916

Castro Valley Boulevard

Sidewalk



LEGEND

-  Monitoring Well Location
-  Exploratory Boring Location
-  () Groundwater Surface Elevation in Feet on November 18, 1997
-  Groundwater Flow Direction

0 10 20



Scale in Feet

North

Base Map From
P&D Environmental
November 18, 1997

Figure 2
SITE PLAN
VIP Service
3889 Castro Valley Blvd.
Castro Valley, California

P&D ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name VIP Service
 Job No. 0047
 TOC to Water (ft.) 8.97
 Well Depth (ft.) 19.0
 Well Diameter 2"
 Gal./Casing Vol. 1.6

Well No. MW3
 Date 11/18/97
 Sheen None
 Free Product Thickness None (φ)
 Sample Collection Method Teflon Bailor

TIME	GAL. PURGED	pH	TEMPERATURE (°F)	ELECTRICAL CONDUCTIVITY (µS/cm) x 100
2:33	0.8	7.48	62.1	4.51
2:36	2.6	7.42	62.4	3.25
2:38	2.4	7.40	62.7	1.90
2:41	3.2	7.37	63.1	2.10
2:43	4.0	7.32	63.4	2.30
2:45	4.8	7.30	63.8	2.23
3:00	Sampled			

NOTES: A06
Well purged using Honda pump & footvalve

PURGE 10.92

	TOC to H ₂ O	Free Product Thickness	sheen
MW1	9.7	φ	None
MW2	9.26	φ	None



McCAMPBELL ANALYTICAL INC.

110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
<http://www.mccampbell.com> E-mail: main@mccampbell.com

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0047; VIP Service	Date Sampled: 11/18/97
		Date Received: 11/19/97
	Client Contact: Paul King	Date Extracted: 11/19/97
	Client P.O:	Date Analyzed: 11/19/97

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	% Recovery Surrogate
83165	MW3	W	2100,a	ND<55	480	52	71	190	107
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S		1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

cluttered chromatogram; sample peak coelutes with surrogate peak

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.



McCAMPBELL ANALYTICAL INC.

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 Telephone : 510-798-1620 Fax : 510-798-1622
<http://www.mccampbell.com> E-mail: main@mccampbell.com

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0047; VIP Service	Date Sampled: 11/18/97
		Date Received: 11/19/97
	Client Contact: Paul King	Date Extracted: 11/20/97
	Client P.O:	Date Analyzed: 11/20/97

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	83165		
Client ID	MW3		
Matrix	W		
Compound	Concentration		
Bromodichloromethane	ND		
Bromoform ^(b)	ND		
Bromomethane	ND		
Carbon Tetrachloride ^(c)	ND		
Chlorobenzene	ND		
Chloroethane	ND		
2-Chloroethyl Vinyl Ether ^(d)	ND		
Chloroform ^(e)	ND		
Chloromethane	ND		
Dibromochloromethane	ND		
1,2-Dichlorobenzene	ND		
1,3-Dichlorobenzene	ND		
1,4-Dichlorobenzene	ND		
Dichlorodifluoromethane	ND		
1,1-Dichloroethane	ND		
1,2-Dichloroethane	2.1		
1,1-Dichloroethene	ND		
cis 1,2-Dichloroethene	ND		
trans 1,2-Dichloroethene	ND		
1,2-Dichloropropane	ND		
cis 1,3-Dichloropropene	ND		
trans 1,3-Dichloropropene	ND		
Methylene Chloride ^(f)	ND		
1,1,2,2-Tetrachloroethane	ND		
Tetrachloroethene	ND		
1,1,1-Trichloroethane	ND		
1,1,2-Trichloroethane	ND		
Trichloroethene	ND		
Trichlorofluoromethane	ND		
Vinyl Chloride ^(g)	ND		
% Recovery Surrogate	102		
Comments			

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe
 Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe
 ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.

