

P & D ENVIRONMENTAL

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

October 20, 1995
Report 0047.R9

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 (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 080795.P1 dated August 7, 1995. 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 will be reduced to semi-annually. In addition, no further analysis for TPH-D will be performed for well MW3.

The monitoring and sampling was performed on August 15, 1995. The reporting period is for May through July, 1995. 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.

07-1-95 10-11-95
APPROVED
T. J. [unclear]

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 August 15, 1995 all three of the monitoring wells at the site were monitored by P&D personnel. In addition, 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, as appropriate, 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 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 wells 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 August 15, 1995 ranged from 8.62 to 9.23 feet. Groundwater levels have decreased in wells MW1, MW2 and MW3 by 0.67, 0.74 and 0.58 feet, respectively, since the previous monitoring on May 2, 1995. The calculated groundwater flow direction at the site on August 15, 1995 was to the west-southwest with a gradient of 0.011. The groundwater gradient has decreased and the groundwater flow direction has remained relatively unchanged since the previous quarterly monitoring on May 2, 1995.

Groundwater level data collected during the quarter are presented in Table 1. The groundwater flow direction at the site on August 15, 1995 is shown on Figure 2.

LABORATORY RESULTS

The groundwater sample from monitoring well MW3 (near the waste oil tank) was analyzed for TPH-G using EPA Method 5030 in conjunction with Modified EPA Method 8015 (GCFID), BTEX 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 7.0 ppm; benzene was detected at a concentration of 2.4 ppm; 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 0.003 ppm 4-Methylphenol, 0.005 ppm 2,4-Dimethyl Phenol, 0.019 ppm Naphthalene, and 0.003 ppm 2-Methylnaphthalene.

DISCUSSION AND RECOMMENDATIONS

Based on the laboratory analytical results of the water samples collected from the monitoring wells, 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.

DISTRIBUTION

Copies of this report should be distributed to Mr. Scott Seery at the Alameda County Department of Environmental Health, and to Mr. Richard Hiatt 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.

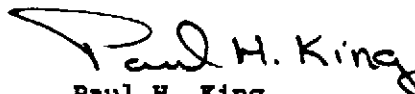
This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the 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.

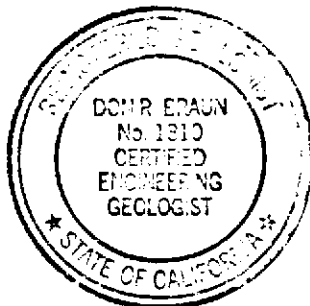
Should you have any questions, please do not hesitate to contact us at
(510) 658-6916.

Sincerely,

P&D Environmental



Paul H. King
Hydrogeologist



Don R. Braun
Certified Engineering Geologist
Registration No.: 1310
Expiration Date: 6/30/96

aog/PHK
0047.R9

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	08/15/95	180.83	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		08/15/95	179.70
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	
MW3		08/15/95	178.98	
	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 August 15, 1995						
MW1	NA	ND	ND	ND	ND	ND
MW2	NA	ND	ND	ND	ND	ND
MW3+	NA	7	2.4	0.23	0.26	0.73
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

NOTES:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

ND = Not Detected.

NA = Not Analyzed.

+ = 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.

++ = 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.

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 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 0.018 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) Pthalate.

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 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

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.

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 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.

