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March 13, 2003 Letter 0298.L6

Mr. Amir Gholami Alameda County Department of Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502

SUBJECT:

GROUNDWATER MONITORING AND SAMPLING REPORT

TRANSMITTAL

Fuel Leak Site RO0000357

2678 Coolidge Ave. Oakland, CA

Dear Mr. Gholami:

You will find enclosed one copy of the Groundwater Monitoring and Sampling Report 0298 R1 dated March 10, 2003, prepared by P&D Environmental, documenting the monitoring and sampling of the two groundwater monitoring wells, designated as MWI and MW2, at the subject site. Field activities were performed on February 20, 2003. In addition, on February 14, 2003, a hydrocarbon-absorbent sock was placed in well MW2 as an interim remedial action for separate phase hydrocarbon abatement.

The sample results from the wells show that perchloroethylene (tetrachloroethene) was not detected in either of the wells.

I certify under penalty of perjury that the contents of the attached report are true and correct to the best of my knowledge.

Should you have any questions, please do not hesitate to call me at (510) 532-4500.

Sincerely,

Harold Turner

PHK/wrw 0298.L6

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100\100.9

5770 *9*28 012:01

MAR-14-2003 10:42 FROM:

P & D ENVIRONMENTAL

A Division of Paul H. King, Inc. 4020 Panama Court Oakland, CA 94611 (510) 658-6916

March 10, 2003 Report 0298.R1

Mr. Harold Turner 2678 Coolidge Avenue Oakland, CA

SUBJECT:

GROUNDWATER MONITORING AND SAMPLING REPORT

2678 Coolidge Avenue

Oakland, CA

Dear Mr. Turner:

P&D Environmental (P&D), a division of Paul H. King, Inc., is pleased to present this report documenting the monitoring and sampling of the two groundwater monitoring wells, designated as MW1 and MW2, at the subject site. This monitoring and sampling was performed in accordance with a written request from the Alameda County Department of Environmental Health (ACDEH) dated August 1, 2002.

Background

Review of the file for the subject site at the ACDEH offices identified the following reports documenting underground tank removal and subsurface investigation at the subject site.

- Tank Removal Activities and Work Plan For a Preliminary Groundwater Investigation dated August 21, 1990 prepared by C.M. Chambers and Associates.
- Proposal for Work Plan and Site Safety Plan dated July 30, 1993 prepared by Joslin Geotechnical.
- Interim Report on Underground Tank Release Investigation dated May 20, 1994 prepared by Joslin Geotechnical (the report documents installation of two groundwater monitoring wells).
- Transmittal of Test Results dated November 30, 1998 prepared by Joslin Geotechnical. The following documents were attached to the transmittal.
 - March 5, 1991 letter prepared by C.M. Chambers and Associates documenting soil disposal related to the UST removal activities.
 - January 20, 1994 letter prepared by Joslin Geotechnical documenting soil (collected on January 4, 1994) and water (collected on January 26, 1994) sample results associated with installation of the two groundwater monitoring wells.
 - July 27, 1994 letter prepared by Joslin Geotechnical documenting water sample results for samples collected from the two wells on May 31, 1994.
 - August 20, 1994 letter prepared by Joslin Geotechnical documenting water sample results for samples collected from the two wells on July 29, 1994.
 - October 5, 1994 letter prepared by Joslin Geotechnical documenting water sample results for samples collected from the two wells on September 14, 1994.
 - January 20, 1995 letter prepared by Joslin Geotechnical documenting water sample results for samples collected from the two wells on December 22, 1994.
 - o June 10, 1995 letter prepared by Joslin Geotechnical documenting water sample results for samples collected from the two wells on May 15, 1995.

 November 20, 1998 letter prepared by Joslin Geotechnical documenting water sample results for samples collected from the two wells on November 3, 1998.

The site is presently operated as a dry cleaning establishment, and is reported to have historically been used for dry cleaning operations since approximately 1907. Review of the above documents shows that a total of six underground storage tanks (USTs) were removed from the site in 1990. Soil samples collected from beneath the USTs showed detectable concentrations of petroleum hydrocarbons identified as paint thinner. The quality of the sample results is questionable because the samples were stored in glass jars and extracted at the laboratory 30 days or more after the date of sample collection. Limited excavation of soil from the UST pit was performed to remove discolored soil and soil that exhibited a head space concentration greater than 100 ppm using a combustible gas indicator. The UST pit dimensions after excavation were reported to be approximately 9 feet by 40 feet and 15 feet deep.