QC REPORT FOR HYDROCARBON ANALYSES

Date: 11/19/97-11/20/97

Matrix: WATER

Analyte	Concentration (mg/L)			Amount Spiked	% Recovery		RPD
	Sample (#83163)	MS	MSD		MS	MSD	
TPH (gas)	0.0	95.4	95.2	100.0	95.4	95.2	0.3
Benzene	0.0	10.4	10.2	10.0	104.0	102.0	1.9
Toluene	0.0	10.5	10.3	10.0	105.0	103.0	1.9
Ethyl Benzene	0.0	10.5	10.3	10.0	105.0	103.0	1.9
Xylenes	0.0	31.7	31.1	30.0	105.7	103.7	1.9
TPH(diesel)	0	144	143	150	96	95	0.7
TRPH (oil & grease)	0	20700	21200	20800	100	102	2.4

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

QC REPORT FOR EPA 8010/8020/EDB

Date: 11/20/97

Matrix: WATER

Analyte	Concentration (ug/L)				% Recovery		
	Sample #(82997)	MS	MSD	Amount Spiked	MS	MSD	RPD
1,1-DCE	0.0	9.7	10.4	10.0	97	104	6.7
Trichloroethene	0.0	9.0	9.6	10.0	90	96	7.0
EDB	0.0	8.1	8.6	10.0	81	86	6.2
Chlorobenzene	0.0	9.4	9.9	10.0	94	99	5.4
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobz (PID)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

McCAMPBELL ANALYTICAL
110 2ND AVE. SOUTH, #D7
PACHECO, CA 94553

REPORT DATE: 12/02/97

DATE(S) SAMPLED: 11/18/97

DATE RECEIVED: 11/19/97

ATTN: EDWARD HAMILTON
CLIENT PROJ. ID: 9912
CLIENT PROJ. NAME: PD-0047

AEN WORK ORDER: 9711274

PROJECT SUMMARY:

On November 19, 1997, this laboratory received 1 water sample(s).

Client requested sample(s) be analyzed for chemical parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.


Larry Klein
Laboratory Director

McCAMPBELL ANALYTICAL

SAMPLE ID: MW3
 AEN LAB NO: 9711274-01
 AEN WORK ORDER: 9711274
 CLIENT PROJ. ID: 9912

DATE SAMPLED: 11/18/97
 DATE RECEIVED: 11/19/97
 REPORT DATE: 12/02/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for BNAs	EPA 3520	-		Extrn Date	11/21/97
EPA 8270B - Water Matrix	EPA 8270B				
Acenaphthene	83-32-9	ND	10	ug/L	11/25/97
Acenaphthylene	208-96-8	ND	10	ug/L	11/25/97
Anthracene	120-12-7	ND	10	ug/L	11/25/97
Benzdine	92-87-5	ND	50	ug/L	11/25/97
Benzoic Acid	65-85-0	ND	50	ug/L	11/25/97
Benzo(a)anthracene	56-55-3	ND	10	ug/L	11/25/97
Benzo(b)fluoranthene	205-99-2	ND	10	ug/L	11/25/97
Benzo(k)fluoranthene	207-08-9	ND	10	ug/L	11/25/97
Benzo(g,h,i)perylene	191-24-2	ND	10	ug/L	11/25/97
Benzo(a)pyrene	50-32-8	ND	10	ug/L	11/25/97
Benzyl Alcohol	100-51-6	ND	20	ug/L	11/25/97
Bis(2-chloroethoxy)methane	111-91-1	ND	10	ug/L	11/25/97
Bis(2-chloroethyl) Ether	111-44-4	ND	10	ug/L	11/25/97
Bis(2-chloroisopropyl) Ether	108-60-1	ND	10	ug/L	11/25/97
Bis(2-ethylhexyl) Phthalate	117-81-7	ND	10	ug/L	11/25/97
4-Bromophenyl Phenyl Ether	101-55-3	ND	10	ug/L	11/25/97
Butylbenzyl Phthalate	85-68-7	ND	10	ug/L	11/25/97
4-Chloroaniline	106-47-8	ND	20	ug/L	11/25/97
2-Chloronaphthalene	91-58-7	ND	10	ug/L	11/25/97
4-Chlorophenyl Phenyl Ether	7005-72-3	ND	10	ug/L	11/25/97
Chrysene	218-01-9	ND	10	ug/L	11/25/97
Dibenzo(a,h)anthracene	53-70-3	ND	10	ug/L	11/25/97
Dibenzofuran	132-64-9	ND	10	ug/L	11/25/97
Di-n-butyl Phthalate	84-74-2	ND	10	ug/L	11/25/97
1,2-Dichlorobenzene	95-50-1	ND	10	ug/L	11/25/97
1,3-Dichlorobenzene	541-73-1	ND	10	ug/L	11/25/97
1,4-Dichlorobenzene	106-46-7	ND	10	ug/L	11/25/97
3,3'-Dichlorobenzidine	91-94-1	ND	20	ug/L	11/25/97
Diethyl Phthalate	84-66-2	ND	10	ug/L	11/25/97
Dimethyl Phthalate	131-11-3	ND	10	ug/L	11/25/97
2,4-Dinitrotoluene	121-14-2	ND	10	ug/L	11/25/97
2,6-Dinitrotoluene	606-20-2	ND	10	ug/L	11/25/97
Di-n-octyl Phthalate	117-84-0	ND	10	ug/L	11/25/97
Fluoranthene	206-44-0	ND	10	ug/L	11/25/97
Fluorene	86-73-7	ND	10	ug/L	11/25/97
Hexachlorobenzene	118-74-1	ND	10	ug/L	11/25/97
Hexachlorobutadiene	87-68-3	ND	10	ug/L	11/25/97
Hexachlorocyclopentadiene	77-47-4	ND	10	ug/L	11/25/97
Hexachloroethane	67-72-1	ND	10	ug/L	11/25/97