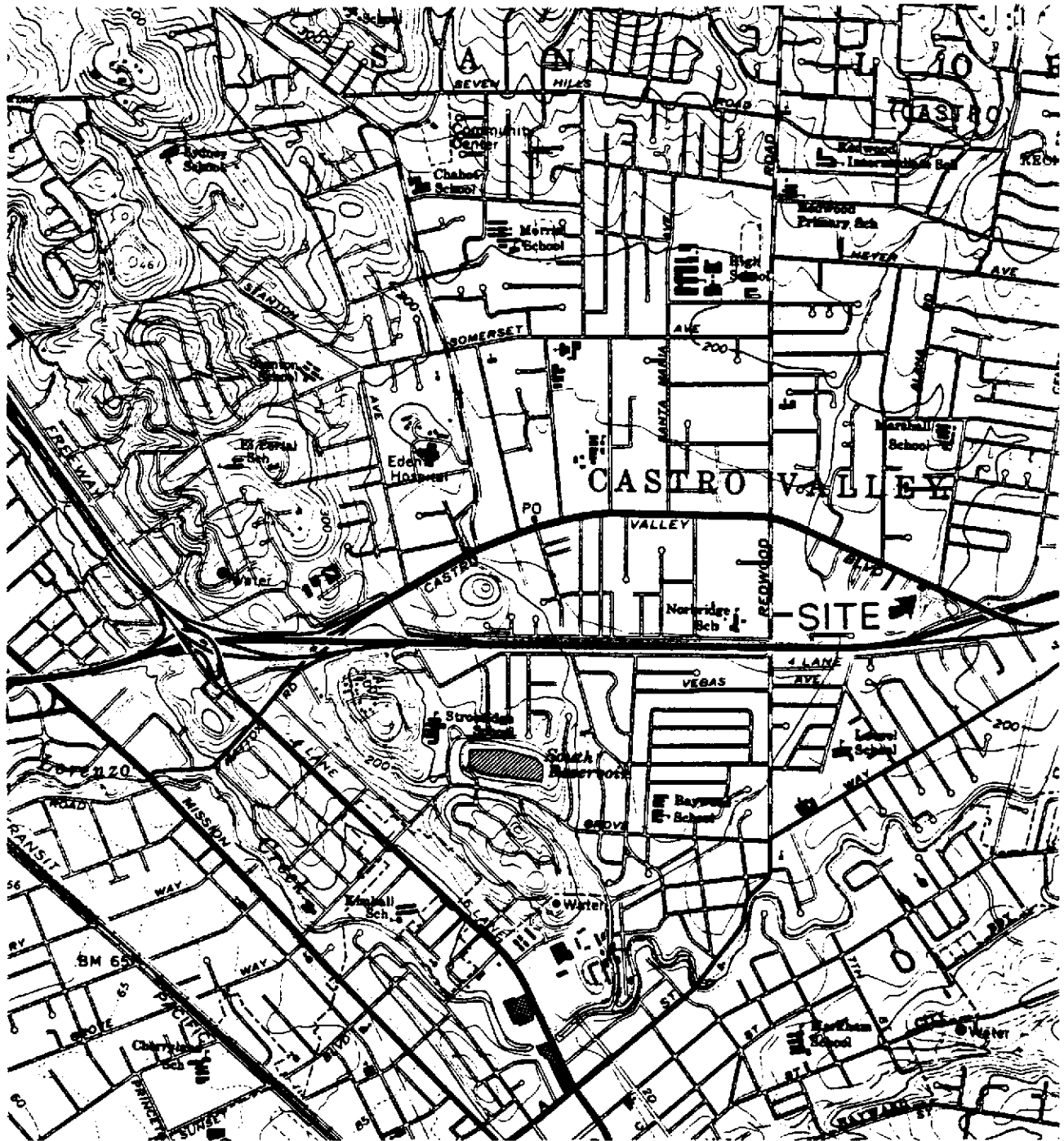
NA = Not Analyzed.

@@ = 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 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