Based on conversations with Mr. Turner, the property owner, some of the excavated soil was placed into planters and landscaped areas surrounding the site building. During a site visit by P&D personnel, a total of seven areas were identified where the soil had been placed. The calculated volume of the soil is approximately 13 cubic yards. In addition, Mr. Turner is in the process of determining the disposition of excavated soil that was removed from the site.

In January, 1994 two groundwater monitoring wells were installed in Davis Street approximately five feet south of the former UST pit. Figure 2 shows the area of fresh concrete sidewalk, presumably from resurfacing of the UST pit. Well B1 (the well closest to Coolidge Avenue, and subsequently re-named as well MW1) was drilled to a total depth of 46.1 feet, and was constructed using 2-inch diameter PVC pipe. The screened interval is from 25 to 45 feet below the ground surface. Groundwater was initially encountered at a depth of 42.1 feet and subsequently stabilized at a depth of approximately 29 feet below the ground surface. The subsurface materials encountered in the borehole consisted predominantly of clay and silty clay. No evidence of petroleum hydrocarbons was detected in the borehole at the time of drilling, and no petroleum hydrocarbons were detected in soil samples from the borehole or water samples from the well.

Well B2 (subsequently re-named as well MW2) was drilled to a total depth of approximately 26.5 feet, and was constructed using 4-inch diameter PVC pipe. The screened interval is from 11 to 26 feet below the ground surface. Groundwater was initially encountered at a depth of approximately 18.5 feet, and subsequently stabilized at a depth of approximately 18.5 feet. The subsurface materials encountered in the borehole consisted predominantly of clayey sand and clayey gravel between the depths of approximately 10 and 21 feet below the ground surface. Petroleum odors were detected in materials from the borehole at the time of drilling, and in soil samples from the borehole. A layer of separate phase hydrocarbons was detected on the water in the well. The laboratory identified the petroleum hydrocarbons as Stoddard solvent. The water in well MW2 was interpreted to be perched water.

Review of the historical water sample results from the wells shows that no hydrocarbons have been detected in well MW1, and have been consistently detected in well MW2. Although mention of removal of separate phase hydrocarbons appears in the quarterly groundwater sampling reports, no measurements of depth to water or free product thickness are provided. Based on discussions with Mr. Turner, it is P&D's understanding that no free product removal activities were performed.

On January 18, 2003 P&D personnel monitored the two wells for depth to water and the presence of free product. Depth to water was measured using an electric water level indicator to the nearest 0.01 foot. Free product was measured using a steel tape with water-finding and product-finding paste. The measured depth to water in well MW1 was 20.06 feet. No free product was present in the well, and no odors or other evidence of petroleum hydrocarbons were detected in the well. In well MW2, the measured depth to water was 11.55 feet, and 0.02 feet of free product was measured in the well.

P&D prepared a Subsurface Investigation Work Plan dated January 30, 2003 that addressed information previously requested by the ACDEH. Following telephone conversations with Mr. Amir Gholami, the new ACDEH caseworker for the site, a work plan addendum dated February 6, 2003 was submitted to the ACDEH. In a letter dated February 27, 2003 from the ACDEH, the work plan and work plan addendum were approved by the ACDEH.

Field Activities

On February 14, 2003, P&D personnel placed a hydrocarbon-absorbent sock in well MW2 as an interim remedial action for separate phase hydrocarbon abatement, and as discussed in the approved January 30, 2003 work plan.

On February 20, 2003, monitoring wells MW1 and MW2 were monitored and sampled by P&D personnel. The monitoring wells were monitored for depth to water to the nearest 0.01 foot using an electric water level indicator. Depth to water in well MW2 was measured prior to removal of the hydrocarbon-absorbent sock. In addition, the monitoring wells were monitored for the presence of free product and sheen using a transparent bailer. Sheen was observed on the water in well MW1. No free product was observed in either well. The measured depth to water in wells MW1 and MW2 on February 20, 2003 was 20.65 and 13.09 feet, respectively. Groundwater monitoring data are presented in Table 1.

Prior to sampling, each well was purged of a minimum of three casing volumes of water. Well MW1 was sampled first. During purging operations, the field parameters of electrical conductivity, temperature and pH were monitored. Once a minimum of three casing volumes had been purged, and the field parameters were observed to stabilize, water samples were collected using a clean Teflon bailer. The water samples were transferred to 40-milliliter glass Volatile Organic Analysis (VOA) vials containing hydrochloric acid preservative and into one-liter amber glass bottles, which were sealed with Teflon-lined screw caps. The VOA vials were overturned and tapped to ensure that no air bubbles were present.

