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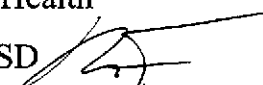
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Alameda County

AUG 13 2004

Environmental Health

August 11, 2004

TO: Don Hwang, Hazmat Specialist, HCSA-Environmental Health
FROM: Rod Freitag, Environmental Program Manager, GSA-TSD 
SUBJECT: SEMIANNUAL GROUNDWATER MONITORING REPORT FOR
ALCOPARK, 165 - 13TH STREET, OAKLAND, CA 94612

Enclosed for your records is the report documenting groundwater monitoring results for the July, 2004 sampling event.

Groundwater monitoring is currently being performed semiannually, in accordance with Environmental Health's requirements. Based on the fact that MTBE and benzene results have been relatively consistent during the last four years, a reduced sampling frequency may now be warranted. GSA requests that Environmental Health revisit its requirements and reduce the sampling frequency, as appropriate.

Thank you for your consideration of this matter.

RDF:rdi:\e&em\prj\env\7001\February 2004 report transmittal

Enclosure

Alameda County
AUG 13 2004
Environmental Health

**GROUNDWATER MONITORING REPORT
THIRD QUARTER, 2004
ALCOPARK FUELING FACILITY
OAKLAND, CALIFORNIA**

Prepared for

ALAMEDA COUNTY GENERAL SERVICES AGENCY
1401 Lakeside Drive, 11th Floor
Oakland, California

Prepared by

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August 5, 2004
575-4G009

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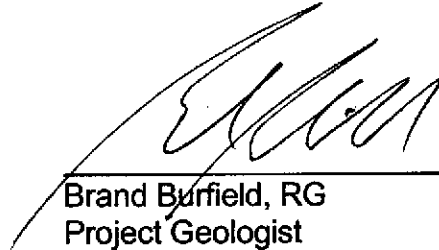
STATEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION

Information provided in this report, prepared by Professional Service Industries, Inc. (PSI), is intended exclusively for the use of Alameda County General Services Agency (ACGSA), for the evaluation of subsurface conditions as they pertain to the subject site. The professional services provided have been performed in accordance with practices generally accepted by other geologists, hydrologists, hydrogeologists, engineers, and environmental scientists practicing in this field. No other warranty, either expressed or implied, is made. As with all subsurface investigations, there is no guarantee that the work conducted will identify any or all sources or locations of contamination.

This report is issued with the understanding that ACGSA is responsible for ensuring that the information contained herein is brought to the attention of the appropriate regulatory agency.



Frank R. Poss, REA
Senior Hydrogeologist



Brand Burfield, RG
Project Geologist

1. INTRODUCTION

Professional Service Industries, Inc. (PSI) was retained by the Alameda County General Services Agency (ACGSA) to perform groundwater monitoring at the ACGSA Alcopark Fueling Facility - Site No. 2, located at 165 13th Street, Oakland, California. The site location is presented on Figure 1.

The groundwater monitoring was prompted by a request by the Alameda County Health Care Services Agency (ACHCSA), which requested additional information on the extent of petroleum hydrocarbon impacted groundwater (ACHCSA, 1997a).

1.1 SCOPE OF WORK

The scope of work consisted of the following tasks:

- Measure the depth to water in the site wells and prepare a groundwater elevation map.
- Determine the groundwater flow direction and gradient.
- Collect and chemically analyze groundwater samples from wells MW-1, MW-6 and MW-7.
- Prepare a report documenting the field procedures, analytical results, and presenting our conclusions regarding the data generated.

1.2 SITE BACKGROUND

The ACGSA operates two 10,000-gallon Underground Storage Tanks (USTs) at the Alcopark fueling station to fuel Alameda County vehicles. Three groundwater monitoring wells were installed at the site in March, 1989 to assess environmental conditions subsequent to the repair of a line leak at Dispenser No. 1. Initial sample results indicated the presence of BTEX (benzene, toluene, ethyl-benzene, and xylenes) in the groundwater. Subsequent sample results indicated the presence of Total Petroleum Hydrocarbons as Gasoline (TPH-G). Based on the analytical data, it was concluded that contaminants detected on-site had originated from a source area located upgradient of the site. Sampling activities were halted in 1992 pending investigation of an upgradient source (ACGSA, 1997).

In their letter dated May 30, 1997, the ACHCSA instructed ACGSA to resume groundwater monitoring at Alcopark (ACHCSA, 1997b). Sampling resumed in July, 1997. Analytical data from that sampling event indicated elevated TPH-G and BTEX

concentrations in the downgradient well. Methyl tert-Butyl ether (MTBE) was also detected. Additional samples collected in October, 1997 provided similar results (ACGSA, 1997). In their letter dated September 11, 1997, the ACHCSA directed ACGSA to investigate the extent and stability of the plume.

To better define groundwater conditions downgradient of the USTs, two borings were drilled on March 23, 1998. A grab groundwater sample was collected from one of the borings, and Well MW-6 was installed in the other boring. One additional small-diameter groundwater monitoring well (MW-7) was installed by PSI in September, 1999 and the analytical results are presented in the PSI report dated October 14, 1999.

ACHCSA issued a letter, dated July 18, 2000, requiring ACGSA to prepare a Site Conceptual Model in accordance with the Regional Water Quality Control Board's final draft "Guideline for Investigation and Cleanup of MTBE and Other Ether-Based Oxygenates." The Site Conceptual Model, dated November 10, 2000, indicated that there are no drinking water wells within ½ mile of the site, and Lake Merritt, the nearest surface water receptor, is salt water and not a potential source of drinking water. Based on these findings, it was concluded that, "...an Interim Remedial Action should not be required for the subject site because the migration of MTBE contaminated groundwater to the nearest receptor, Lake Merritt, is unlikely. Furthermore, since no potential drinking water sources are at risk, a risk assessment is not necessary for the site."

After reviewing the Site Conceptual Model report, ACHCSA required that a supplemental fate and transport screening be done to assess potential MTBE impacts on the Lake Merritt ecosystem. On June 8, 2001, a report was issued indicating no expectation of a significant impact on the ecology of Lake Merritt.

Groundwater sampling is currently being conducted semiannually, in accordance with ACHCSA's requirements.

1.2.1 STORAGE TANK SYSTEM UPDATES

In September of 1992, overflow protection, spill containment, and automatic tank gauging were installed on the two underground tanks. In July and August of 1996, additional upgrade work was done to comply with Title 23 of the California Code of Regulations. This included replacement of underground single-walled steel piping with double-wall fiberglass piping, and installation of dispenser sumps, piping sumps, and sump leak sensors (ACGSA, 1997).

2. GROUNDWATER MONITORING ACTIVITIES

A PSI representative performed groundwater-monitoring activities on July 7, 2004. The activities were performed in accordance with PSI standard procedures presented in Appendix A, and procedures described in an ACHCSA letter describing collection of samples without purging the wells (ACHCSA, 1997a).

2.1 GROUNDWATER ELEVATION AND FLOW DIRECTION

Prior to groundwater sampling, depth to groundwater was measured from the top of the well casings in monitoring wells MW-1, MW-4, and MW-5. The groundwater measurements were converted to groundwater elevations and the data plotted on a groundwater elevation map. A groundwater elevation map was prepared for July 7, 2004 (presented as Figure 2). The groundwater elevation data are presented in Table 1 and Appendix A.

PSI's interpretation of the groundwater elevation data indicates the groundwater is flowing to the east under a hydraulic gradient of 0.003. The flow direction is consistent with the flow direction determined for previous quarterly monitoring events.