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



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



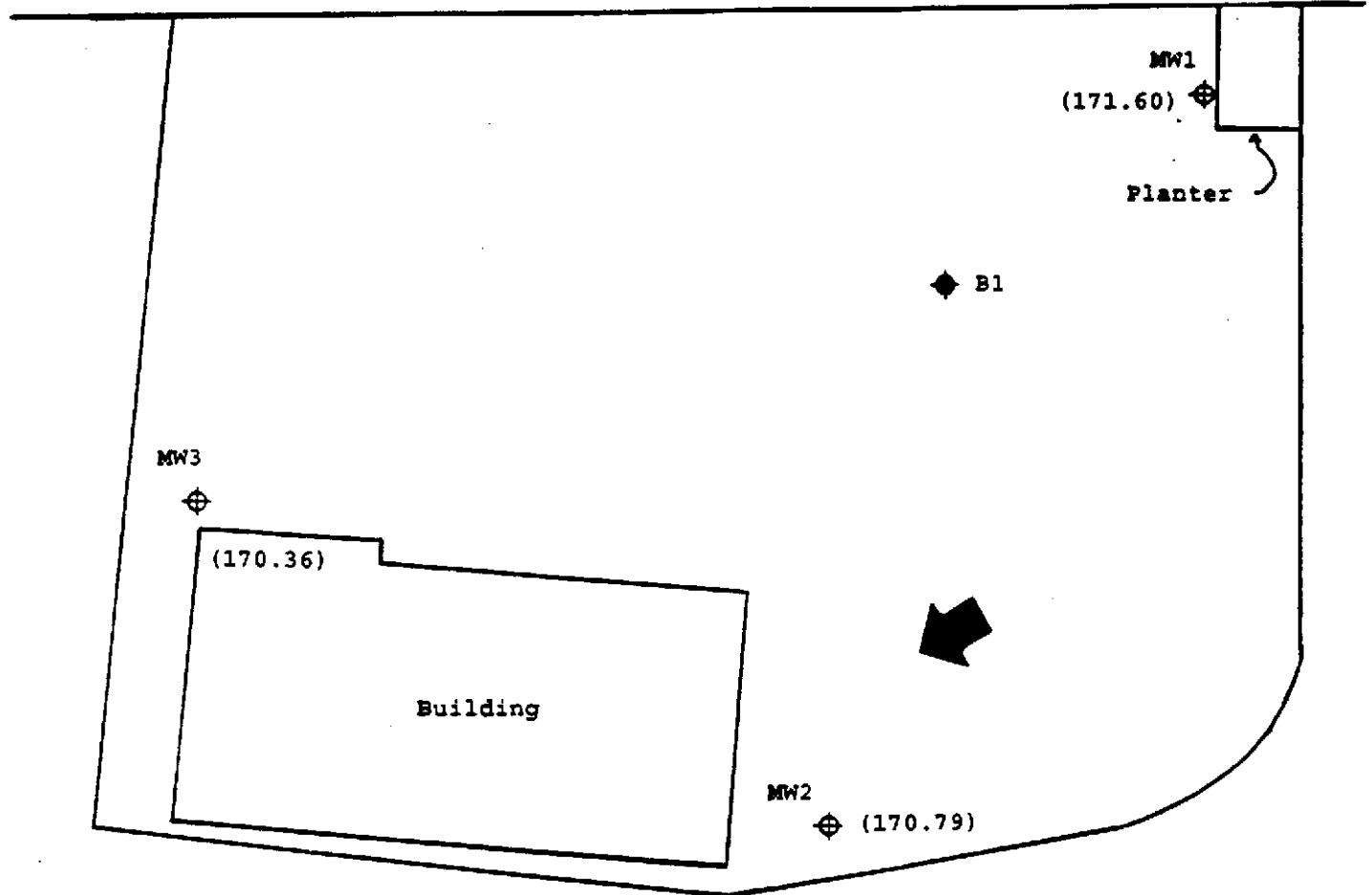
Figure 1
SITE LOCATION MAP
VIP Service
3889 Castro Valley Blvd.
Castro Valley, California

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 August 15, 1995
- ➔ Groundwater Flow Direction

0 10 20



Scale in Feet

North



Base Map From
P&D Environmental
October, 1993

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 - Castro Valley

Well No. MW3

Job No. 0047

Date 8/15/95

TOC to Water (ft.) 8.62

Sheen None

Well Depth (ft.) 18.85

Free Product Thickness ϕ

Well Diameter 2"

Sample Collection Method

Gal./Casing Vol. 1.8

Teflon Bailers

<u>TIME</u>	<u>GAL. PURGED</u>	<u>pH</u>	<u>TEMPERATURE (°F)</u>	<u>ELECTRICAL CONDUCTIVITY (µS/cm)</u>
<u>11:08</u>	<u>0.9</u>	<u>7.71</u>	<u>69.1</u>	<u>6.75 x 100</u>
<u>11:11</u>	<u>1.3</u>	<u>7.27</u>	<u>67.2</u>	<u>1.65 x 1000</u>
<u>11:13</u>	<u>2.7</u>	<u>7.16</u>	<u>67.1</u>	<u>1.96</u>
<u>11:15</u>	<u>3.6</u>	<u>7.13</u>	<u>67.8</u>	<u>2.00</u>
<u>11:18</u>	<u>4.5</u>	<u>7.10</u>	<u>67.2</u>	<u>2.00</u>
<u>11:20</u>	<u>5.4</u>	<u>7.11</u>	<u>66.9</u>	<u>2.02</u>
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Sampled at 11:30 am

NOTES:
A06

P & D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: # 0047; VIP Service-Castro Valley	Date Sampled: 08/15/95
	Client Contact: Paul King	Date Received: 08/16/95
	Client P.O:	Date Extracted: 08/17/95
		Date Analyzed: 08/17/95

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with 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) ⁺	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
55507	MW3	W	7000,a	2400	230	260	730	112 [#]
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W	50 ug/L	0.5	0.5	0.5	0.5	0.5	
	S	1.0 mg/kg	0.005	0.005	0.005	0.005	0.005	

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

P & D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: # 0047; VIP Service- Castro Valley	Date Sampled: 08/15/95
	Client Contact: Paul King	Date Received: 08/16/95
	Client P.O:	Date Analyzed: 08/16/95
		Date Extracted: 08/16/95

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	55507		
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	9.1		
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	97		
Comments			

* water and vapor samples are reported in ug/L, soil samples in ug/kg and all TCLP extracts in ug/L.

Reporting limit unless otherwise stated: water/TCLP extracts, ND < 0.5ug/L; soil, ND < 5ug/kg

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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/16/95-08/18/95

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	105.4	108.4	100	105	108	2.8
Benzene	0	9.8	10.1	10	98.0	101.0	3.0
Toluene	0	9.9	10.2	10	99.0	102.0	3.0
Ethyl Benzene	0	10.1	10.2	10	101.0	102.0	1.0
Xylenes	0	31.6	31.7	30	105.3	105.7	0.3
TPH (diesel)	0	148	148	150	98	98	0.1
TRPH (oil & grease)	0	20900	21000	23700	88	89	0.5

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

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

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
 Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR EPA 8010/8020/EDB

Date: 08/16/95

Matrix: Water

Analyte	Concentration (ug/L)				% Recovery		
	Sample	MS	MSD	Amount Spiked	MS	MSD	RPD
1,1-DCE	0.0	8.9	8.3	10.0	89	83	7.0
Trichloroethene	0.0	8.9	8.7	10.0	89	87	2.3
EDB	0.0	9.2	8.6	10.0	92	86	6.7
Chlorobenzene	0.0	10.0	9.5	10.0	100	95	5.1
Benzene	0.0	10.7	10.0	10.0	107	100	6.8
Toluene	0.0	10.9	10.0	10.0	109	100	8.6
Chlorobz (PID)	0.0	10.4	9.4	10.0	104	94	10.1

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

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

CHROMALAB, INC.

Environmental Services (SDB)

August 23, 1995

Submission #: 9508240

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: P/VIP C.V.

Project#: 4676

Received: August 16, 1995

re: One sample for Semivolatiles (Base/Neutral/Acid Extractable) analysis.