The sample containers were then transferred to a cooler with ice, and later 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. Following sample collection, the hydrocarbon-absorbent sock was placed back into well MW2.

Geology and Hydrogeology

The groundwater flow direction at the site is unknown. Review of Figure 1 shows that the topography in the site vicinity slopes to the east and south. Peralta Creek is located approximately 400 feet to the southeast of the subject site. During a site visit on January 18, 2002, portions of the creek directly to the east of the site were observed to be lined with concrete. Portions of the creek to the southeast of the site at the Peralta Hacienda Historic Park were not observed to be lined with concrete. Although the vicinity topography slopes to the east and south, the area between Coolidge Avenue (bordering the property on the west) and 34th Avenue (the first street encountered to the east of the site) is remarkably flat. Based on these observations, the anticipated groundwater flow direction at the site is toward the southeast, with a relatively low gradient.

The measured depth to water in wells MW1 and MW2 on February 20, 2003 was 20.65 and 13.09 feet, respectively. Depth to water measurements are summarized in Table 1.

Laboratory Results

The groundwater samples collected from monitoring wells MW1 and MW2 were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH-G), Total Petroleum Hydrocarbons as Diesel (TPH-D), Total Petroleum Hydrocarbons as Motor Oil (TPH-MO), and Total Petroleum Hydrocarbons as Stoddard Solvent (TPH-SS) using EPA Method 5030 and Modified EPA Method 8015; and for Volatile Organic Compounds (VOCs) using EPA Method 8260.

The laboratory analytical results for the groundwater samples show that in monitoring well MW1 no analytes were detected, with the exception of 0.0012 ppm chloroform and 0.00061 ppm xylenes. In MW2, Petroleum Hydrocarbons quantified as gasoline were detected at a concentration of 76 ppm, and quantified as Stoddard solvent were detected at a concentration of 75 ppm. Similarly, in MW2 Petroleum Hydrocarbons quantified as diesel were detected at a concentration of 370 ppm, and quantified as motor oil were detected at a concentration of 37 ppm. Review of the laboratory report shows that the sample results quantified as diesel are identified by the laboratory as Stoddard solvent. Benzene and MTBE were not detected. Various other VOCs were detected at concentrations ranging from 0.022 to 0.53 ppm. Tetrachloroethene (also called perchloroethylene, perc, and PCE) and the decomposition products trichloroethene and trichloroethane were not detected in either of the wells. The analytical results are summarized in Table 2. Copies of the laboratory analytical reports are attached with this report.

Discussion and Recommendations

On February 14, 2003, P&D personnel placed a hydrocarbon-absorbent sock in well MW2 as an interim remedial action for separate phase hydrocarbon abatement. The two groundwater monitoring wells were monitored and sampled once on February 20, 2003. With the exception of two near-detection limit compounds, no analytes were detected in well MW1. In well MW2, petroleum hydrocarbons quantified as gasoline, diesel, Stoddard solvent and motor oil were detected. However, review of the laboratory analytical reports shows that the highest concentrations correspond with results identified by the laboratory as Stoddard solvent.

Benzene and MTBE were not detected. However, Tetrachloroethene or associated decomposition products were not detected in either of the wells.

Review of the sample results shows that the samples collected on February 20, 2003 are consistent with the results reported for previous sampling events by others. Historically, Tetrachloroethene has not been detected in either of the wells.

Based on the sample results, P&D recommends that the wells be monitored quarterly and that the petroleum hydrocarbon absorbent sock be evaluated during the quarterly monitoring. In addition, P&D recommends that the wells be sampled every six months to evaluate seasonal changes in water quality.

Distribution

Copies of this report should be sent to Mr. Amir Gholami of the Alameda County Department of Environmental Health. Copies of this report should be accompanied by a transmittal letter signed by Mr. Harold Turner.

Limitations

This report was prepared solely for the use of Mr. Harold Turner. 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 the site owner, regulatory agencies and other pertinent individuals; review of available public documents; subsurface exploration and our professional judgment 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 judgment 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 President

California Registered Geologist #5901

and H. King

Expires: 12/31/03

Attachments: Tables 1, 2

Site Location Map (Figure 1) Site Vicinity Map (Figure 2)

Monitoring Well Purge Data Sheets Laboratory Analytical Results Chain of Custody Documentation

PHK/wrw 0298.R1

TABLE 1 WELL MONITORING DATA

 Well No.
 Date Monitored Monitored
 Depth to Water (ft.)