2.2 GROUNDWATER SAMPLING

Monitoring wells MW-1, MW-6, and MW-7 were sampled without purging, as requested in the ACHCSA letter dated September 11, 1997. The groundwater samples were collected with disposable polyethylene tubing equipped with a check valve. The groundwater samples were collected according to PSI's standard protocol, included in Appendix A, and were stored in an iced cooler through delivery to the analytical laboratory and maintained under Chain-of-Custody protocol.

To minimize the possibility of cross-contamination between sampling locations, most of the sampling equipment used is disposable. To further minimize the possibility of cross-contamination, the water sounder and all other reusable sampling equipment were cleaned with a non-phosphate detergent and rinsed twice with deionized water prior to their use in the next well.

3. LABORATORY ANALYSIS PROGRAM

The groundwater samples collected during this investigation were submitted to McCampbell Analytical, Inc. of Pacheco, California. McCampbell Analytical is a State of California Department of Health Services certified environmental laboratory (Environmental Laboratory Accreditation Program #1644). A summary of the analytical methods is presented below.

The groundwater samples collected at the site were analyzed for the following constituents by the indicated methods:

- Total Petroleum Hydrocarbons as Gasoline (TPH-G) in accordance with Environmental Protection Agency (EPA) Method 8015-Modified.
- Volatile Organic Compounds (VOCs) by EPA Method 8260.

The samples were transported to the laboratory under Chain-of-Custody protocol. A copy of the chain of custody forms is included in Appendix B.

3.1 ANALYTICAL RESULTS

The analytical data is summarized in Table 1. Laboratory reports are presented in Appendix B.

VOCs including MTBE were detected in the samples from all three groundwater-monitoring wells sampled for this monitoring event.

- TPH-G was detected in the samples from wells MW-1 (800 micrograms per liter (ug/l)), MW-6 (4,000 ug/l), and MW-7 (56 ug/l).
- Benzene was detected in wells MW-1 (120 ug/l) and MW-6 (1,500 ug/l). The benzene concentrations have decreased in both MW-1 and MW-6 since the previous sampling event. Figure 3 depicts the benzene concentration with time in MW-1, MW-6, and MW-7. Benzene concentrations have varied with time and have not shown a consistent overall trend.
- MTBE was detected in wells MW-1 (37 ug/l), MW-6 (840 ug/l) and MW-7 (200 ug/l). Figure 4 depicts the MTBE concentration with time in MW-1, MW-6, and MW-7. MTBE concentrations have generally declined at the site since groundwater monitoring commenced.

- Additional VOCs, commonly associated with gasoline impacted groundwater, were detected in the groundwater samples. The maximum concentrations for each of the additional VOCs detected are presented below.

- Naphthalene at 230 ug/L in MW-6
- 1,2,4 Trimethylbenzene at 75 ug/L in MW-6
- Xylenes at 210 ug/L in MW-6
- Tert-Amyl methyl ether (TAME) at 130 ug/L in MW-6
- Ethyl Benzene at 150 ug/L in MW-6
- t-Butyl alcohol (TBA) at 430 ug/l in MW-6

4. CONCLUSIONS AND RECOMMENDATIONS

Based on the information presented in this report, the following conclusions have been reached:

- Groundwater elevations measured at the site range from approximately 14.81 to 14.94 feet above msl.
- Groundwater flow direction is to the east with a gradient of 0.003.
- The groundwater samples collected from wells MW-1, MW-6 and MW-7 contained measurable concentrations of TPH-G and VOCs, with MTBE and benzene being the primary contaminants of concern.

Based on the continuous groundwater sampling since 2000 and the relatively consistent MTBE and Benzene analytical results during that time, PSI recommends that the groundwater sampling schedule be switched to an annual basis.

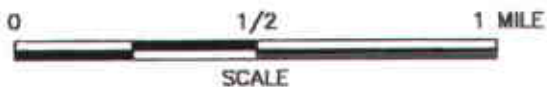
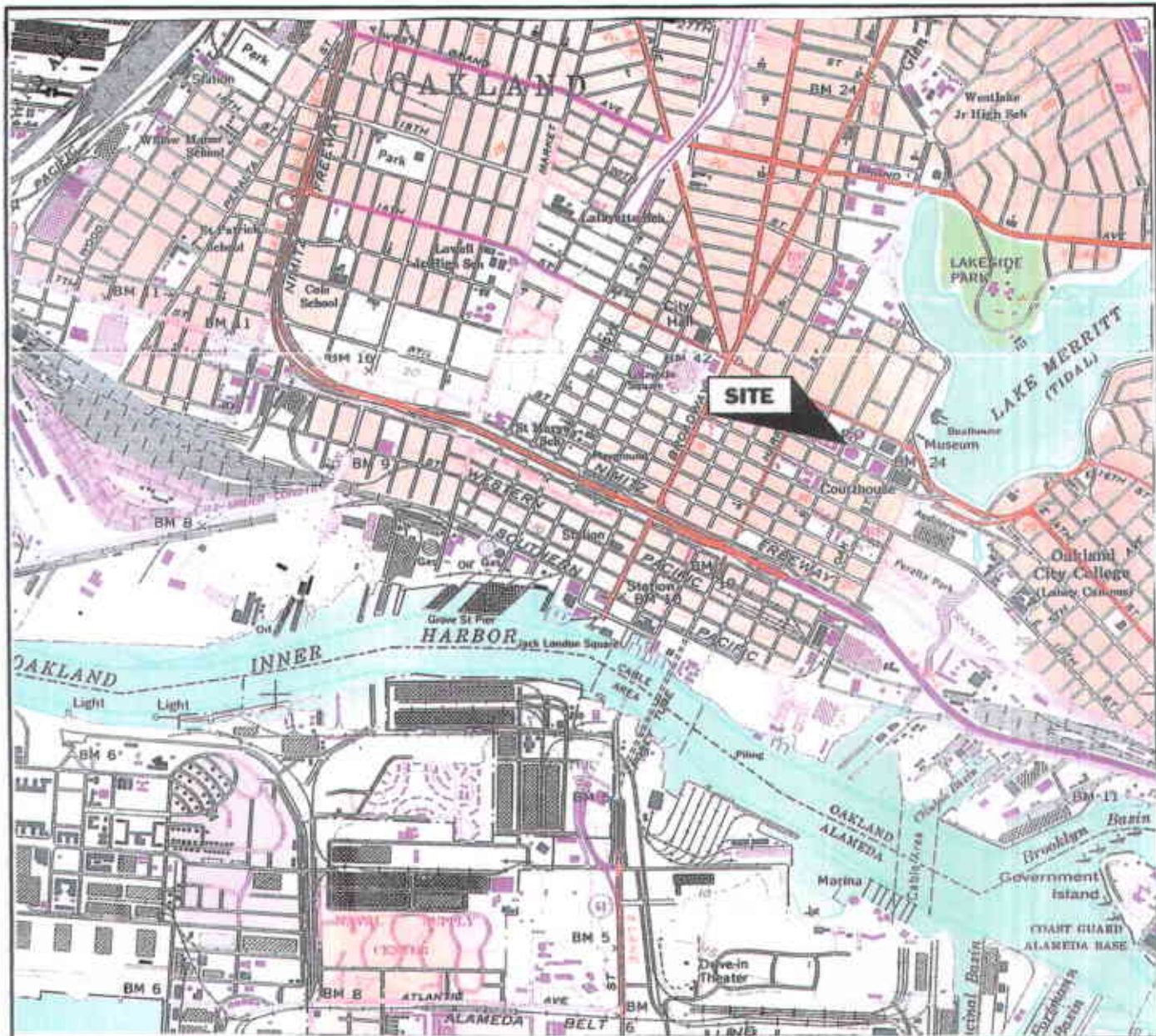
5. REFERENCES

ACGSA, 1997, Request For Proposal (RFP) for Groundwater Services, December 2.