Method: EPA 3510/8270

SampleID: MW-3

Sample #: 99506

Matrix: WATER

Extracted: August 17, 1995

Sampled: August 15, 1995

Run: 8183-A

Analyzed: August 18, 1995

Analyte	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
PHENOL	N.D.	2	N.D.	--
BIS(2-CHLOROETHYL) ETHER	N.D.	2	N.D.	--
2-CHLOROPHENOL	N.D.	2	N.D.	54
1,3-DICHLOROBENZENE	N.D.	2	N.D.	--
1,4-DICHLOROBENZENE	N.D.	2	N.D.	--
BENZYL ALCOHOL	N.D.	2	N.D.	--
1,2-DICHLOROBENZENE	N.D.	2	N.D.	--
2-METHYLPHENOL	N.D.	2	N.D.	--
BIS(2-CHLOROISOPROPYL) ETHER	N.D.	2	N.D.	--
4-METHYLPHENOL	3	2	N.D.	--
N-NITROSO-DI-N-PROPYLAMINE	N.D.	2	N.D.	63
HEXACHLOROETHANE	N.D.	2	N.D.	--
NITROBENZENE	N.D.	2	N.D.	--
ISOPHORONE	N.D.	2	N.D.	--
2-NITROPHENOL	N.D.	2	N.D.	--
2,4-DIMETHYL PHENOL	5	2	N.D.	--
BIS(2-CHLOROETHOXY) METHANE	N.D.	2	N.D.	--
2,4-DICHLOROPHENOL	N.D.	2	N.D.	--
1,2,4-TRICHLOROBENZENE	N.D.	2	N.D.	49
NAPHTHALENE	19	2	N.D.	--
4-CHLOROANILINE	N.D.	2	N.D.	--
HEXACHLOROBUTADIENE	N.D.	2	N.D.	--
4-CHLORO-3-METHYLPHENOL	N.D.	4	N.D.	66
2-METHYLNAPHTHALENE	3	2	N.D.	--
HEXACHLOROCYCLOPENTADIENE	N.D.	2	N.D.	--
2,4,6-TRICHLOROPHENOL	N.D.	2	N.D.	--
2,4,5-TRICHLOROPHENOL	N.D.	2	N.D.	--
2-CHLORONAPHTHALENE	N.D.	2	N.D.	--
2-NITROANILINE	N.D.	2	N.D.	--
DIMETHYL PHTHALATE	N.D.	2	N.D.	--
ACENAPHTHYLENE	N.D.	2	N.D.	--
3-NITROANILINE	N.D.	2	N.D.	--
ACENAPHTHENE	N.D.	2	N.D.	62
2,4-DINITROPHENOL	N.D.	10	N.D.	--
4-NITROPHENOL	N.D.	10	N.D.	--
DIBENZOFURAN	N.D.	2	N.D.	--
2,4-DINITROTOLUENE	N.D.	2	N.D.	--
2,6-DINITROTOLUENE	N.D.	2	N.D.	--
DIETHYL PHTHALATE	N.D.	2	N.D.	--
4-CHLOROPHENYLPHENYLETHER	N.D.	2	N.D.	--
FLUORENE	N.D.	2	N.D.	--

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

August 23, 1995

Submission #: 9508240
page 2

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: P/VIP C.V.

Project#: 4676

Received: August 16, 1995

re: One sample for Semivolatiles (Base/Neutral/Acid Extractable)
analysis, continued.

Method: EPA 3510/8270

SampleID: MW-3

Sample #: 99506

Matrix: WATER

Extracted: August 17, 1995

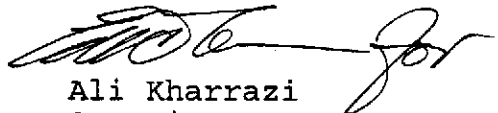
Sampled: August 15, 1995

Run: 8183-A

Analyzed: August 18, 1995

Analyte	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
4-NITROANILINE	N.D.	2	N.D.	--
4,6-DINITRO-2-METHYLPHENOL	N.D.	10	N.D.	--
N-NITROSODI-N-PHENYLAMINE	N.D.	2	N.D.	--
4-BROMOPHENYLPHENYLETHER	N.D.	2	N.D.	--
HEXACHLOROBENZENE	N.D.	2	N.D.	--
PENTACHLOROPHENOL	N.D.	10	N.D.	68
PHENANTHRENE	N.D.	2	N.D.	--
ANTHRACENE	N.D.	2	N.D.	--
DI-N-BUTYL PHTHALATE	N.D.	2	N.D.	--
FLUORANTHENE	N.D.	2	N.D.	--
PYRENE	N.D.	2	N.D.	63
BUTYL BENZYL PHTHALATE	N.D.	2	N.D.	--
3,3'-DICHLOROBENZIDINE	N.D.	4	N.D.	--
BENZO(A) ANTHRACENE	N.D.	2	N.D.	--
BIS(2-ETHYLHEXYL) PHTHALATE	N.D.	2	N.D.	--
CHRYSENE	N.D.	2	N.D.	--
DI-N-OCTYLPHTHALATE	N.D.	2	N.D.	--
BENZO(B) FLUORANTHENE	N.D.	2	N.D.	--
BENZO(K) FLUORANTHENE	N.D.	2	N.D.	--
BENZO(A) PYRENE	N.D.	2	N.D.	--
INDENO(1,2,3-CD) PYRENE	N.D.	2	N.D.	--
DIBENZO(A,H) ANTHRACENE	N.D.	2	N.D.	--
BENZ(GHI) PERYLENE	N.D.	2	N.D.	--
BENZOIC ACID	N.D.	2	N.D.	--


Alex Tam
Chemist


Ali Kharrazi
Organic Manager