 MW1
 2/20/03
 20.65

 MW2
 2/20/03
 13.09

TABLE 2 SUMMARY OF LABORATORY ANALYTICAL RESULTS (Samples Collected February 20, 2003)

Well No.	TPH-G	TPH-D	TPH-MO	TPH-SS	VOCs by 8260
MW1	ND	ND	ND	ND	ND, except Chloroform = 0.0012 Xylenes = 0.00061
MW2	76, d,e	370, a,b,c,d	37	75	ND, except n-Butyl benzene = 0.043 trans-1,2-Dichloroethene = 0.022 Isopropylbenzene = 0.035 Naphthalene = 0.032 Toluene = 0.047 Xylenes = 0.16 sec-Butyl benzene = 0.048 cis-1,2-Dichloroethene = 0.36 Ethylbenzene = 0.043 4-Isopropyl toluene = 0.025 n-Propyl benzene = 0.086 1,3,5-Trimethylbenzene = 0.16 Vinyl chloride = 0.024

Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard Solvent.

VOCs = Volatile Organic Compounds.

ND = Not Detected.

a = Review of the laboratory analytical reports indicates that results consist of stoddard solvent / mineral spirit.

b = Review of the laboratory analytical reports indicates that results consist of diesel-range compounds or no pattern.

c = Review of the laboratory analytical reports indicates that results consist of oil-range compounds.

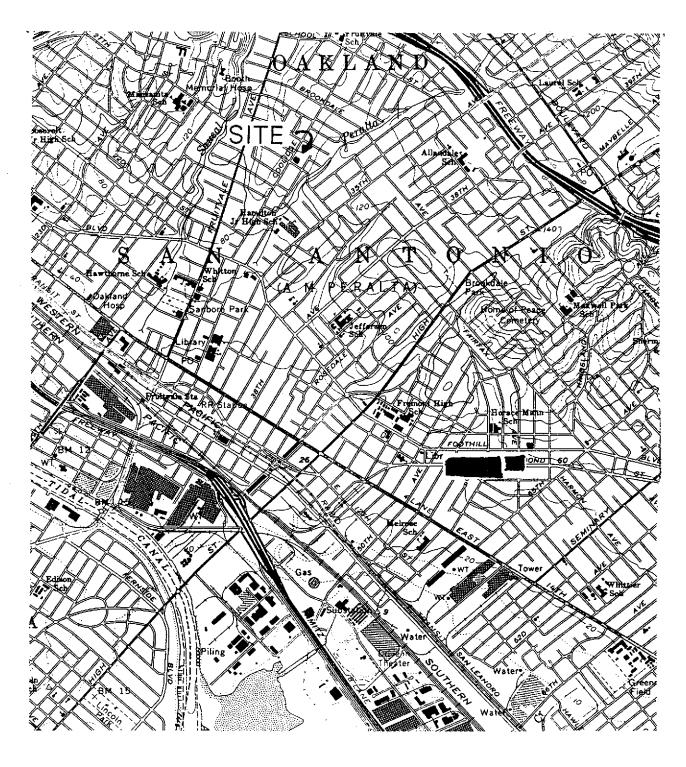
d = Review of the laboratory analytical reports indicates that a lighter than water immiscible sheen / product is present.

e = Review of the laboratory analytical reports indicates an unknown, medium boiling point compound not derived from diesel.

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

P & D ENVIRONMENTAL A Division of Paul H. King, Inc.

Division of Paul H. King, Inc. 4020 Panama Court Oakland, CA 94611 (510) 658-6916



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

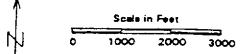
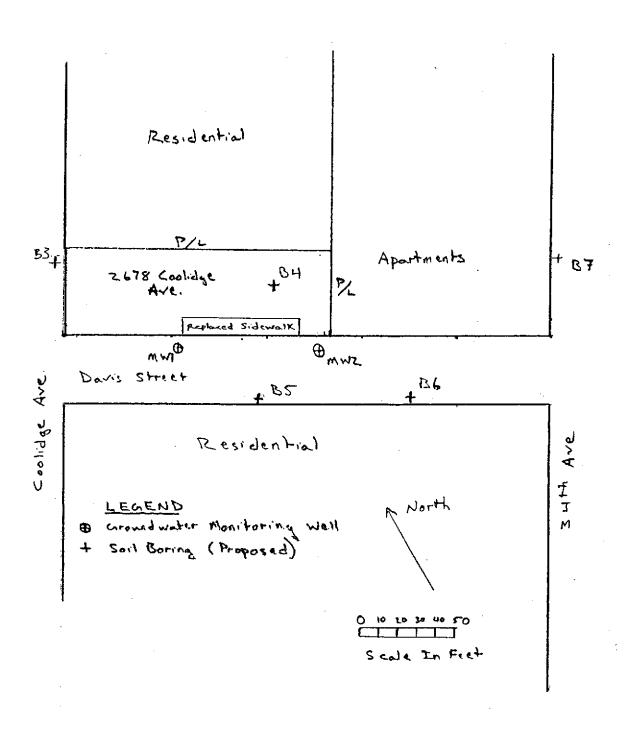


Figure 1 SITE LOCATION MAP 2678 Coolidge Ave. Oakland, CA

P & D ENVIRONMENTAL A Division of Paul H. King, Inc.