McCAMPBELL ANALYTICAL

SAMPLE ID: MW3
 AEN LAB NO: 9711274-01
 AEN WORK ORDER: 9711274
 CLIENT PROJ. ID: 9912

DATE SAMPLED: 11/18/97
 DATE RECEIVED: 11/19/97
 REPORT DATE: 12/02/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Indeno(1,2,3-cd)pyrene	193-39-5	ND	10	ug/L	11/25/97
Isophorone	78-59-1	ND	10	ug/L	11/25/97
2-Methylnaphthalene	91-57-6	26 *	10	ug/L	11/25/97
Naphthalene	91-20-3	58 *	10	ug/L	11/25/97
2-Nitroaniline	88-74-4	ND	50	ug/L	11/25/97
3-Nitroaniline	99-09-2	ND	50	ug/L	11/25/97
4-Nitroaniline	100-01-6	ND	50	ug/L	11/25/97
Nitrobenzene	98-95-3	ND	10	ug/L	11/25/97
N-Nitrosodiphenylamine	86-30-6	ND	10	ug/L	11/25/97
N-Nitrosodi-n-propylamine	621-64-7	ND	10	ug/L	11/25/97
Phenanthrene	85-01-8	ND	10	ug/L	11/25/97
Pyrene	129-00-0	ND	10	ug/L	11/25/97
1,2,4-Trichlorobenzene	120-82-1	ND	10	ug/L	11/25/97
4-Chloro-3-methylphenol	59-50-7	ND	10	ug/L	11/25/97
2-Chlorophenol	95-57-8	ND	10	ug/L	11/25/97
2,4-Dichlorophenol	120-83-2	ND	10	ug/L	11/25/97
2,4-Dimethylphenol	105-67-9	ND	10	ug/L	11/25/97
4,6-Dinitro-2-methylphenol	534-52-1	ND	50	ug/L	11/25/97
2,4-Dinitrophenol	51-28-5	ND	50	ug/L	11/25/97
2-Methylphenol	95-48-7	ND	10	ug/L	11/25/97
4-Methylphenol	106-44-5	ND	10	ug/L	11/25/97
2-Nitrophenol	88-75-5	ND	10	ug/L	11/25/97
4-Nitrophenol	100-02-7	ND	50	ug/L	11/25/97
Pentachlorophenol	87-86-5	ND	50	ug/L	11/25/97
Phenol	108-95-2	ND	10	ug/L	11/25/97
2,4,5-Trichlorophenol	95-95-4	ND	10	ug/L	11/25/97
2,4,6-Trichlorophenol	88-06-2	ND	10	ug/L	11/25/97

ND = Not detected at or above the reporting limit

* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9711274
CLIENT PROJECT ID: 9912

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spikes(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analyses.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behaviour, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrument performance.

D: Surrogates diluted out.

I: Interference.

!: Indicates result outside of established laboratory QC limits.

ANALYSIS: Semi-Volatile Organics

MATRIX: Water

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
 INSTRUMENT: HP-5890 for Semi-volatiles
 UNITS: ug/L
 METHOD: EPA 8270B

LAB ID: BLNK 1121
 PREPARED: 11/21/97
 ANALYZED: 11/25/97

INSTR RUN: GCMS10\971121080000/1/
 BATCH ID: BNAW112197
 DILUTION: 1.00

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
2-Fluorophenol (surr)	82.0			100	82.0	42	110		
Phenol-d5 (surr)	95.0			100	95.0	40	122		
Nitrobenzene-d5 (surr)	85.9			100	85.9	46	109		
2-Fluorobiphenyl (surr)	77.8			100	75.8	41	140		
2,4,6-Tribromophenol(surr)	99.8			100	98.8	46	116		
Terphenyl-d14 (surr)	81.8			100	81.8	35	165		
Phenol	ND		10						
2-Chlorophenol	ND		10						
1,4-Dichlorobenzene	ND		10						
N-Nitrosodi-n-propylamine	ND		10						
1,2,4-Trichlorobenzene	ND		10						
4-Chloro-3-methylphenol	ND		10						
Acenaphthene	ND		10						
4-Nitrophenol	ND		50						
2,4-Dinitrotoluene	ND		10						
Pentachlorophenol	ND		50						
Pyrene	ND		10						
Acenaphthylene	ND		10						
Anthracene	ND		10						
Benzidine	ND		50						
Benzoic Acid	ND		50						
Benzo(a)anthracene	ND		10						
Benzo(b)fluoranthene	ND		10						
Benzo(k)fluoranthene	ND		10						
Benzo(g,h,i)perylene	ND		10						
Benzo(a)pyrene	ND		10						
Benzyl Alcohol	ND		20						
Bis(2-chloroethoxy)methane	ND		10						
Bis(2-chloroethyl) Ether	ND		10						
Bis(2-chloroisopropyl) Eth	ND		10						
Bis(2-ethylhexyl) Phthalat	ND		10						
4-Bromophenyl Phenyl Ether	ND		10						
Butylbenzyl Phthalate	ND		10						
4-Chloroaniline	ND		20						
2-Chloronaphthalene	ND		10						
4-Chlorophenyl Phenyl Ethe	ND		10						
Chrysene	ND		10						
Dibenzo(a,h)anthracene	ND		10						
Dibenzofuran	ND		10						
Di-n-butyl Phthalate	ND		10						
1,2-Dichlorobenzene	ND		10						
1,3-Dichlorobenzene	ND		10						
3,3'-Dichlorobenzidine	ND		20						
Diethyl Phthalate	ND		10						
Dimethyl Phthalate	ND		10						
2,6-Dinitrotoluene	ND		10						
Di-n-octyl Phthalate	ND		10						
1,2-Diphenylhydrazine	ND		10						
Fluoranthene	ND		10						
Fluorene	ND		10						
Hexachlorobenzene	ND		10						
Hexachlorobutadiene	ND		10						
Hexachlorocyclopentadiene	ND		10						
Hexachloroethane	ND		10						
Indeno(1,2,3-cd)pyrene	ND		10						
Isophorone	ND		10						
2-Methylnaphthalene	ND		10						
Naphthalene	ND		10						
2-Nitroaniline	ND		50						
3-Nitroaniline	ND		50						
4-Nitroaniline	ND		50						
Nitrobenzene	ND		10						
N-Nitrosodimethylamine	ND		10						
N-Nitrosodiphenylamine	ND		10						

WORK ORDER: 9711274

QUALITY CONTROL REPORT

PAGE QR-3

ANALYSIS: Semi-Volatile Organics

MATRIX: Water

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank LAB ID: BLNK 1121 INSTR RUN: GCMS10\971121080000/1/
 INSTRUMENT: HP-5890 for Semi-volatiles PREPARED: 11/21/97 BATCH ID: BNAW112197
 UNITS: ug/L ANALYZED: 11/25/97 DILUTION: 1.00
 METHOD: EPA 8270B

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
Phenanthrene	ND		10						
2,4-Dichlorophenol	ND		10						
2,4-Dimethylphenol	ND		10						
4,6-Dinitro-2-methylphenol	ND		50						
2,4-Dinitrophenol	ND		50						
2-Methylphenol	ND		10						
4-Methylphenol	ND		10						
2-Nitrophenol	ND		10						
2,4,5-Trichlorophenol	ND		10						
2,4,6-Trichlorophenol	ND		10						

LABORATORY CONTROL SAMPLES

SAMPLE TYPE: Laboratory Control Spike LAB ID: LCD 1121 INSTR RUN: GCMS10\971121080000/3/1
 INSTRUMENT: HP-5890 for Semi-volatiles PREPARED: 11/21/97 BATCH ID: BNAW112197
 UNITS: ug/L ANALYZED: 11/25/97 DILUTION: 1.00
 METHOD: EPA 8270B

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
2-Fluorophenol (surr)	91.9	82.0		100	91.9	42	110		
Phenol-d5 (surr)	97.7	95.0		100	97.7	40	122		
Nitrobenzene-d5 (surr)	83.6	85.9		100	83.6	46	109		
2-Fluorobiphenyl (surr)	75.0	77.8		100	75.0	41	140		
2,4,6-Tribromophenol (surr)	101	98.8		100	101	46	116		
Terphenyl-d14 (surr)	78.7	81.8		100	78.7	35	165		
Phenol	67.8	ND	10	100	67.8	44	94		
2-Chlorophenol	79.2	ND	10	100	79.2	52	111		
1,4-Dichlorobenzene	75.2	ND	10	100	75.2	54	116		
N-Nitrosodi-n-propylamine	104	ND	10	100	104	48	141		
1,2,4-Trichlorobenzene	79.0	ND	10	100	79.0	57	107		
4-Chloro-3-methylphenol	75.2	ND	10	100	75.2	54	113		
Acenaphthene	71.0	ND	10	100	71.0	60	114		
4-Nitrophenol	77.6	ND	50	100	77.6	22	119		
2,4-Dinitrotoluene	86.3	ND	10	100	86.3	43	130		
Pentachlorophenol	84.5	ND	50	100	84.5	38	110		
Pyrene	78.9	ND	10	100	78.9	32	121		

SAMPLE TYPE: Laboratory Control Spike LAB ID: LCS 1121 INSTR RUN: GCMS10\971121080000/2/1
 INSTRUMENT: HP-5890 for Semi-volatiles PREPARED: 11/21/97 BATCH ID: BNAW112197
 UNITS: ug/L ANALYZED: 11/25/97 DILUTION: 1.00
 METHOD: EPA 8270B

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
2-Fluorophenol (surr)	97.8	82.0		100	97.8	42	110		
Phenol-d5 (surr)	102	95.0		100	102	40	122		
Nitrobenzene-d5 (surr)	90.6	85.9		100	90.6	46	109		
2-Fluorobiphenyl (surr)	78.7	77.8		100	78.7	41	140		
2,4,6-Tribromophenol (surr)	106	98.8		100	106	46	116		
Terphenyl-d14 (surr)	83.2	81.8		100	83.2	35	165		
Phenol	68.3	ND	10	100	68.3	44	94		
2-Chlorophenol	79.5	ND	10	100	79.5	52	111		
1,4-Dichlorobenzene	77.4	ND	10	100	77.4	54	116		
N-Nitrosodi-n-propylamine	105	ND	10	100	105	48	141		
1,2,4-Trichlorobenzene	80.9	ND	10	100	80.9	57	107		
4-Chloro-3-methylphenol	77.2	ND	10	100	77.2	54	113		
Acenaphthene	72.3	ND	10	100	72.3	60	114		
4-Nitrophenol	74.5	ND	50	100	74.5	22	119		
2,4-Dinitrotoluene	86.4	ND	10	100	86.4	43	130		
Pentachlorophenol	83.2	ND	50	100	83.2	38	110		

WORK ORDER: 9711274

QUALITY CONTROL REPORT

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ANALYSIS: Semi-Volatile Organics

MATRIX: Water

LABORATORY CONTROL SAMPLES

SAMPLE TYPE: Laboratory Control Spike			LAB ID: LCS 1121			INSTR RUN: GCMS10\971121080000/2/1			
INSTRUMENT: HP-5890 for Semi-volatiles			PREPARED: 11/21/97			BATCH ID: BNAW112197			
UNITS: ug/L			ANALYZED: 11/25/97			DILUTION: 1.00			
METHOD: EPA 8270B									
ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
Pyrene	79.3	ND	10	100	79.3	32	121		

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Laboratory Control Sample Duplicate			LAB ID: LCR 1121			INSTR RUN: GCMS10\971121080000/4/2			
INSTRUMENT: HP-5890 for Semi-volatiles			PREPARED: 11/21/97			BATCH ID: BNAW112197			
UNITS: ug/L			ANALYZED: 11/25/97			DILUTION: 1.00			
METHOD: EPA 8270B									
ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
2-Fluorophenol (surr)	91.9	97.8		100	91.9	42	110		
Phenol-d5 (surr)	97.7	102		100	97.7	40	122		
Nitrobenzene-d5 (surr)	83.6	90.6		100	83.6	46	109		
2-Fluorobiphenyl (surr)	75.0	78.7		100	75.0	41	140		
2,4,6-Tribromophenol (surr)	101	106		100	101	46	116		
Terphenyl-d14 (surr)	78.7	83.2		100	78.7	35	165		
Phenol	67.8	68.3	10	100				0.735	40
2-Chlorophenol	79.2	79.5	10	100				0.378	40
1,4-Dichlorobenzene	75.2	77.4	10	100				2.88	30
N-Nitrosodi-n-propylamine	104	105	10	100				0.957	30
1,2,4-Trichlorobenzene	79.0	80.9	10	100				2.38	30
4-Chloro-3-methylphenol	75.2	77.2	10	100				2.62	30
Acenaphthene	71.0	72.3	10	100				1.81	30
4-Nitrophenol	77.6	74.5	50	100				4.08	40
2,4-Dinitrotoluene	86.3	86.4	10	100				0.116	40
Pentachlorophenol	84.5	83.2	50	100				1.55	30
Pyrene	78.9	79.3	10	100				0.506	30

SAMPLE SURROGATES

SAMPLE TYPE: Sample-Client			LAB ID: 9711274-01A			INSTR RUN: GCMS10\971121080000/5/			
INSTRUMENT: HP-5890 for Semi-volatiles			PREPARED: 11/21/97			BATCH ID: BNAW112197			
UNITS: ug/L			ANALYZED: 11/25/97			DILUTION: 1.00			
METHOD: EPA 8270B									
ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
2-Fluorophenol (surr)	84.5			100	84.5	42	110		
Phenol-d5 (surr)	97.6			100	97.6	40	122		
Nitrobenzene-d5 (surr)	83.9			100	83.9	46	109		
2-Fluorobiphenyl (surr)	76.4			100	76.4	41	140		
2,4,6-Tribromophenol (surr)	111			100	111	46	116		
Terphenyl-d14 (surr)	83.6			100	83.6	35	165		

----- End of Quality Control Report -----