ACHCSA, 1997a, Workplan Request Letter to Mr. Rodman Freitag, September 11.

ACHCSA, 1997b, Continuation of Groundwater Monitoring Request, Letter to Mr. Jim DeVos, May 20.

USGS, 1980, Oakland West, California, topographic map.



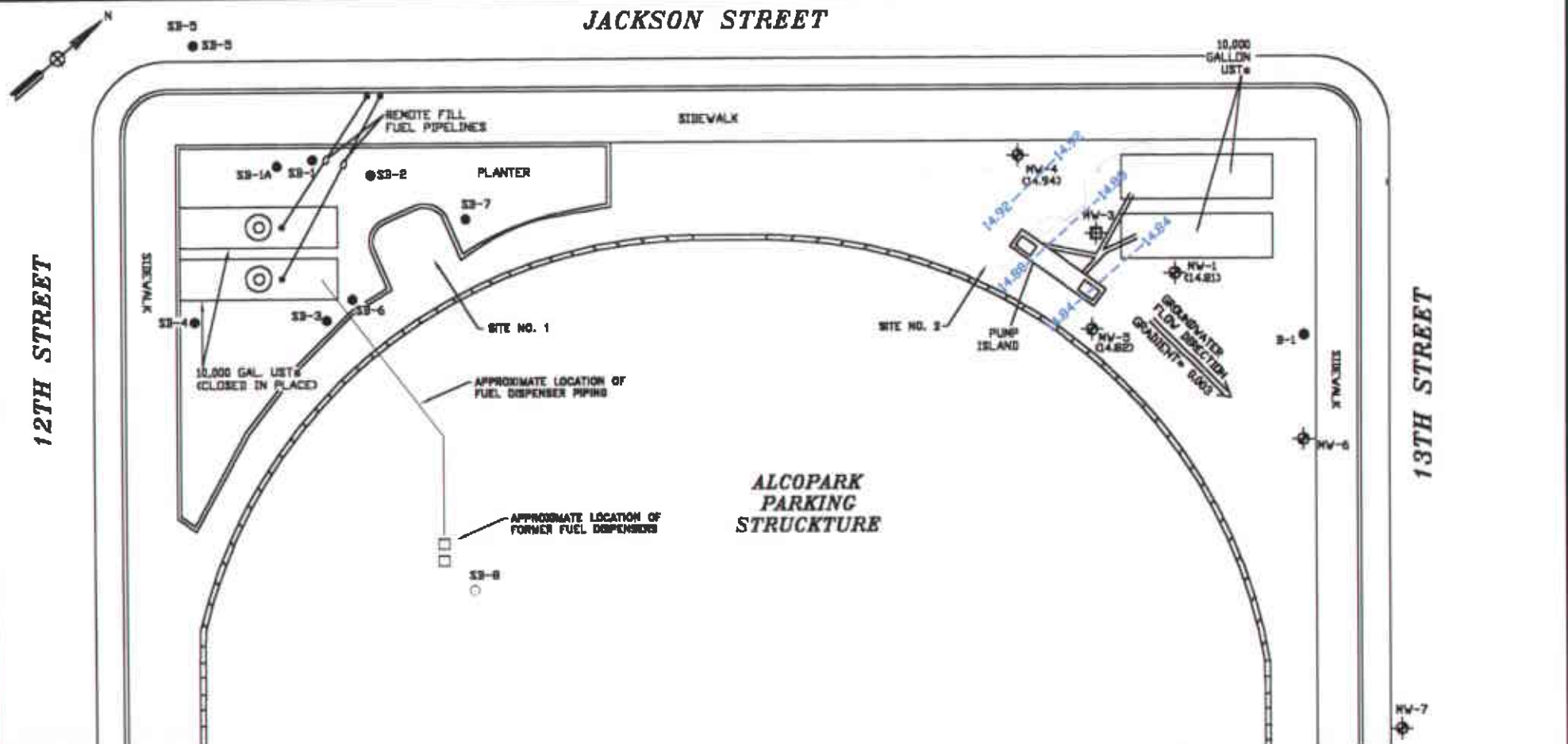
REFERENCE:
 U.S.G.S. OAKLANDWEST, CALIFORNIA, 1959
 PHOTOREVISED 1980



SITE LOCATION
 ALCOPARK FUELING STATION
 165 13TH STREET
 OAKLAND, CALIFORNIA
 PROJECT NUMBER: 575-4G009

DATE: 3/04	CKD BY: F.P.	FIGURE NO: 1
FILE NO: 4G009-1		DRAWN BY: B.S.

JACKSON STREET



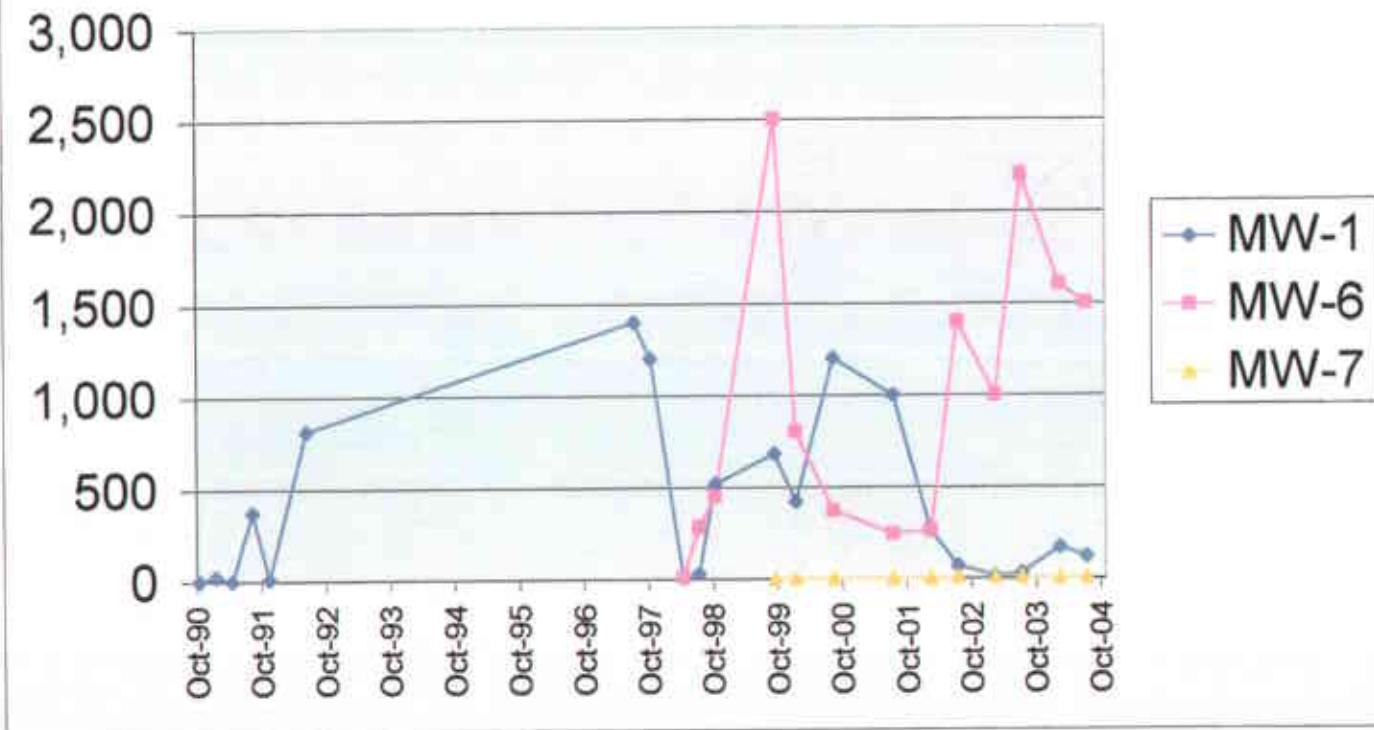
LEGEND:

- MW-5 (14.87) - MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION INDICATED IN FEET MSL.
- 14.84 - GROUNDWATER CONTOUR (ELEVATION INDICATED IN FEET MSL)
- MV-3 - VADOSE MONITORING WELL LOCATION
- I-1 - SOIL BORING
- UNDERGROUND PIPING

0 10 20
APPROXIMATE SCALE
(FEET)

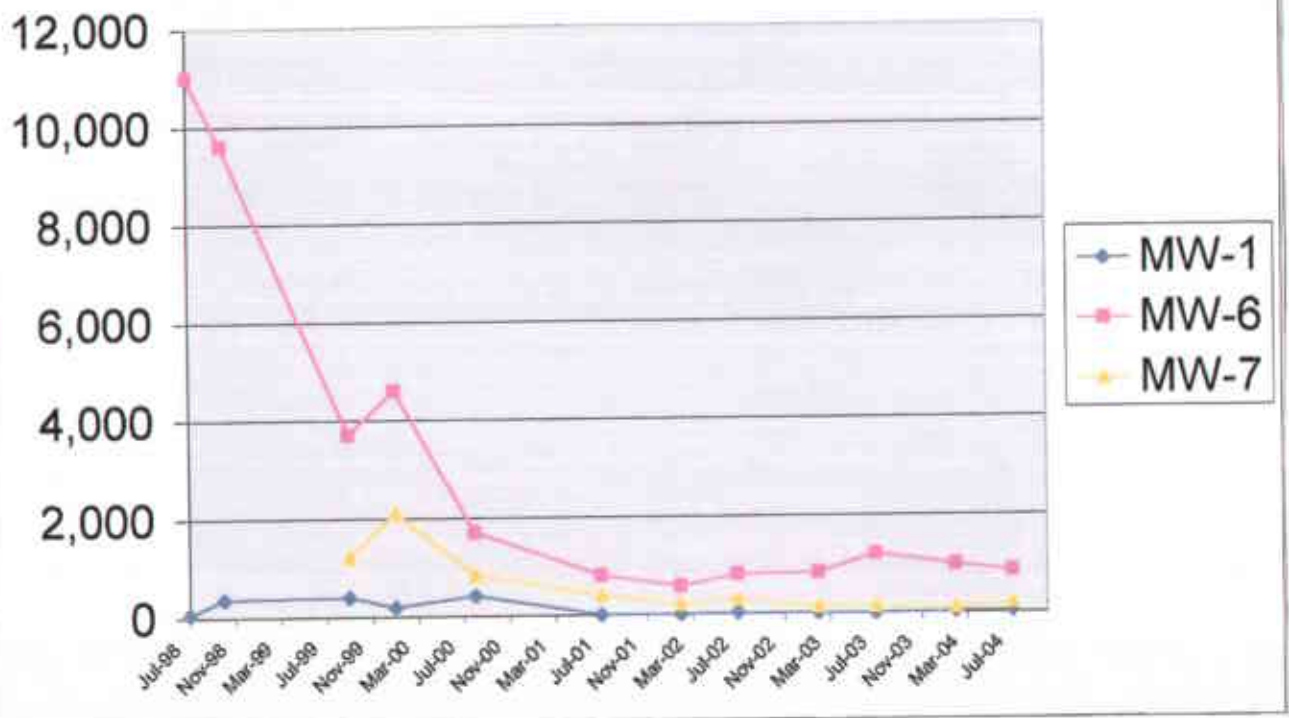
ENVIRONMENTAL GEO TECHNICAL CONSTRUCTION CONSULTING - ENGINEERING - TESTING		
GROUNDWATER ELEVATION MAP - 7/7/04 ALCOPARK PARKING FACILITY INTERSECTION OF JACKSON AND 13TH STREETS OAKLAND, CALIFORNIA PROJECT NUMBER: 575-40008		
DATE: 7/04	CHK BY: F.P.	FIGURE NO.: 2
FILE NO.: 40008-10		DRAWN BY: B. STUCK

Benzene Concentrations (ug/L)



 ENVIRONMENTAL GEOTECHNICAL <small>CONSULTING - ENGINEERING - PRACTICE</small>		
BENZENE VS. TIME ALCOPARK PARKING FACILITY INTERSECTION OF JACKSON AND 13TH STREETS OAKLAND, CALIFORNIA PROJECT NUMBER: 575-40009		
DATE: 7/04	CHK BY: F.P.	FIGURE NO.: 3
FILE NO.: 40009-BOX		DRAWN BY: S. STOZEK

MTBE Concentrations (ug/L)



ENVIRONMENTAL GEOTECHNICAL CONSTRUCTION <small>CONSULTING - ENGINEERING - TESTING</small>		
MTBE VS. TIME ALCOPARK PARKING FACILITY INTERSECTION OF JACKSON AND 13TH STREETS OAKLAND, CALIFORNIA PROJECT NUMBER: 575-40008		
DATE: 7/04	DWD BY: F.P.	FIGURE NO.: 4
FILE NO.: 50038-MTBE		DRAWN BY: B. STOECK

TABLE 1
GROUNDWATER ELEVATION AND ANALYTICAL DATA SUMMARY,
ALCOPARK FUELING FACILITY SITE NO. 2
OAKLAND, CALIFORNIA

<i>All concentrations in ug/l (PPB).</i>									
Well	Date	Groundwater Elevation	TPH-G	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	
MW-1	3/21/1989	12.2	ND	NA	21	3.9	0.4	4.5	
	7/26/1990	12.3	1,400	NA	200	45	ND	53	
	10/25/1990	12.1	1,200	NA	ND	7.3	2.2	46	
	1/25/1991	11.9	270	NA	23	1.5	ND	3.1	
	4/25/1991	11.8	230	NA	ND	ND	ND	ND	
	8/27/1991	11.8	8,300	NA	370	64	ND	120	
	11/25/1991	11.7	810	NA	9.3	ND	7.8	32	
	6/11/1992	12.85	2,600	NA	810	16	21	42	
	7/16/1997	14.36	19,000	ND (150)	1,400	2,800	500	2,600	
	10/21/1997	13.92	14,000	29	1,200	1,000	590	2,800	
	3/11/1998	17.14	NS	NS	NS	NS	NS	NS	
	4/1/1998	17.14	ND (50)	6.3	5.4	ND (0.5)	ND (0.5)	0.82	
	7/15/1998	16.41	71	57	31	ND (0.5)	ND (0.5)	3.1	
	10/22/1998	15.62	5,100	360	520	140	250	950	
	9/9/1999	15.42	2,400	400	680	140	130	370	
	1/18/2000	14.49	4,100	180	420	11	210	350	
	5/4/2000	16.19	NS	NS	NS	NS	NS	NS	
	8/22/2000	15.34	9,400	410	1,200	130	410	920	
	2/8/2001	14.53	NS	NS	NS	NS	NS	NS	
	7/20/2001	14.60	9,600	ND (50)	1,000	300	350	2,000	
	2/18/2002	15.08	1,500	ND (100)	260	6.5	2.8	49	
	7/19/2002	14.84	180	28	68	ND (1.7)	ND (1.7)	6.8	
	2/10/2003	14.83	210	11	14	0.75	ND (0.5)	4.0	
	7/15/2003	14.80	370	4.6	31	0.99	22	75	
	2/12/2004	14.87	1,800	29	170	2.7	140	87	
	7/7/2004	14.81	800	37	120	ND (2.5)	67	38	
	MW-4	3/21/1989	12.4	ND	NA	13	1.4	1.0	ND
		7/26/1990	12.5	NA	NA	0.8	ND	ND	ND
10/25/1990		12.2	NA	NA	120	1.2	1.1	0.9	
1/25/1991		12.0	NA	NA	230	2.8	1.2	2.0	
4/25/1991		13.0	170	NA	12	ND	ND	2.3	
8/27/1991		11.8	ND	NA	87	1.3	0.8	0.8	
11/25/1991		11.8	1,400	NA	ND	1.7	8.6	3.6	
6/11/1992		12.93	560	NA	150	1.8	1.8	1.1	
7/16/1997		14.46	50	ND	ND	ND	ND	ND	
10/21/1997		14.10	ND	ND	ND	ND	ND	ND	
3/11/1998		17.39	NS	NS	NS	NS	NS	NS	
4/1/1998		17.40	ND (50)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	
7/15/1998		16.92	ND (50)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	
10/22/1998		15.75	ND (50)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	
9/9/1999		15.57	NS	NS	NS	NS	NS	NS	
1/18/2000		14.32	NS	NS	NS	NS	NS	NS	
5/4/2000		16.34	NS	NS	NS	NS	NS	NS	
8/22/2000		15.47	NS	NS	NS	NS	NS	NS	
2/8/2001		14.73	NS	NS	NS	NS	NS	NS	
7/20/2001		14.72	NS	NS	NS	NS	NS	NS	
2/18/2002		15.05	NS	NS	NS	NS	NS	NS	
7/19/2002	14.97	NS	NS	NS	NS	NS	NS		
2/10/2003	14.94	NS	NS	NS	NS	NS	NS		
7/15/2003	14.94	NS	NS	NS	NS	NS	NS		
2/12/2004	14.93	NS	NS	NS	NS	NS	NS		
7/7/2004	14.94	NS	NS	NS	NS	NS	NS		
MW-5	3/21/1989	12.2	ND	NA	ND	ND	ND	ND	
	7/26/1990	12.4	670	NA	0.8	ND	ND	ND	
	10/25/1990	12.1	120	NA	13	ND	ND	ND	
	1/25/1991	11.9	120	NA	3.2	ND	ND	ND	
	4/25/1991	12.3	ND	NA	ND	ND	ND	ND	
	8/27/1991	11.5	ND	NA	20	ND	0.5	ND	
	11/25/1991	11.7	190	NA	2.7	ND	0.8	2.5	
	6/11/1992	12.85	150	NA	37	ND	ND	ND	
	7/16/1997	14.33	ND	22	ND	ND	ND	ND	
	10/21/1997	13.88	ND	14	ND	ND	ND	ND	
	3/11/1998	17.14	NS	NS	NS	NS	NS	NS	

**TABLE 1
GROUNDWATER ELEVATION AND ANALYTICAL DATA SUMMARY,
ALCOPARK FUELING FACILITY SITE NO. 2
OAKLAND, CALIFORNIA**

<i>All concentrations in ug/l (PPB).</i>								
Well	Date	Groundwater Elevation	TPH-G	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
MW-5 (cont.)	4/1/1998	17.14	ND (50)	11	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
	7/15/1998	16.43	ND (50)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
	10/22/1998	15.60	ND (50)	ND (5.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
	9/9/1999	15.44	NS	NS	NS	NS	NS	NS
	1/18/2000	14.67	NS	NS	NS	NS	NS	NS
	5/4/2000	16.18	NS	NS	NS	NS	NS	NS
	8/22/2000	15.32	NS	NS	NS	NS	NS	NS
	2/8/2001	14.53	NS	NS	NS	NS	NS	NS
	7/20/2001	14.59	NS	NS	NS	NS	NS	NS
	2/18/2002	14.94	NS	NS	NS	NS	NS	NS
	7/19/2002	14.83	NS	NS	NS	NS	NS	NS
	2/10/2003	14.83	NS	NS	NS	NS	NS	NS
	7/15/2003	14.80	NS	NS	NS	NS	NS	NS
	2/12/2004	14.87	NS	NS	NS	NS	NS	NS
7/7/2004	14.82	NS	NS	NS	NS	NS	NS	
MW-6	4/1/1998	NA	740	4,600	9.8	3.2	3.0	15
	7/15/1998	NA	6,200	11,000	280	43	180	350
	7/15/1998	NA	NA	13,000	ND (500)	ND (500)	ND (500)	ND (500)
	10/22/1998	NA	4,700	9,600	450	13	200	200
	10/22/1998	NA	NA	9,100	470	ND (250)	ND (250)	ND (250)
	9/9/1999	NA	6,600	3,700	2,500	43	310	250
	1/18/2000	NA	3,500	4,600	800	ND (5.0)	40	13
	5/4/2000	NA	NS	NS	NS	NS	NS	NS
	8/22/2000	NA	1,400	1,700	370	4.8	12	35
	2/8/2001	NA	NS	NS	NS	NS	NS	NS
	7/20/2001	NA	1,100	800	240	2.9	2.3	3.4
	2/18/2002	NA	1,500	570	260	ND (2.0)	11	4.3
	7/19/2002	NA	1,800	800	1,400	ND (50)	ND (50)	ND (50)
	2/10/2003	NA	4,000	830	1,000	ND (50)	ND (50)	ND (50)
7/15/2003	NA	4,100	1,200	2,200	ND (25)	180	280	
2/12/2004	NA	7,200	980	1,600	ND (25)	100	440	
7/7/2004	NA	4,000	840	1,500	ND (25)	150	210	
MW-7	9/9/1999	NA	92	1,200	1.6	ND (0.5)	ND (0.5)	ND (0.5)
	1/18/2000	NA	ND	2,100	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
	5/4/2000	NA	140	1,100	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
	8/22/2000	NA	160	830	0.62	ND (0.5)	ND (0.5)	ND (0.5)
	2/8/2001	NA	130	650	ND (0.5)	0.53	ND (0.5)	ND (0.5)
	7/20/2001	NA	56	400	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
	2/18/2002	NA	ND (50)	200	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
	7/19/2002	NA	ND (50)	300	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
	2/10/2003	NA	ND (50)	140	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
	7/15/2003	NA	ND (50)	140	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
2/12/2004	NA	ND (50)	100	ND (1.7)	ND (1.7)	ND (1.7)	ND (1.7)	
7/7/2004	NA	56	200	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	
W-B1	3/23/1998	NA	3,100	4,200	250	18	160	290

Notes:

TPH-G denotes Total Petroleum Hydrocarbons as Gasoline. MTBE denotes Methyl tert-Butyl Ether.
 NA denotes Not Analyzed. NS denotes Not Sampled. ND denotes Not Detected. () denotes detection limit.
 Data collected prior to 1998 was reported in Alameda County Request for Proposal dated December 2, 1997.

APPENDIX A

GROUNDWATER SAMPLING FIELD PROCEDURES & WATER ELEVATIONS

APPENDIX A

GROUND-WATER SAMPLING

The following procedures will be used for ground water sampling:

1. All non-dedicated equipment shall be washed prior to entering the well with an Alconox solution, followed by two deionized water rinses.
2. Prior to purging wells, depth-to-water will be measured using an electronic sounder with an accuracy of approximately 0.01 foot. The measurements will be made to the top of the well casing on the north side.
4. Free floating product thickness and depth-to-ground water will be measured in wells containing free floating product using a Solinst oil-water interface probe to an accuracy of approximately 0.01 foot. The measurements will be made to the top of the well casing on the north side.
5. Water samples will be collected with a Teflon disposable bailer. In the case of grab groundwater sampling, samples will be collected with a disposable Teflon lined plastic tube equipped with a check valve. The water collected will be immediately decanted into laboratory-supplied vials and bottles. The containers will be overfilled, capped, labeled, and placed in a chilled cooler, prior to delivery to the laboratory for analysis.
6. Chain of custody procedures, including chain of custody forms, will be used to document water sample handling and transport from collection to delivery to the laboratory for analysis.
7. Ground-water samples will be delivered to a State-certified environmental laboratory within approximately 24 hours of collection.

FLUID MEASUREMENT FIELD DATA

SHEET: 1 OF 1

DATE: 7/7/04 PROJECT NAME: Alameda GSA-ALCOBARK PROJECT NO: 46009
 WATER LEVEL MEASUREMENT INSTRUMENT: Solinst SERIAL NO:
 PRODUCT DETECTION INSTRUMENT: SERIAL NO:

EQUIP. DECON: ALCONOX WASH DIST/DEION 1 RINSE ISOPROPNOL ANALYTE FREE FINAL RINSE TAP WATER FINAL RINSE
 TAP WATER WASH LIQUINOX WASH DIST/DEION 2 RINSE OTHER SOLVENT DIST/DEION FINAL RINSE AIR DRY

WELL NUMBER	GROUND SURFACE ELEVATION	TOP OF CASING ELEVATION	DEPTH TO PRODUCT BELOW TOC	DEPTH TO WATER BELOW TOC	WELL DEPTH BELOW TOC	PRODUCT THICKNESS	WATER TABLE ELEVATION	ACTUAL TIME
MW-1				18.19	34.10			12:00
MW-4				18.69	34.60			11:56
MW-5				18.19	34.25			12:08

REMEMBER TO CORRECT PRODUCT THICKNESS FOR DENSITY BEFORE CALCULATING WATER TABLE ELEVATION PREPARED BY: BS

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY



McC Campbell Analytical, Inc.

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

Professional Service Industries 4703 Tidewater Ave., Suite B Oakland, CA 94601	Client Project ID: #4G009; ALCO Park	Date Sampled: 07/07/04
		Date Received: 07/08/04
	Client Contact: Frank Poss	Date Reported: 07/14/04
	Client P.O.:	Date Completed: 07/14/04

WorkOrder: 0407125

July 14, 2004

Dear Frank:

Enclosed are:

- 1). the results of 3 analyzed samples from your #4G009; ALCO Park project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager



McC Campbell Analytical, Inc.

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Professional Service Industries 4703 Tidewater Ave., Suite B Oakland, CA 94601	Client Project ID: #4G009; ALCO Park	Date Sampled: 07/07/04
		Date Received: 07/08/04
	Client Contact: Frank Poss	Date Extracted: 07/09/04-07/11/04
	Client P.O.:	Date Analyzed: 07/09/04-07/11/04

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*

Extraction method: SW5030B

Analytical methods: SW8015Cm

Work Order: 0407125

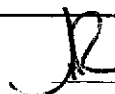
Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-1	W	800,a	1	105
002A	MW-6	W	4000,a,i	10	96.2
003A	MW-7	W	56,f,i	1	109

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell 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 ~1 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; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request.

 Angela Rydelius, Lab Manager



Professional Service Industries 4703 Tidewater Ave., Suite B Oakland, CA 94601	Client Project ID: #4G009; ALCO Park	Date Sampled: 07/07/04
		Date Received: 07/08/04
	Client Contact: Frank Poss	Date Extracted: 07/10/04-07/13/04
	Client P.O.:	Date Analyzed: 07/10/04-07/13/04

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

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0407125

Lab ID	0407125-001B						
Client ID	MW-1						
Matrix	Water						
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<25	5.0	5.0	Acrolein (Propenal)	ND<25	5.0	5.0
Acrylonitrile	ND<10	5.0	2.0	tert-Amyl methyl ether (TAME)	7.0	5.0	0.5
Benzene	120	5.0	0.5	Bromobenzene	ND<2.5	5.0	0.5
Bromochloromethane	ND<2.5	5.0	0.5	Bromodichloromethane	ND<2.5	5.0	0.5
Bromoform	ND<2.5	5.0	0.5	Bromomethane	ND<2.5	5.0	0.5
2-Butanone (MEK)	ND<10	5.0	2.0	t-Butyl alcohol (TBA)	ND<25	5.0	5.0
n-Butyl benzene	ND<2.5	5.0	0.5	sec-Butyl benzene	ND<2.5	5.0	0.5
tert-Butyl benzene	ND<2.5	5.0	0.5	Carbon Disulfide	2.6	5.0	0.5
Carbon Tetrachloride	ND<2.5	5.0	0.5	Chlorobenzene	ND<2.5	5.0	0.5
Chloroethane	ND<2.5	5.0	0.5	2-Chloroethyl Vinyl Ether	ND<5.0	5.0	1.0
Chloroform	ND<2.5	5.0	0.5	Chloromethane	ND<2.5	5.0	0.5
2-Chlorotoluene	ND<2.5	5.0	0.5	4-Chlorotoluene	ND<2.5	5.0	0.5
Dibromochloromethane	ND<2.5	5.0	0.5	1,2-Dibromo-3-chloropropane	ND<2.5	5.0	0.5
1,2-Dibromoethane (EDB)	ND<2.5	5.0	0.5	Dibromomethane	ND<2.5	5.0	0.5
1,2-Dichlorobenzene	ND<2.5	5.0	0.5	1,3-Dichlorobenzene	ND<2.5	5.0	0.5
1,4-Dichlorobenzene	ND<2.5	5.0	0.5	Dichlorodifluoromethane	ND<2.5	5.0	0.5
1,1-Dichloroethane	ND<2.5	5.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND<2.5	5.0	0.5
1,1-Dichloroethene	ND<2.5	5.0	0.5	cis-1,2-Dichloroethene	ND<2.5	5.0	0.5
trans-1,2-Dichloroethene	ND<2.5	5.0	0.5	1,2-Dichloropropane	ND<2.5	5.0	0.5
1,3-Dichloropropane	ND<2.5	5.0	0.5	2,2-Dichloropropane	ND<2.5	5.0	0.5
1,1-Dichloropropene	ND<2.5	5.0	0.5	cis-1,3-Dichloropropene	ND<2.5	5.0	0.5
trans-1,3-Dichloropropene	ND<2.5	5.0	0.5	Diisopropyl ether (DIPE)	ND<2.5	5.0	0.5
Ethylbenzene	67	5.0	0.5	Ethyl tert-butyl ether (ETBE)	ND<2.5	5.0	0.5
Hexachlorobutadiene	ND<2.5	5.0	0.5	Hexachloroethane	ND<2.5	5.0	0.5
2-Hexanone	ND<2.5	5.0	0.5	Isopropylbenzene	5.9	5.0	0.5
4-Isopropyl toluene	ND<2.5	5.0	0.5	Methyl-t-butyl ether (MTBE)	37	5.0	0.5
Methylene chloride	ND<2.5	5.0	0.5	4-Methyl-2-pentanone (MIBK)	ND<2.5	5.0	0.5
Naphthalene	63	5.0	0.5	Nitrobenzene	ND<50	5.0	10
n-Propyl benzene	9.9	5.0	0.5	Styrene	ND<2.5	5.0	0.5
1,1,1,2-Tetrachloroethane	ND<2.5	5.0	0.5	1,1,2,2-Tetrachloroethane	ND<2.5	5.0	0.5
Tetrachloroethene	ND<2.5	5.0	0.5	Toluene	ND<2.5	5.0	0.5
1,2,3-Trichlorobenzene	ND<2.5	5.0	0.5	1,2,4-Trichlorobenzene	ND<2.5	5.0	0.5
1,1,1-Trichloroethane	ND<2.5	5.0	0.5	1,1,2-Trichloroethane	ND<2.5	5.0	0.5
Trichloroethene	ND<2.5	5.0	0.5	Trichlorofluoromethane	ND<2.5	5.0	0.5
1,2,3-Trichloropropane	ND<2.5	5.0	0.5	1,1,2-Trichloro-1,2,2-trifluoroethane	ND<50	5.0	10
1,2,4-Trimethylbenzene	28	5.0	0.5	1,3,5-Trimethylbenzene	ND<2.5	5.0	0.5
Vinyl Chloride	ND<2.5	5.0	0.5	Xylenes	38	5.0	0.5

Surrogate Recoveries (%)

%SS1:	115	%SS2:	88.2
%SS3:	108		

Comments:

* water and vapor samples and all TCLP & SPL 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.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content.



Professional Service Industries 4703 Tidewater Ave., Suite B Oakland, CA 94601	Client Project ID: #4G009; ALCO Park	Date Sampled: 07/07/04
		Date Received: 07/08/04
	Client Contact: Frank Poss	Date Extracted: 07/10/04-07/13/04
	Client P.O.:	Date Analyzed: 07/10/04-07/13/04

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

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0407125

Lab ID	0407125-002B
Client ID	MW-6
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<250	50	5.0	Acrolein (Propenal)	ND<250	50	5.0
Acrylonitrile	ND<100	50	2.0	tert-Amyl methyl ether (TAME)	130	50	0.5
Benzene	1500	50	0.5	Bromobenzene	ND<25	50	0.5
Bromochloromethane	ND<25	50	0.5	Bromodichloromethane	ND<25	50	0.5
Bromoform	ND<25	50	0.5	Bromomethane	ND<25	50	0.5
2-Butanone (MEK)	ND<100	50	2.0	t-Butyl alcohol (TBA)	430	50	5.0
n-Butyl benzene	ND<25	50	0.5	sec-Butyl benzene	ND<25	50	0.5
tert-Butyl benzene	ND<25	50	0.5	Carbon Disulfide	ND<25	50	0.5
Carbon Tetrachloride	ND<25	50	0.5	Chlorobenzene	ND<25	50	0.5
Chloroethane	ND<25	50	0.5	2-Chloroethyl Vinyl Ether	ND<50	50	1.0
Chloroform	ND<25	50	0.5	Chloromethane	ND<25	50	0.5
2-Chlorotoluene	ND<25	50	0.5	4-Chlorotoluene	ND<25	50	0.5
Dibromochloromethane	ND<25	50	0.5	1,2-Dibromo-3-chloropropane	ND<25	50	0.5
1,2-Dibromoethane (EDB)	ND<25	50	0.5	Dibromomethane	ND<25	50	0.5
1,2-Dichlorobenzene	ND<25	50	0.5	1,3-Dichlorobenzene	ND<25	50	0.5
1,4-Dichlorobenzene	ND<25	50	0.5	Dichlorodifluoromethane	ND<25	50	0.5
1,1-Dichloroethane	ND<25	50	0.5	1,2-Dichloroethane (1,2-DCA)	ND<25	50	0.5
1,1-Dichloroethene	ND<25	50	0.5	cis-1,2-Dichloroethene	ND<25	50	0.5
trans-1,2-Dichloroethene	ND<25	50	0.5	1,2-Dichloropropane	ND<25	50	0.5
1,3-Dichloropropane	ND<25	50	0.5	2,2-Dichloropropane	ND<25	50	0.5
1,1-Dichloropropene	ND<25	50	0.5	cis-1,3-Dichloropropene	ND<25	50	0.5
trans-1,3-Dichloropropene	ND<25	50	0.5	Diisopropyl ether (DIPE)	ND<25	50	0.5
Ethylbenzene	150	50	0.5	Ethyl tert-butyl ether (ETBE)	ND<25	50	0.5
Hexachlorobutadiene	ND<25	50	0.5	Hexachloroethane	ND<25	50	0.5
2-Hexanone	ND<25	50	0.5	Isopropylbenzene	ND<25	50	0.5
4-Isopropyl toluene	ND<25	50	0.5	Methyl-t-butyl ether (MTBE)	840	50	0.5
Methylene chloride	ND<25	50	0.5	4-Methyl-2-pentanone (MIBK)	ND<25	50	0.5
Naphthalene	230	50	0.5	Nitrobenzene	ND<500	50	10
n-Propyl benzene	ND<25	50	0.5	Styrene	ND<25	50	0.5
1,1,1,2-Tetrachloroethane	ND<25	50	0.5	1,1,2,2-Tetrachloroethane	ND<25	50	0.5
Tetrachloroethene	ND<25	50	0.5	Toluene	ND<25	50	0.5
1,2,3-Trichlorobenzene	ND<25	50	0.5	1,2,4-Trichlorobenzene	ND<25	50	0.5
1,1,1-Trichloroethane	ND<25	50	0.5	1,1,2-Trichloroethane	ND<25	50	0.5
Trichloroethene	ND<25	50	0.5	Trichlorofluoromethane	ND<25	50	0.5
1,2,3-Trichloropropane	ND<25	50	0.5	1,1,2-Trichloro-1,2,2-trifluoroethane	ND<500	50	10
1,2,4-Trimethylbenzene	75	50	0.5	1,3,5-Trimethylbenzene	ND<25	50	0.5
Vinyl Chloride	ND<25	50	0.5	Xylenes	210	50	0.5

Surrogate Recoveries (%)

%SS1:	115	%SS2:	89.3
%SS3:	84.0		

Comments: i

* 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.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content.



Professional Service Industries 4703 Tidewater Ave., Suite B Oakland, CA 94601	Client Project ID: #4G009; ALCO Park	Date Sampled: 07/07/04
		Date Received: 07/08/04
	Client Contact: Frank Poss	Date Extracted: 07/10/04-07/13/04
	Client P.O.:	Date Analyzed: 07/10/04-07/13/04

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

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0407125

Lab ID	0407125-003B
Client ID	MW-7
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<25	5.0	5.0	Acrolein (Propenal)	ND<25	5.0	5.0
Acrylonitrile	ND<10	5.0	2.0	tert-Amyl methyl ether (TAME)	32	5.0	0.5
Benzene	ND<2.5	5.0	0.5	Bromobenzene	ND<2.5	5.0	0.5
Bromochloromethane	ND<2.5	5.0	0.5	Bromodichloromethane	ND<2.5	5.0	0.5
Bromoform	ND<2.5	5.0	0.5	Bromomethane	ND<2.5	5.0	0.5
2-Butanone (MEK)	ND<10	5.0	2.0	t-Butyl alcohol (TBA)	ND<2.5	5.0	5.0
n-Butyl benzene	ND<2.5	5.0	0.5	sec-Butyl benzene	ND<2.5	5.0	0.5
tert-Butyl benzene	ND<2.5	5.0	0.5	Carbon Disulfide	7.1	5.0	0.5
Carbon Tetrachloride	ND<2.5	5.0	0.5	Chlorobenzene	ND<2.5	5.0	0.5
Chloroethane	ND<2.5	5.0	0.5	2-Chloroethyl Vinyl Ether	ND<5.0	5.0	1.0
Chloroform	ND<2.5	5.0	0.5	Chloromethane	ND<2.5	5.0	0.5
2-Chlorotoluene	ND<2.5	5.0	0.5	4-Chlorotoluene	ND<2.5	5.0	0.5
Dibromochloromethane	ND<2.5	5.0	0.5	1,2-Dibromo-3-chloropropane	ND<2.5	5.0	0.5
1,2-Dibromoethane (EDB)	ND<2.5	5.0	0.5	Dibromomethane	ND<2.5	5.0	0.5
1,2-Dichlorobenzene	ND<2.5	5.0	0.5	1,3-Dichlorobenzene	ND<2.5	5.0	0.5
1,4-Dichlorobenzene	ND<2.5	5.0	0.5	Dichlorodifluoromethane	ND<2.5	5.0	0.5
1,1-Dichloroethane	ND<2.5	5.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND<2.5	5.0	0.5
1,1-Dichloroethene	ND<2.5	5.0	0.5	cis-1,2-Dichloroethene	ND<2.5	5.0	0.5
trans-1,2-Dichloroethene	ND<2.5	5.0	0.5	1,2-Dichloropropane	ND<2.5	5.0	0.5
1,3-Dichloropropane	ND<2.5	5.0	0.5	2,2-Dichloropropane	ND<2.5	5.0	0.5
1,1-Dichloropropene	ND<2.5	5.0	0.5	cis-1,3-Dichloropropene	ND<2.5	5.0	0.5
trans-1,3-Dichloropropene	ND<2.5	5.0	0.5	Diisopropyl ether (DIPE)	ND<2.5	5.0	0.5
Ethylbenzene	ND<2.5	5.0	0.5	Ethyl tert-butyl ether (ETBE)	ND<2.5	5.0	0.5
Hexachlorobutadiene	ND<2.5	5.0	0.5	Hexachloroethane	ND<2.5	5.0	0.5
2-Hexanone	ND<2.5	5.0	0.5	Isopropylbenzene	ND<2.5	5.0	0.5
4-Isopropyl toluene	ND<2.5	5.0	0.5	Methyl-t-butyl ether (MTBE)	200	5.0	0.5
Methylene chloride	ND<2.5	5.0	0.5	4-Methyl-2-pentanone (MIBK)	ND<2.5	5.0	0.5
Naphthalene	ND<2.5	5.0	0.5	Nitrobenzene	ND<50	5.0	10
n-Propyl benzene	ND<2.5	5.0	0.5	Styrene	ND<2.5	5.0	0.5
1,1,1,2-Tetrachloroethane	ND<2.5	5.0	0.5	1,1,2,2-Tetrachloroethane	ND<2.5	5.0	0.5
Tetrachloroethene	ND<2.5	5.0	0.5	Toluene	ND<2.5	5.0	0.5
1,2,3-Trichlorobenzene	ND<2.5	5.0	0.5	1,2,4-Trichlorobenzene	ND<2.5	5.0	0.5
1,1,1-Trichloroethane	ND<2.5	5.0	0.5	1,1,2-Trichloroethane	ND<2.5	5.0	0.5
Trichloroethene	ND<2.5	5.0	0.5	Trichlorofluoromethane	ND<2.5	5.0	0.5
1,2,3-Trichloropropane	ND<2.5	5.0	0.5	1,1,2-Trichloro-1,2,2-trifluoroethane	ND<50	5.0	10
1,2,4-Trimethylbenzene	ND<2.5	5.0	0.5	1,3,5-Trimethylbenzene	ND<2.5	5.0	0.5
Vinyl Chloride	ND<2.5	5.0	0.5	Xylenes	ND<2.5	5.0	0.5

Surrogate Recoveries (%)

%SS1:	117	%SS2:	89.9
%SS3:	84.4		

Comments: i

* water and vapor samples and all TCLP & SPL 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.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content.



McC Campbell Analytical, Inc.

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Telephone : 925-798-1620 Fax : 925-798-1622
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QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0407125

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 12290		Spiked Sample ID: 0407141-003A				
	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex) [£]	ND	60	94.9	96.8	1.98	96.1	100	4.41	70	130
MTBE	ND	10	103	113	9.76	105	116	9.51	70	130
Benzene	ND	10	105	112	5.99	104	113	7.90	70	130
Toluene	ND	10	100	107	6.93	106	114	6.78	70	130
Ethylbenzene	ND	10	101	113	11.5	108	117	7.47	70	130
Xylenes	ND	30	95.3	100	4.78	95.3	100	4.78	70	130
%SS:	96.1	10	103	107	3.53	104	104	0	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.

% 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.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or 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.



QC SUMMARY REPORT FOR SW8260B

Matrix: W

WorkOrder: 0407125

EPA Method: SW8260B	Extraction: SW5030B		BatchID: 12276			Spiked Sample ID: 0407113-003B				
	Sample	Spiked	MS*	MSD*	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
tert-Amyl methyl ether (TAME)	ND	10	94.4	94	0.333	91.8	93.1	1.32	70	130
Benzene	ND	10	125	122	2.40	119	123	3.19	70	130
t-Butyl alcohol (TBA)	ND	50	116	110	5.28	79.3	81.2	2.38	70	130
Chlorobenzene	ND	10	101	98.7	1.82	98.1	100	2.33	70	130
1,2-Dibromoethane (EDB)	ND	10	103	103	0	101	102	0.718	70	130
1,2-Dichloroethane (1,2-DCA)	ND	10	110	111	0.959	109	112	3.16	70	130
1,1-Dichloroethene	ND	10	86.7	86.2	0.657	98	94.8	3.32	70	130
Diisopropyl ether (DIPE)	ND	10	127	124	2.74	121	123	1.60	70	130
Ethyl tert-butyl ether (ETBE)	ND	10	116	116	0	115	117	1.93	70	130
Methyl-t-butyl ether (MTBE)	3.98	10	118	120	1.00	116	117	0.813	70	130
Toluene	ND	10	109	105	3.37	105	109	3.64	70	130
Trichloroethene	ND	10	84.9	83.1	2.16	83.1	85	2.20	70	130
%SS1:	105	10	96.4	97.5	1.12	102	99.6	2.08	70	130
%SS2:	98.0	10	99.1	98.4	0.774	101	101	0	70	130
%SS3:	92.3	10	107	104	2.26	109	111	1.59	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.


% 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.

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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

 QA/QC Officer

0407125

McCAMPBELL ANALYTICAL, INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560

Website: www.mccampbell.com Email: main@mccampbell.com

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

EDF Required? Coelt (Normal) No Write On (DW) No

Report To: Frank Pass / Rod Freitag Bill To: Rod Freitag
Company: PSD Alameda GSA
4703 Tidewater Ave Suite B
Oakland, CA 94601 E-Mail:
Tele: (510) 434-9200 Fax: (510) 434-7676
Project #: 46-009 Project Name: ALCO PARK
Project Location: Oakland
Sampler Signature: Brian Stozek

Analysis Request

Other

Comments

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&P/B&M)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010 / 8021	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8081	EPA 608 / 8082 PCB's ONLY	EPA 8140 / 8141	EPA 8150 / 8151	EPA 524.2 / 624 / 8260	EPA 525 / 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 200.9 / 6010)	TPH-G / 8260 w/oxy.	Filter Samples for Metals analysis: Yes / No			
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other																					
Mw-1		7/7/04		4	max	X																													
Mw-6		7/7/04		4	↓	X																													
Mw-7		7/7/04		4	↓	X																													

Relinquished By: Brian Stozek Date: 7/8/04 Time: 11:10 Received By: U/TRAEX #280

Relinquished By: U/TRAEX #280 Date: 7/8 Time: 12:30 Received By: [Signature]

Relinquished By: Date: Time: Received By:

ICE/T GOOD CONDITION
 HEAD SPACE ABSENT
 DECHLORINATED IN LAB
 APPROPRIATE CONTAINERS
 PRESERVED IN LAB
 PRESERVATION VOAS O&G METALS OTHER
 *Please circle water type:
 GROUND WASTE DRINKING RECREATIONAL EFFLUENT

Jul 07 2004 9:46AM McCampbell Analytical, In 1-925-798-1620 P.1

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