A Division of Paul H. King, Inc. 4020 Panama Court Oakland, CA 94611 (510) 658-6916



Based Map Prepared By P&D Environmental Using A Rolatape January 18, 2003 Figure 2 SITE VICINITY MAP 2678 Coolidge Ave. Oakland, CA

P&D ENVIRONMENTAL GROUNDWATER MONITORING/WELL PURGING DATA SHEET

Site Name	2676 (00 id	geAve	Well No	MM)	
Job NoO	298	0 	Date 2/2	20/03	
TOC to Water	(ft.) 20.6	5	Sheen Ne	ne_	•
Well Depth	(ft.) 40		Free Produc	ct Thickness 💋	
Well Diamete	er_ 2"	_		lection Method	
Gal./Casing	Vol. 3.191		Tef	lan bailer	
	E=9.3gal		(of)	ELECTRICAL (IOC	248/
TIME	GAL. PURGED	<u>pH</u>	TEMPERATURE (CONDUCTIVITY	(m)
· · · · · · · · · · · · · · · · · · ·	7				
5:0\pm	4	679.02	-	0.00	
2 10 15m	-4	Q 05	67067,2	8.55	•
5.04	8	<u> </u>		7,66	
5:05	10	- 8.50 @ au	66.8	7,00	
<u>-5,0</u> 5		<u>81-17</u>	666	7.00	
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NOTES:	$C = \Delta$				
-	Sampling-	time 5:	Sheen on	· · · · · · · · · · · · · · · · · · ·	•
	No Da	or Or	Sheen on	Purge Wade	

P&D ENVIRONMENTAL GROUNDWATER MONITORING/WELL PURGING DATA SHEET

Site Name 2678 Coolidge Ave	Well No. MWZ
Job No. 6798	Date 2/20/03
TOC to Water (ft.) 13.09	Sheen Ye 5
Well Depth (ft.) 26	Free Product Thickness Not measurable
Well Diameter	Sample Collection Method
Gal./Casing Vol. 8.3ga	Teflon bailer
E=24.9gal TIME GAL. PURGED DH	TEMPERATURE (F) ELECTRICAL CONDUCTIVITY (1000 u.S.
6:06pm 4 8.88	66,0
<u>6:09</u> <u>8</u> <u>8.89</u>	67.0 6.06
6:10 12 8.39	67.9 6.39
6:12 6 889	6816 6,66
6:14 20 8:87	67.a 6.01
6:16 25 8.82	68.2 6.19
6:18 28 8.84	6.22
	<u> </u>
	· · ·
NOTES: Stong PHC odor on	ance later
NOTES: Strong PHC odor on g Sampling time- 6:25	On.
PURGE10.92	

McCampbell Analytical Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone: 925-798-1620 Fax: 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

P & D Environmental	Client Project ID: #0298; 2678 Golidge	Date Sampled: 02/20/03
4020 Panama Court	Ave	Date Received: 02/21/03
Oakland, CA 94611-4931	Client Contact: Paul King	Date Extracted: 02/22/03-02/24/03
Oakialid, CA 94011-4931	Client P.O.:	Date Analyzed: 02/22/03-02/24/03

Gasoline Range (C6-C12) & Stoddard Solvent Range (C6-C9) Volatile Hydrocarbons as Gasoline *

Extraction method: SW	75030B		Analytical methods: 8015Cm		Work Order:	0302285
Lab ID	Client ID	Matrix	TPH(g)	TPH(ss)	DF	% SS
0302285-001A	MW-1	w	ND	ND	1	90.9
0302285-002A	MW-2	W	76,000,e,h	75,000	50	85.8
		-				
						
			, 7/A-10-00-00			
ND means no	imit for DF =1; ot detected at or	W	50	50		g/L
above the	reporting limit	S	NA	NA	I N	IA

*water and vapor samples are reported in µg/L, soil and sludge samples in mg/kg, wipe samples in µg/wipe, and TCLP extracts in µg/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 (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



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P & D Environmental	Client Project ID: #0298; 2678 Golidge	Date Sampled: 02/20/03
4020 Panama Court	Ave	Date Received: 02/21/03
Oakland, CA 94611-4931	Client Contact: Paul King	Date Extracted: 02/21/03
Oakiairi, CA 97011-4931	Client P.O.:	Date Analyzed: 02/22/03-02/27/03

Diesel (C10-23) and Oil (C18+) Range Extractable Hydrocarbons as Diesel and Motor Oil*

Extraction method: SW3510C Analytical methods: SW8015C			F OH* Work O	der: 0302285		
Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS
0302285-001C	MW-1	w	ND	ND	ı	100
0302285-002C	MW-2	W	370,000,n,b,g,h	37,000	10	111
				-		

Reporting Limit for DF =1; ND means not detected at or	w	50	250	μg/L
above the reporting limit	S	NA	NA	mg/Kg

^{*} water and vapor samples are reported in µg/L, wipe samples in ug/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all TCLP / STLC / SPLP extracts in µg/L

⁺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 diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent / mineral spirit.



[#] cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

McCampbell Analytical Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 http://www.mccampbell.com E-mail: main@mccampbell.com

	7.00	
P & D Environmental	Client Project ID: #0298; 2678 Golidge	Date Sampled: 02/20/03
4020 Panama Court	Ave	Date Received: 02/21/03
Oakland, CA 94611-4931	Client Contact: Paul King	Date Extracted: 02/22/03
Cantand, CA 94011-4931	Client P.O.:	Date Analyzed: 02/22/03

Extraction Method: SW5030B	voiames Organi	•		nd GC/MS (Basic Target List thod: SW8260B	•	Order: 0:	302285
Lab ID				0302285-001B	***		
Client ID		MW-1					
Matrix							
Compound	Concentration *	DF	Reporting Limit	Water Compound	Concentration *	DF	Reporting
Acetone	ND<6.0	1.0	5.0	Benzene	ND	1.0	0.5
Bromobenzene	ND	1.0	0.5	Bromochloromethane	ND	1.0	0.5
Bromodichloromethane	ND	1.0	0.5	Bromoform	ND	1.0	0.5
Bromomethane	ND	1.0	0.5	2-Butanone (MEK)	ND	1.0	1.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	0.5
Chloroform	1.2	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Ethylbenzene	· ND	1.0	0.5
Hexachlorobutadiene	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Iodomethane (Methyl iodide)	ND	1.0	1.0	4-Isopropyl toluene	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5
Methylene chloride	ND	1.0	0.5	Methyl-t-butyl ether (MTBE)	ND	1.0	0.5
Naphthalene	ND	1.0	0.5	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Acetate	ND	1.0	5.0	Vinyl Chloride	ND	1.0	0.5
Xylenes	0.61	1.0	0.5				
		Surr	ogate Re	coveries (%)			
%SS1:	116			%SS2:	109		**
%SS3:	99.5	<u> </u>	-				

%SS3: 99.5

Comments:

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.



water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in µg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

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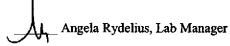
P & D Environmental	Client Project ID: #0298; 2678 Golidge	Date Sampled: 02/20/03
4020 Panama Court	Ave	Date Received: 02/21/03
Oakland, CA 94611-4931	Client Contact: Paul King	Date Extracted: 02/22/03
	Client P.O.:	Date Analyzed: 02/22/03

Volatiles Organics by P&T and GC/MS (Basic Target List)*

_	Lab ID	0302285-002B	
	Extraction Method: SW5030B	Analytical Method: SW8260B	Work Order: 0302285

Lab ID				0302285-002B					
Client ID				MW-2					
Matrix		Water							
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit		
Acetone	ND<50	10	5.0	Benzene	ND<5.0	10	0.5		
Bromobenzene	ND<5.0	10	0.5	Bromochloromethane	ND<5.0	10	0.5		
Bromodichloromethane	ND<5.0	10	0.5	Bromoform	ND<5.0	10	0.5		
Bromomethane	ND<5.0	10	0.5	2-Butanone (MEK)	ND<10	10	1.0		
n-Butyl benzene	43	10	0.5	sec-Butyl benzene	48	10	0.5		
tert-Butyl benzene	ND<5.0	10	0.5	Carbon Disulfide	ND<5.0	10	0.5		
Carbon Tetrachloride	ND<5.0	10	0.5	Chlorobenzene	ND<5.0	10	0.5		
Chloroethane	ND<5.0	10	0.5	2-Chloroethyl Vinyl Ether	ND<5.0	10	0.5		
Chloroform	ND<5.0	10	0.5	Chloromethane	ND<5.0	10	0.5		
2-Chlorotoluene	ND<5.0	10	0.5	4-Chlorotoluene	ND<5.0	10	0.5		
Dibromochloromethane	ND<5.0	10	0.5	1,2-Dibromo-3-chloropropane	ND<5.0	10	0.5		
1,2-Dibromoethane (EDB)	ND<5.0	10	0.5	Dibromomethane	ND<5.0	10	0.5		
1,2-Dichlorobenzene	ND<5.0	10	0.5	1,3-Dichlorobenzene	ND<5.0	10	0.5		
1,4-Dichlorobenzene	ND<5.0	10	0.5	Dichlorodifluoromethane	ND<5.0	10	0.5		
1,1-Dichloroethane	ND<5.0	10	0.5	1,2-Dichloroethane (1,2-DCA)	ND<5.0	10	0.5		
1,1-Dichloroethene	ND<5.0	10	0.5	cis-1,2-Dichloroethene	360	10	0.5		
trans-1,2-Dichloroethene	22	10	0.5	1,2-Dichloropropane	ND<5.0	10	0.5		
1,3-Dichloropropane	ND<5.0	10	0.5	2,2-Dichloropropane	ND<5.0	10	0.5		
1,1-Dichloropropene	ND<5.0	10	0.5	cis-1,3-Dichloropropene	ND<5.0	10	0.5		
trans-1,3-Dichloropropene	ND<5.0	10	0.5	Ethylbenzene	43	10	0.5		
Hexachlorobutadiene	ND<5.0	10	0.5	2-Hexanone	ND<5.0	10	0.5		
Iodomethane (Methyl iodide)	ND<10	10	1.0	4-Isopropyl toluene	25	10	0.5		
Isopropylbenzene	35	10	0.5	4-Methyl-2-pentanone (MIBK)	ND<5.0	10	0.5		
Methylene chloride	ND<5.0	10	0.5	Methyl-t-butyl ether (MTBE)	ND<5.0	10	0.5		
Naphthalene	32	10	0.5	n-Propyl benzene	86	10	0.5		
Styrene	ND<5.0	10	0.5	1,1,1,2-Tetrachloroethane	ND<5.0	10	0.5		
1,1,2,2-Tetrachloroethane	ND<5.0	10	0.5	Tetrachloroethene	ND<5.0	10	0.5		
Toluene	47	10	0.5	1,2,3-Trichlorobenzene	ND<5.0	10	0.5		
1,2,4-Trichlorobenzene	ND<5.0	10	0.5	1,1,1-Trichloroethane	ND<5.0	10	0.5		
1,1,2-Trichloroethane	ND<5.0	10	0.5	Trichloroethene	ND<5.0	10	0.5		
Trichlorofluoromethane	ND<5.0	10	0.5	1,2,3-Trichloropropane	ND<5.0	10	0.5		
1,2,4-Trimethylbenzene	460	10	0.5	1,3,5-Trimethylbenzene	160	10	0.5		
Vinyl Acetate	ND<50	10	5.0	Vinyl Chloride	24	10	0.5		
Xylenes	160	10	0.5	-					
		Suri		coveries (%)			-		
%SS1:	118			%SS2:	112		<u>-</u>		
%SS3:	96.4	1		10.00					

	Surrogate Ro	ecoveries (%)	
%SS1:	118	%SS2:	112
%SS3:	96.4		
	The state of the s		



water and vapor samples and all TCLP & SPLP extracts are reported in μg/L, soil/sludge/solid samples in μg/kg, wipe samples in μg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

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P & D Environmental	Client Project ID: #0298; 2678 Golidge	Date Sampled: 02/20/03
4020 Panama Court	Ave	Date Received: 02/21/03
Oakland, CA 94611-4931	Client Contact: Paul King	Date Extracted: 02/22/03-02/24/03
Odkidda, 011 71011 4731	Client P.O.:	Date Analyzed: 02/22/03-02/24/03

Gasoline Range (C6-C12), Stoddard Solvent Range (C6-C9) Volatile Hydrocarbons as Gasoline w/BTEX & MTBE*

Extraction Method: SW5030B

Analytical Method: SW8021B/8015Cm

Work Order 0302285

Extraction Method: SW5030B	An	m	Work Order: 0302285			
Lab ID	0302285-001A	0302285-002A				
Client ID	MW-1	MW-2	F	Reporting Limit for DF =1		
Matrix	w	W				
DF	1	50		s	w	
Compound		Concentration	on · 1	ug/kg		
TPH(g)	ND	76,000		NA	50	
TPH(ss)	ND	75,000		NA	50	
МТВЕ	ND	ND<250		NA	5.0	
Benzene	ND	ND<25		NA	0.5	
Toluene	ND	49		NA	0.5	
Ethylbenzene	ND	31		NA	0.5	
Xylenes	1.1	530		NA	0.5	
	Surro	ogate Recoveries (%)				
%SS:	90.9	85.8			·	
Comments		e,h				

*water and vapor samples are reported in µg/L, soil and sludge samples in mg/kg, wipe samples in µg/wipe, and TCLP extracts in µg/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 (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



OC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0302285

EPA Method: SW802	1B/8015Cm E	xtraction:	SW5030E	3	BatchID: 5968		Spiked Sample ID: N/A				
Company	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)	
Compound µg	μg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High	
TPH(gas)	N/A	60	N/A	N/A	N/A	113	101	10.8	70	130	
MTBE	N/A	10	N/A	N/A	N/A	92.1	95.4	3.54	70	130	
Benzene	N/A	10	N/A	N/A	N/A	111	110	1.18	70	130	
Toluene	N/A	10	N/A	N/A	N/A	105	105	0.771	70	130	
Ethylbenzene	N/A	10	N/A	N/A	N/A	114	112	1.28	70	130	
Xylenes	N/A	30	N/A	N/A	N/A	113	110	2.99	70	130	
%SS:	N/A	100	N/A	N/A	N/A	103	102	0.842	80	120	

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

^{*} MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

QC SUMMARY REPORT FOR SW8015C

Matrix: W

WorkOrder: 0302285

EPA Method: SW8015C	E	xtraction:	SW3510C BatchID: 5942			Spiked Sample ID: N/A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Compound	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	N/A	7500	N/A	N/A	N/A	103	110	6.36	70	130
%SS:	N/A	100	N/A	N/A	N/A	107	114	6.03	80	120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

^{*} MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if; a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

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QC SUMMARY REPORT FOR SW8260B

Matrix: W

WorkOrder: 0302285

EPA Method: SW8260B	E	Extraction: SW5030B			BatchID:	5969	Spiked Sample ID: 0302284-007B			
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Compound	μg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Benzene	ND	10	100	108	7.20	103	99.6	3.00	70	130
Chlorobenzene	ND	10	108	114	5.25	110	107	3.23	70	130
1,1-Dichloroethene	ND	10	90.1	98	8.38	93.2	92.3	0.960	70	130
Methyl-t-butyl ether (MTBE)	ND	10	114	125	9.09	113	112	0.661	70	130
Toluene	ND	10	99.4	106	6.67	101	100	0.895	70	130
Trichloroethene	ND	10	93.3	99.4	6.27	95.3	92.5	2.98	70	130
%SS1:	118	100	123	123	0.237	83.3	82.6	0.811	70	130
%SS2:	110	100	110	109	0.551	109	110	0.524	70	130
%SS3:	96.1	100	98.4	98.2	0.198	96.8	99.5	2.74	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

P & D UNVIRONMENTAL

A Division of Paul H. King, Inc. 4020 Panama Court Oakland, CA 94611

0302485

CHAIN OF CUSTODY RECORD, by 6260 (including Stolland Solvent) (510) 658-6916 PAGE _L_ OF _ PROJECT NAME: PROJECT NUMBER: 2678 Golidge Ave 0298 SAMPLED BY: (PRINTED AND SIGNATURE) REMARKS Wilhelm Welzenhach SAMPLE LOCATION SAMPLE NUMBER DATE TIME TYPE 2/20/03 Water + WW1 Normal Turnavand Time MWZ ORG [METALS] OTHER PRESERVATION GOOD CONDITION APPROPRIATE CONTAINERS HEAD SPACE ABSENT DECHLORINATED IN LAB PRESERVED IN LAR RELINQUISHED BY: (SIGNATURE) TOTAL NO. OF SAMPLES RECEIVED BY: (SIGNATURE) DATE TIME LABORATORY. (THIS SHIPMENT) 2-21 1045 234 TOTAL NO. OF CONTAINERS 1) Illeminol Jenbach Mc Campbell Analytical THIS SHPMENT RELINQUISHED BY: (SIGNATURE) DATE LABORATORY FHONE NUMBER: TIME RECEJYÉD BY: (SIGNATURE) LABORATORY CONTACT: 121 135 1925) 798 -1620 RELINGUISHED BY: (SIGNATURE) RECEIVED FOR LABORATORY BY DAYE TIME SAMPLE ANALYSIS REQUEST SHEET #280 (SIGNATURE) ATTACHED: ()YES (X)NO REMARKS: