

CO-869

September 19, 2002

ICES 2262



Ms. Eva Chu
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Soil Remedial Activities
Alameda Subdivision
Alameda, California

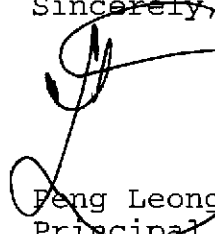

Dear Eva:

Enclosed is our report documenting the soil remedial activities that were performed at the Alameda Subdivision in Alameda, California ("the Site").

The remedial action activities included removing soil containing elevated concentrations of total petroleum hydrocarbons as motor oil and lead identified in a previous site investigation conducted at the Site. Based on the results of the remedial action activities, we recommend that no further action be required and are requesting for closure of the remedial activities at the Site.

If you have any questions concerning this report, please do not hesitate to contact Derek Wong or me.

Sincerely,


Feng Leong
Principal Engineer


Enclosure

cc: Mr. Henryk Tay, KB Homes

Tel (510) 652-3222
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P. O. Box 99208
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SOIL REMEDIAL ACTIVITIES

ALAMEDA SUBDIVISION
ALAMEDA, CALIFORNIA

SEPTEMBER 19, 2002

ICES 2262

Prepared for:

Mr. Henryk Tay
KB Homes
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TITLE

1

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LIST OF FIGURES

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September 19, 2002

ICES 2262

SOIL REMEDIAL ACTIVITIES

ALAMEDA SUBDIVISION ALAMEDA, CALIFORNIA

1.0 INTRODUCTION

This report presents the soil remedial activities conducted at the Alameda Subdivision located in Alameda, California ("the Site"; Figure 1). The purpose of the remedial activities was to remove soil containing elevated concentrations of total petroleum hydrocarbons (TPH) as motor oil (TPHo) and lead which were detected in the railroad ballast within the Site from a previous a site investigation. The soil remedial cleanup level (SRCL) for the Site was a TPHo concentration of 500 mg/kg and lead concentration of 200 mg/kg. Ms. Eva Chu of the Alameda County Health Care Services Agency (AC-HCSA) provided oversight for the remedial activities.

2.0 SITE DESCRIPTION

The Site is located on the north side of Buena Vista Avenue, between Entrance Road and Grand Street. The Site consists of several vacant parcels occupying an area of approximately 19.4 acres. A tank farm, roadway, and several vacant structures formerly occupied the Site.

3.0 BACKGROUND

ICES performed a limited site investigation in August 1998 at the request of KB Homes. Based on the soil sample results, it appeared that impacted soil was limited to the railroad tracks located along the southern perimeter and through the Site. Soil underlying and adjacent to the railroad tracks contained:

1. elevated concentrations of TPHo;
2. copper, lead, and zinc concentrations exceeding their respective background levels; and



3. non-detectable concentrations of semi-volatile organic compounds (SVOCs).

Laboratory analytical results indicated that lead concentrations ranging from 130 mg/kg to 450 mg/kg were detected in the railroad ballast within the Site. The highest lead concentration of 450 mg/kg was above the SRCL.

4.0 REMEDIAL ACTION ACTIVITIES

The remedial action activities were performed on April 13, 2001 and July 24 through July 31, 2001 by E & LC Company and observed and documented by ICES. Approximately 2,620 cubic yards (cy) of affected soil was removed from the Site.

The remedial activities included site preparation; soil removal; profiling; and disposal; and laboratory analyses of the excavation floor samples.

4.1 Site Preparation

Site preparation included constructing a polyethylene-lined temporary stockpile pad at the central portion of the Site, and prewetting the excavation areas. Additionally, moisture was applied during excavation activities to minimize airborne dust.

4.2 Soil Excavation

Soil extending to a depth of approximately 2.5 to 3.0 feet below the existing ground surface was removed using an excavator within the railroad ballasts and temporarily stockpiled at the central portion of the Site. When the excavation approached the approximate marked limits, excavation floor samples were collected. The approximate soil sample locations are shown in Figure 2.

4.3 Soil Profiling and Disposal

The excavated affected soil was profiled with the Republic Services Vasco Road (Vasco) Landfill of Livermore, California. The excavated soil was loaded from the stockpile onto 18-wheel end dump trucks. The wheels of each truck were brushed and the soil was covered with a polyethylene or canvas tarp prior to transportation offsite. A shipping manifest was prepared for each truckload of soil.



5.0 LABORATORY ANALYSES

The soil samples were sent to McCampbell Analytical Laboratories, Inc. ("McCampbell") of Pacheco, California, a state-certified laboratory, and analyzed for:

- Total petroleum hydrocarbons (TPH) as gasoline (TPHg) using EPA Method 5030/GCFID;
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary-butyl ether (MTBE) using EPA Method 8020;
- TPH as diesel (TPHd) and TPHo using EPA Method 8015M;
- SVOCs using EPA Method 8270; and
- Metals listed in the California Code of Regulations Title 22 Section 66699 using EPA Method 7000 series.

The samples were analyzed based on a 24-hour rush turnaround basis.

6.0 LABORATORY ANALYTICAL RESULTS

Laboratory analytical results provided by McCampbell for the soil samples collected during the soil sampling activities is listed in Table 1. Laboratory certificates are presented in Appendix A. The results are as follows:

Analysis of the soil samples indicated that:

Petroleum Hydrocarbons

- TPHg concentrations were less than 1.0 mg/kg (not detected).
- Benzene concentrations were less than 0.005 mg/kg (not detected).
- Toluene concentrations were less than 0.005 mg/kg (not detected).
- Ethylbenzene concentrations were less than 0.005 mg/kg (not detected).
- Xylenes concentrations were less than 0.005 mg/kg (not detected).
- MTBE concentrations were less than 0.05 mg/kg (not detected).
- TPHd concentrations ranged from 1.3 mg/kg to 5.3 mg/kg.
- TPHo concentrations ranged from 8.3 mg/kg to 60 mg/kg.



Semi-Volatile Organic Compounds

- SVOC concentrations were less than 0.33 to 40 mg/kg (not detected).

Metals

- Antimony concentrations were less than 2.5 mg/kg (not detected).
- Arsenic concentrations ranged from less than 2.5 mg/kg (not detected) to 6.7 mg/kg.
- Barium concentrations ranged from 38 mg/kg to 120 mg/kg.
- Beryllium concentrations were less than 0.5 mg/kg (not detected).
- Cadmium concentrations were less than 0.5 mg/kg (not detected).
- Chromium concentrations ranged from 4.1 mg/kg to 26 mg/kg.
- Cobalt concentrations ranged from 2.1 mg/kg to 10 mg/kg.
- Copper concentrations ranged from 12 mg/kg to 49 mg/kg.
- Lead concentrations ranged from 11 mg/kg to 98 mg/kg.
- Mercury concentrations ranged from less than 0.06 mg/kg (not detected) to 0.22 mg/kg.
- Molybdenum concentrations were less than 2.0 mg/kg (not detected).
- Nickel concentrations ranged from 3.6 mg/kg to 37 mg/kg.
- Selenium concentrations were less than 2.5 mg/kg (not detected).
- Silver concentrations were less than 1.0 mg/kg (not detected).
- Thallium concentrations were less than 1.8 mg/kg (not detected).
- Vanadium concentrations ranged from 17 mg/kg to 69 mg/kg.
- Zinc concentrations ranged from 22 mg/kg to 130 mg/kg.



7.0 DISCUSSION

Approximately 2,620 cy of affected soil were removed from the railroad ballasts located at the Site. Laboratory analytical results indicated that the excavation floor samples contained TPHo and lead concentrations below the SRCL.

Based on our observations and the laboratory analytical results of the excavation floor samples, it appears that the impacted surficial soil within the railroad ballasts has been adequately removed.

8.0 EXCLUSIONS

ICES assumes no responsibility or liability for the reliance hereon or use hereof of information contained in this report by anyone other than the party to whom it is addressed.

The evaluations and recommendations presented in this report are based on the limited site investigation results available at this time and could be revised if new information necessitating further review of the Site becomes available.



TABLE 1

SOIL SAMPLE RESULTS
Alameda Subdivision
Alameda, California

(concentrations expressed in mg/kg)

Analyte	SS-1	SS-2	SS-3
Antimony	ND < 2.5	ND < 2.5	ND < 2.5
Arsenic	6.7	2.9	6.2
Barium	120	98	46
Beryllium	ND < 0.5	ND < 0.5	ND < 0.5
Cadmium	ND < 0.5	ND < 0.5	ND < 0.5
Chromium	22	11	4.1
Cobalt	10	7.2	8.6
Copper	29	27	25
Lead	25	60	23
Mercury	0.11	0.22	0.14
Molybdenum	ND < 2.0	ND < 2.0	ND < 2.0
Nickel	37	10	3.6
Selenium	ND < 2.5	ND < 2.5	ND < 2.5
Silver	ND < 1.0	ND < 1.0	ND < 1.0
Thallium	ND < 1.8	ND < 1.8	ND < 1.8
Vanadium	36	27	69
Zinc	81	110	130
Gasoline	ND < 1.0	ND < 1.0	ND < 1.0
Benzene	ND < 0.005	ND < 0.005	ND < 0.005
Toluene	ND < 0.005	ND < 0.005	ND < 0.005
Ethylbenzene	ND < 0.005	ND < 0.005	ND < 0.005
Xylenes	ND < 0.005	ND < 0.005	ND < 0.005
MTBE	ND < 0.05	ND < 0.05	ND < 0.05
Diesel	5.0	5.3	3.1
Motor Oil	29	43	60
SVOCs	ND < 2.0-10	ND < 8.0-40	ND < 2.0-10

ND Not Detected

TABLE 1

SOIL SAMPLE RESULTS
Alameda Subdivision
Alameda, California

(concentrations expressed in mg/kg)

Analyte	SS-4	SS-5	SS-6
Antimony	ND < 2.5	ND < 2.5	ND < 2.5
Arsenic	ND < 2.5	2.7	ND < 2.5
Barium	75	58	71
Beryllium	ND < 0.5	ND < 0.5	ND < 0.5
Cadmium	ND < 0.5	ND < 0.5	ND < 0.5
Chromium	22	25	21
Cobalt	3.6	7.3	2.8
Copper	12	49	12
Lead	83	98	29
Mercury	0.16	0.11	0.095
Molybdenum	ND < 2.0	ND < 2.0	ND < 2.0
Nickel	12	28	15
Selenium	ND < 2.5	ND < 2.5	ND < 2.5
Silver	ND < 1.0	ND < 1.0	ND < 1.0
Thallium	ND < 1.8	ND < 1.8	ND < 1.8
Vanadium	21	22	18
Zinc	51	79	30
Gasoline	ND < 1.0	ND < 1.0	ND < 1.0
Benzene	ND < 0.005	ND < 0.005	ND < 0.005
Toluene	ND < 0.005	ND < 0.005	ND < 0.005
Ethylbenzene	ND < 0.005	ND < 0.005	ND < 0.005
Xylenes	ND < 0.005	ND < 0.005	ND < 0.005
MTBE	ND < 0.05	ND < 0.05	ND < 0.05
Diesel	1.3	4.0	1.9
Motor Oil	8.7	25	15
SVOCs	ND < 2.0-10	ND < 2.0-10	ND < 0.33-1.6

ND Not Detected



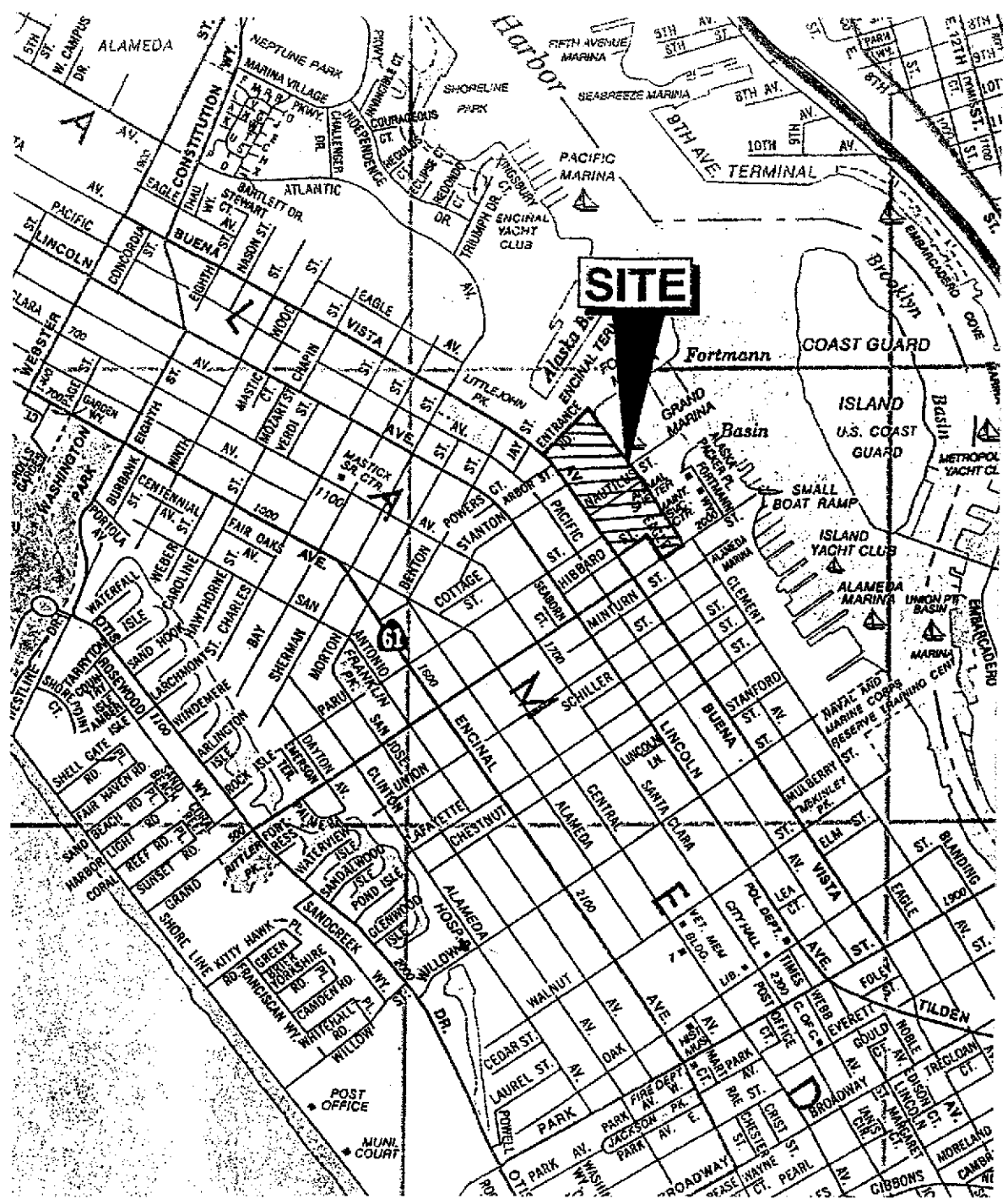
TABLE 1

SOIL SAMPLE RESULTS
Alameda Subdivision
Alameda, California

(concentrations expressed in mg/kg)

Analyte	SS-7	SS-8	SS-9
Antimony	ND < 2.5	ND < 2.5	ND < 2.5
Arsenic	ND < 2.5	ND < 2.5	ND < 2.5
Barium	76	39	38
Beryllium	ND < 0.5	ND < 0.5	ND < 0.5
Cadmium	ND < 0.5	ND < 0.5	ND < 0.5
Chromium	21	22	26
Cobalt	4.1	2.1	3.9
Copper	14	13	15
Lead	86	11	20
Mercury	0.13	0.061	ND < 0.06
Molybdenum	ND < 2.0	ND < 2.0	ND < 2.0
Nickel	12	10	11
Selenium	ND < 2.5	ND < 2.5	ND < 2.5
Silver	ND < 1.0	ND < 1.0	ND < 1.0
Thallium	ND < 1.8	ND < 1.8	ND < 1.8
Vanadium	20	17	23
Zinc	52	22	25
Gasoline	ND < 1.0	ND < 1.0	ND < 1.0
Benzene	ND < 0.005	ND < 0.005	ND < 0.005
Toluene	ND < 0.005	ND < 0.005	ND < 0.005
Ethylbenzene	ND < 0.005	ND < 0.005	ND < 0.005
Xylenes	ND < 0.005	ND < 0.005	ND < 0.005
MTBE	ND < 0.05	ND < 0.05	ND < 0.05
Diesel	4.1	1.4	2.2
Motor Oil	57	8.3	21
SVOCs	ND < 2.0-10	ND < 2.0-10	ND < 1.0-5.0

ND Not Detected



MAP SOURCE :
CSAA

Scale: 1" = ± 1320' September 2002

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SITE LOCATION

Alameda Subdivision, Alameda, California

Figure 1
Project 2262

FORTMANN
BASIN

FORMER
CPC INTERNATIONAL
TANK FARM

CHIPMAN

FORMER
WEYERHAEUSER
BUILDING

PENNZOIL

FORMER
WEYERHAEUSER
BUILDING

EAGLE AVE

HIBBARD ST

BUENA VISTA AVENUE

SS-5

SS-6

SS-7

SS-8

SS-9


SS-1

SS-2

SS-3

SS-4

EXPLANATION:

 Sample
Location
SS-1



Scale: 1" : ± 200'

September 2002

ICE
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SAMPLE LOCATIONS

Alameda Subdivision, Alameda, California

Figure **2**

Project 2262



APPENDIX A

LABORATORY CERTIFICATES



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

ICES P O Box 99288 Emeryville, CA 94662	Client Project ID: #2262	Date Sampled: 04/13/01
		Date Received: 04/13/01
	Client Contact: Peng Leong	Date Extracted: 04/13-04/20/01
	Client P.O:	Date Analyzed: 04/13-04/23/01

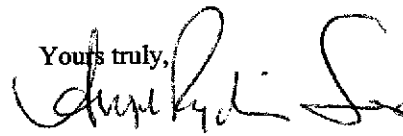
04/25/01

Dear Peng:

Enclosed are:

- 1). the results of 9 samples from your #2262 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. McCampbell 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,

Edward Hamilton, Lab Director



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

ICES P O Box 99288 Emeryville, CA 94662	Client Project ID: #2262	Date Sampled: 04/13/01
	Client Contact: Peng Leong	Date Received: 04/13/01
	Client P.O:	Date Extracted: 04/13/01
		Date Analyzed: 04/13/01

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*
 EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
65441	SS-1	S	ND	ND	ND	ND	ND	ND	104
65442	SS-2	S	ND	ND	ND	ND	ND	ND	108
65443	SS-3	S	ND	ND	ND	ND	ND	ND	104
65444	SS-4	S	ND	ND	ND	ND	ND	ND	109
65445	SS-5	S	ND	ND	ND	ND	ND	ND	104
65446	SS-6	S	ND	ND	ND	ND	ND	ND	105
65447	SS-7	S	ND	ND	ND	ND	ND	ND	104
65448	SS-8	S	ND	ND	ND	ND	ND	ND	102
65449	SS-9	S	ND	ND	ND	ND	ND	ND	103
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S		1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

cluttered chromatogram; sample peak coelutes with surrogate peak

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



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ICES P O Box 99288 Emeryville, CA 94662	Client Project ID: #2262	Date Sampled: 04/13/01
		Date Received: 04/13/01
	Client Contact: Peng Leong	Date Extracted: 04/13/01
	Client P.O:	Date Analyzed: 04/13-04/16/01

Diesel Range (C10-C23) and Oil-Range (C18+) Extractable Hydrocarbons as Diesel and Motor Oil*

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d) ⁺	TPH(mo) ⁺	% Recovery Surrogate
65441	SS-1	S	5.0,g	29	108
65442	SS-2	S	5.3,g	43	103
65443	SS-3	S	3.1,g	60	102
65444	SS-4	S	1.3,g	8.7	103
65445	SS-5	S	4.0,g	25	108
65446	SS-6	S	1.9,g	15	112
65447	SS-7	S	4.1,g	57	101
65448	SS-8	S	1.4,g	8.3	103
65449	SS-9	S	2.2,g	21	105
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	250 ug/L	
	S		1.0 mg/kg	5.0 mg/kg	

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

* 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.

*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) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.



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	Client P.O:	Date Analyzed: 04/13-04/16/01

Semi-Volatile Organics By GC/MS

EPA method 625 and 3510 or 8270 and 3550

Lab ID	65441
Client ID	SS-1
Matrix	S

Compound	Concentration*	Reporting Limit		Compound	Concentration*	Reporting Limit	
		W	S			W	S
Acenaphthene	ND<2.0	10	0.33	Di-n-octyl Phthalate	ND<2.0	10	0.33
Acenaphthylene	ND<2.0	10	0.33	1,2-Diphenylhydrazine	ND<2.0	10	0.33
Anthracene	ND<2.0	10	0.33	Fluoranthene	ND<2.0	10	0.33
Benazidine	ND<10	50	1.6	Fluorene	ND<2.0	10	0.33
Benzoic Acid	ND<10	50	1.6	Hexachlorobenzene	ND<2.0	10	0.33
Benzo(a)anthracene	ND<2.0	10	0.33	Hexachlorobutadiene	ND<2.0	10	0.33
Benzo(b)fluoranthene	ND<2.0	10	0.33	Hexachlorocyclopentadiene	ND<10	50	1.6
Benzo(k)fluoranthene	ND<2.0	10	0.33	Hexachloroethane	ND<2.0	10	0.33
Benzo(g,h,i)perylene	ND<2.0	10	0.33	Indeno(1,2,3-cd)pyrene	ND<2.0	10	0.33
Benzo(a)pyrene	ND<2.0	10	0.33	Isophorone	ND<2.0	10	0.33
Benzyl Alcohol	ND<4.0	20	0.66	2-Methylnaphthalene	ND<2.0	10	0.33
Bis(2-chloroethoxy)methane	ND<2.0	10	0.33	2-Methylphenol (o-Cresol)	ND<2.0	10	0.33
Bis(2-chloroethyl) Ether	ND<2.0	10	0.33	3 &/or 4-Methylphenol (m &/or p-Cresol)	ND<2.0	10	0.33
Bis(2-chloroisopropyl)Ether	ND<2.0	10	0.33	Naphthalene	ND<2.0	10	0.33
Bis(2-ethylhexyl) Phthalate	ND<2.0	10	0.33	2-Nitroaniline	ND<10	50	1.6
4-Bromophenyl Phenyl Ether	ND<2.0	10	0.33	3-Nitroaniline	ND<10	50	1.6
Butylbenzyl Phthalate	ND<2.0	10	0.33	4-Nitroaniline	ND<10	50	1.6
4-Chloroaniline	ND<4.0	20	0.66	2-Nitrophenol	ND<10	50	1.6
4-Chloro-3-methylpheno ^l	ND<2.0	10	0.33	4-Nitrophenol	ND<10	50	1.6
2-Chloronaphthalene	ND<2.0	10	0.33	Nitrobenzene	ND<2.0	10	0.33
2-Chlorophenol	ND<2.0	10	0.33	N-Nitrosodimethylamine	ND<2.0	10	0.33
4-Chlorophenyl Phenyl Ether	ND<2.0	10	0.33	N-Nitrosodiphenylamine	ND<2.0	10	0.33
Chrysene	ND<2.0	10	0.33	N-Nitrosodi-n-propylamine	ND<2.0	10	0.33
Dibenzo(a,h)anthracene	ND<2.0	10	0.33	Pentachlorophenol	ND<10	50	1.6
Dibenzofuran	ND<2.0	10	0.33	Phenanthrene	ND<2.0	10	0.33
Di-n-butyl Phthalate	ND<2.0	10	0.33	Phenol	ND<2.0	10	0.33
1,2-Dichlorobenzene	ND<2.0	10	0.33	Pyrene	ND<2.0	10	0.33
1,3-Dichlorobenzene	ND<2.0	10	0.33	1,2,4-Trichlorobenzene	ND<2.0	10	0.33
1,4-Dichlorobenzene	ND<2.0	10	0.33	2,4,5-Trichlorophenol	ND<2.0	10	0.33
3,3-Dichlorobenzidine	ND<4.0	20	0.66	2,4,6-Trichlorophenol	ND<2.0	10	0.33
2,4-Dichlorophenol	ND<2.0	10	0.33	Comments:j			
Diethyl Phthalate	ND<2.0	10	0.33	Surrogate Recoveries (%)			
2,4-Dimethylphenol	ND<2.0	10	0.33	2-Fluorophenol		98	
Dimethyl Phthalate	ND<2.0	10	0.33	Phenol-d5		92	
4,6-Dinitro-2-methylphenol	ND<10	50	1.6	Nitrobenzene-d5		93	
2,4-Dinitrophenol	ND<10	50	1.6	2-Fluorobiphenyl		88	
2,4-Dinitrotoluene	ND<2.0	10	0.33	2,4,6-Tribromophenol		69	
2,6-Dinitrotoluene	ND<2.0	10	0.33	p-Terphenyl-d14		93	

*water samples are reported in ug/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L
 ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

[#] surrogate diluted out of range

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content

DHS Certification No. 1644

Edward Hamilton, Lab Director



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<http://www.mccampbell.com> E-mail: main@mccampbell.com

ICES P O Box 99288 Emeryville, CA 94662	Client Project ID: #2262	Date Sampled: 04/13/01
	Client Contact: Peng Leong	Date Received: 04/13/01
	Client P.O:	Date Extracted: 04/13/01
		Date Analyzed: 04/13-04/16/01

Semi-Volatile Organics By GC/MS

EPA method 625 and 3510 or 8270 and 3550

Compound	Concentration*	Reporting Limit		Compound	Concentration*	Reporting Limit	
		W	S			W	S
Acenaphthene	ND<8.0	10	0.33	Di-n-octyl Phthalate	ND<8.0	10	0.33
Acenaphthylene	ND<8.0	10	0.33	1,2-Diphenylhydrazine	ND<8.0	10	0.33
Anthracene	ND<8.0	10	0.33	Fluoranthene	ND<8.0	10	0.33
Benzidine	ND<40	50	1.6	Fluorene	ND<8.0	10	0.33
Benzoic Acid	ND<40	50	1.6	Hexachlorobenzene	ND<8.0	10	0.33
Benzo(a)anthracene	ND<8.0	10	0.33	Hexachlorobutadiene	ND<8.0	10	0.33
Benzo(b)fluoranthene	ND<8.0	10	0.33	Hexachlorocyclopentadiene	ND<40	50	1.6
Benzo(k)fluoranthene	ND<8.0	10	0.33	Hexachloroethane	ND<8.0	10	0.33
Benzo(g,h,i)perylene	ND<8.0	10	0.33	Indeno(1,2,3-cd)pyrene	ND<8.0	10	0.33
Benzo(a)pyrene	ND<8.0	10	0.33	Isophorone	ND<8.0	10	0.33
Benzyl Alcohol	ND<16	20	0.66	2-Methylnaphthalene	ND<8.0	10	0.33
Bis(2-chloroethoxy)methane	ND<8.0	10	0.33	2-Methylphenol (o-Cresol)	ND<8.0	10	0.33
Bis(2-chloroethyl) Ether	ND<8.0	10	0.33	3 &/or 4-Methylphenol (m &/or p-Cresol)	ND<8.0	10	0.33
Bis(2-chloroisopropyl)Ether	ND<8.0	10	0.33	Naphthalene	ND<8.0	10	0.33
Bis(2-ethylhexyl) Phthalate	ND<8.0	10	0.33	2-Nitroaniline	ND<40	50	1.6
4-Bromophenyl Phenyl Ether	ND<8.0	10	0.33	3-Nitroaniline	ND<40	50	1.6
Butylbenzyl Phthalate	ND<8.0	10	0.33	4-Nitroaniline	ND<40	50	1.6
4-Chloroaniline	ND<16	20	0.66	2-Nitrophenol	ND<40	50	1.6
4-Chloro-3-methylpheno ^l	ND<8.0	10	0.33	4-Nitrophenol	ND<40	50	1.6
2-Chloronaphthalene	ND<8.0	10	0.33	Nitrobenzene	ND<8.0	10	0.33
2-Chlorophenol	ND<8.0	10	0.33	N-Nitrosodimethylamine	ND<8.0	10	0.33
4-Chlorophenyl Phenyl Ether	ND<8.0	10	0.33	N-Nitrosodiphenylamine	ND<8.0	10	0.33
Chrysene	ND<8.0	10	0.33	N-Nitrosodi-n-propylamine	ND<8.0	10	0.33
Dibenzo(a,h)anthracene	ND<8.0	10	0.33	Pentachlorophenol	ND<40	50	1.6
Dibenzofuran	ND<8.0	10	0.33	Phenanthrene	ND<8.0	10	0.33
Di-n-butyl Phthalate	ND<8.0	10	0.33	Phenol	ND<8.0	10	0.33
1,2-Dichlorobenzene	ND<8.0	10	0.33	Pyrene	ND<8.0	10	0.33
1,3-Dichlorobenzene	ND<8.0	10	0.33	1,2,4-Trichlorobenzene	ND<8.0	10	0.33
1,4-Dichlorobenzene	ND<8.0	10	0.33	2,4,5-Trichlorophenol	ND<8.0	10	0.33
3,3-Dichlorobenzidine	ND<16	20	0.66	2,4,6-Trichlorophenol	ND<8.0	10	0.33
2,4-Dichlorophenol	ND<8.0	10	0.33	Comments:j			
Diethyl Phthalate	ND<8.0	10	0.33	Surrogate Recoveries (%)			
2,4-Dimethylphenol	ND<8.0	10	0.33	2-Fluorophenol		---	
Dimethyl Phthalate	ND<8.0	10	0.33	Phenol-d5		---	
4,6-Dinitro-2-methylphenol	ND<40	50	1.6	Nitrobenzene-d5		---	
2,4-Dinitrophenol	ND<40	50	1.6	2-Fluorobiphenyl		---	
2,4-Dinitrotoluene	ND<8.0	10	0.33	2,4,6-Tribromophenol		---	
2,6-Dinitrotoluene	ND<8.0	10	0.33	p-Terphenyl-d14		---	

*water samples are reported in ug/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPL extracts in ug/L
 ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content

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Semi-Volatile Organics By GC/MS

EPA method 625 and 3510 or 8270 and 3550

Lab ID	65443
Client ID	SS-3
Matrix	S

Compound	Concentration*	Reporting Limit		Compound	Concentration*	Reporting Limit	
		W	S			W	S
Acenaphthene	ND<2.0	10	0.33	Di-n-octyl Phthalate	ND<2.0	10	0.33
Acenaphthylene	ND<2.0	10	0.33	1,2-Diphenylhydrazine	ND<2.0	10	0.33
Anthracene	ND<2.0	10	0.33	Fluoranthene	ND<2.0	10	0.33
Benzidine	ND<10	50	1.6	Fluorene	ND<2.0	10	0.33
Benzoic Acid	ND<10	50	1.6	Hexachlorobenzene	ND<2.0	10	0.33
Benzo(a)anthracene	ND<2.0	10	0.33	Hexachlorobutadiene	ND<2.0	10	0.33
Benzo(b)fluoranthene	ND<2.0	10	0.33	Hexachlorocyclopentadiene	ND<10	50	1.6
Benzo(k)fluoranthene	ND<2.0	10	0.33	Hexachloroethane	ND<2.0	10	0.33
Benzo(g,h,i)perylene	ND<2.0	10	0.33	Indeno(1,2,3-cd)pyrene	ND<2.0	10	0.33
Benzo(a)pyrene	ND<2.0	10	0.33	Isophorone	ND<2.0	10	0.33
Benzyl Alcohol	ND<4.0	20	0.66	2-Methylnaphthalene	ND<2.0	10	0.33
Bis(2-chloroethoxy)methane	ND<2.0	10	0.33	2-Methylphenol (o-Cresol)	ND<2.0	10	0.33
Bis(2-chloroethyl) Ether	ND<2.0	10	0.33	3 &/or 4-Methylphenol (m &/or p-Cresol)	ND<2.0	10	0.33
Bis(2-chloroisopropyl)Ether	ND<2.0	10	0.33	Naphthalene	ND<2.0	10	0.33
Bis(2-ethylhexyl) Phthalate	ND<2.0	10	0.33	2-Nitroaniline	ND<10	50	1.6
4-Bromophenyl Phenyl Ether	ND<2.0	10	0.33	3-Nitroaniline	ND<10	50	1.6
Butylbenzyl Phthalate	ND<2.0	10	0.33	4-Nitroaniline	ND<10	50	1.6
4-Chloroaniline	ND<4.0	20	0.66	2-Nitrophenol	ND<10	50	1.6
4-Chloro-3-methylpheno ^l	ND<2.0	10	0.33	4-Nitrophenol	ND<10	50	1.6
2-Chloronaphthalene	ND<2.0	10	0.33	Nitrobenzene	ND<2.0	10	0.33
2-Chlorophenol	ND<2.0	10	0.33	N-Nitrosodimethylamine	ND<2.0	10	0.33
4-Chlorophenyl Phenyl Ether	ND<2.0	10	0.33	N-Nitrosodiphenylamine	ND<2.0	10	0.33
Chrysene	ND<2.0	10	0.33	N-Nitrosodi-n-propylamine	ND<2.0	10	0.33
Dibenzo(a,h)anthracene	ND<2.0	10	0.33	Pentachlorophenol	ND<10	50	1.6
Dibenzofuran	ND<2.0	10	0.33	Phenanthrene	ND<2.0	10	0.33
Di-n-butyl Phthalate	ND<2.0	10	0.33	Phenol	ND<2.0	10	0.33
1,2-Dichlorobenzene	ND<2.0	10	0.33	Pyrene	ND<2.0	10	0.33
1,3-Dichlorobenzene	ND<2.0	10	0.33	1,2,4-Trichlorobenzene	ND<2.0	10	0.33
1,4-Dichlorobenzene	ND<2.0	10	0.33	2,4,5-Trichlorophenol	ND<2.0	10	0.33
3,3-Dichlorobenzidine	ND<4.0	20	0.66	2,4,6-Trichlorophenol	ND<2.0	10	0.33
2,4-Dichlorophenol	ND<2.0	10	0.33	Comments: j			
Diethyl Phthalate	ND<2.0	10	0.33	Surrogate Recoveries (%)			
2,4-Dimethylphenol	ND<2.0	10	0.33	2-Fluorophenol		95	
Dimethyl Phthalate	ND<2.0	10	0.33	Phenol-d5		90	
4,6-Dinitro-2-methylphenol	ND<10	50	1.6	Nitrobenzene-d5		90	
2,4-Dinitrophenol	ND<10	50	1.6	2-Fluorobiphenyl		89	
2,4-Dinitrotoluene	ND<2.0	10	0.33	2,4,6-Tribromophenol		63	
2,6-Dinitrotoluene	ND<2.0	10	0.33	p-Terphenyl-d14		96	

*water samples are reported in ug/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L
 ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

^l surrogate diluted out of range

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content

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	Client Contact: Peng Leong	Date Extracted: 04/13/01
	Client P.O:	Date Analyzed: 04/13-04/16/01

Semi-Volatile Organics By GC/MS

EPA method 625 and 3510 or 8270 and 3550

Compound	Concentration*	Reporting Limit		Compound	Concentration*	Reporting Limit	
		W	S			W	S
Acenaphthene	ND<2.0	10	0.33	Di-n-octyl Phthalate	ND<2.0	10	0.33
Acenaphthylene	ND<2.0	10	0.33	1,2-Diphenylhydrazine	ND<2.0	10	0.33
Anthracene	ND<2.0	10	0.33	Fluoranthene	ND<2.0	10	0.33
Benzidine	ND<10	50	1.6	Fluorene	ND<2.0	10	0.33
Benzoic Acid	ND<10	50	1.6	Hexachlorobenzene	ND<2.0	10	0.33
Benzo(a)anthracene	ND<2.0	10	0.33	Hexachlorobutadiene	ND<2.0	10	0.33
Benzo(b)fluoranthene	ND<2.0	10	0.33	Hexachlorocyclopentadiene	ND<10	50	1.6
Benzo(k)fluoranthene	ND<2.0	10	0.33	Hexachloroethane	ND<2.0	10	0.33
Benzo(g,h,i)perylene	ND<2.0	10	0.33	Indeno(1,2,3-cd)pyrene	ND<2.0	10	0.33
Benzo(a)pyrene	ND<2.0	10	0.33	Isophorone	ND<2.0	10	0.33
Benzyl Alcohol	ND<4.0	20	0.66	2-Methylnaphthalene	ND<2.0	10	0.33
Bis(2-chloroethoxy)methane	ND<2.0	10	0.33	2-Methylphenol (o-Cresol)	ND<2.0	10	0.33
Bis(2-chloroethyl) Ether	ND<2.0	10	0.33	3 &/or 4-Methylphenol (m &/or p-Cresol)	ND<2.0	10	0.33
Bis(2-chloroisopropyl) Ether	ND<2.0	10	0.33	Naphthalene	ND<2.0	10	0.33
Bis(2-ethylhexyl) Phthalate	ND<2.0	10	0.33	2-Nitroaniline	ND<10	50	1.6
4-Bromophenyl Phenyl Ether	ND<2.0	10	0.33	3-Nitroaniline	ND<10	50	1.6
Butylbenzyl Phthalate	ND<2.0	10	0.33	4-Nitroaniline	ND<10	50	1.6
4-Chloroaniline	ND<4.0	20	0.66	2-Nitrophenol	ND<10	50	1.6
4-Chloro-3-methylpheno ^l	ND<2.0	10	0.33	4-Nitrophenol	ND<10	50	1.6
2-Chloronaphthalene	ND<2.0	10	0.33	Nitrobenzene	ND<2.0	10	0.33
2-Chlorophenol	ND<2.0	10	0.33	N-Nitrosodimethylamine	ND<2.0	10	0.33
4-Chlorophenyl Phenyl Ether	ND<2.0	10	0.33	N-Nitrosodiphenylamine	ND<2.0	10	0.33
Chrysene	ND<2.0	10	0.33	N-Nitrosodi-n-propylamine	ND<2.0	10	0.33
Dibenzo(a,h)anthracene	ND<2.0	10	0.33	Pentachlorophenol	ND<10	50	1.6
Dibenzofuran	ND<2.0	10	0.33	Phenanthrene	ND<2.0	10	0.33
Di-n-butyl Phthalate	ND<2.0	10	0.33	Phenol	ND<2.0	10	0.33
1,2-Dichlorobenzene	ND<2.0	10	0.33	Pyrene	ND<2.0	10	0.33
1,3-Dichlorobenzene	ND<2.0	10	0.33	1,2,4-Trichlorobenzene	ND<2.0	10	0.33
1,4-Dichlorobenzene	ND<2.0	10	0.33	2,4,5-Trichlorophenol	ND<2.0	10	0.33
3,3-Dichlorobenzidine	ND<4.0	20	0.66	2,4,6-Trichlorophenol	ND<2.0	10	0.33
2,4-Dichlorophenol	ND<2.0	10	0.33	Comments:j			
Diethyl Phthalate	ND<2.0	10	0.33	Surrogate Recoveries (%)			
2,4-Dimethylphenol	ND<2.0	10	0.33	2-Fluorophenol		94	
Dimethyl Phthalate	ND<2.0	10	0.33	Phenol-d5		81	
4,6-Dinitro-2-methylphenol	ND<10	50	1.6	Nitrobenzene-d5		88	
2,4-Dinitrophenol	ND<10	50	1.6	2-Fluorobiphenyl		87	
2,4-Dinitrotoluene	ND<2.0	10	0.33	2,4,6-Tribromophenol		6.0	
2,6-Dinitrotoluene	ND<2.0	10	0.33	p-Terphenyl-d14		95	

*water samples are reported in ug/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPL extracts in ug/L
 ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

* surrogate diluted out of range

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content

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Semi-Volatile Organics By GC/MS

EPA method 625 and 3510 or 8270 and 3550

Compound	Concentration*	Reporting Limit		Compound	Concentration*	Reporting Limit	
		W	S			W	S
Acenaphthene	ND<2.0	10	0.33	Di-n-octyl Phthalate	ND<2.0	10	0.33
Acenaphthylene	ND<2.0	10	0.33	1,2-Diphenylhydrazine	ND<2.0	10	0.33
Anthracene	ND<2.0	10	0.33	Fluoranthene	ND<2.0	10	0.33
Benzidine	ND<10	50	1.6	Fluorene	ND<2.0	10	0.33
Benzoic Acid	ND<10	50	1.6	Hexachlorobenzene	ND<2.0	10	0.33
Benzo(a)anthracene	ND<2.0	10	0.33	Hexachlorobutadiene	ND<2.0	10	0.33
Benzo(b)fluoranthene	ND<2.0	10	0.33	Hexachlorocyclopentadiene	ND<10	50	1.6
Benzo(k)fluoranthene	ND<2.0	10	0.33	Hexachloroethane	ND<2.0	10	0.33
Benzo(g,h,i)perylene	ND<2.0	10	0.33	Indeno(1,2,3-cd)pyrene	ND<2.0	10	0.33
Benzo(a)pyrene	ND<2.0	10	0.33	Isophorone	ND<2.0	10	0.33
Benzyl Alcohol	ND<4.0	20	0.66	2-Methylnaphthalene	ND<2.0	10	0.33
Bis(2-chloroethoxy)methane	ND<2.0	10	0.33	2-Methylphenol (o-Cresol)	ND<2.0	10	0.33
Bis(2-chloroethyl) Ether	ND<2.0	10	0.33	3 &/or 4-Methylphenol (m &/or p-Cresol)	ND<2.0	10	0.33
Bis(2-chloroisopropyl)Ether	ND<2.0	10	0.33	Naphthalene	ND<2.0	10	0.33
Bis(2-ethylhexyl) Phthalate	ND<2.0	10	0.33	2-Nitroaniline	ND<10	50	1.6
4-Bromophenyl Phenyl Ether	ND<2.0	10	0.33	3-Nitroaniline	ND<10	50	1.6
Butylbenzyl Phthalate	ND<2.0	10	0.33	4-Nitroaniline	ND<10	50	1.6
4-Chloroaniline	ND<4.0	20	0.66	2-Nitrophenol	ND<10	50	1.6
4-Chloro-3-methylpheno ^l	ND<2.0	10	0.33	4-Nitrophenol	ND<10	50	1.6
2-Chloronaphthalene	ND<2.0	10	0.33	Nitrobenzene	ND<2.0	10	0.33
2-Chlorophenol	ND<2.0	10	0.33	N-Nitrosodimethylamine	ND<2.0	10	0.33
4-Chlorophenyl Phenyl Ether	ND<2.0	10	0.33	N-Nitrosodiphenylamine	ND<2.0	10	0.33
Chrysene	ND<2.0	10	0.33	N-Nitrosodi-n-propylamine	ND<2.0	10	0.33
Dibenzo(a,h)anthracene	ND<2.0	10	0.33	Pentachlorophenol	ND<10	50	1.6
Dibenzofuran	ND<2.0	10	0.33	Phenanthrene	ND<2.0	10	0.33
Di-n-butyl Phthalate	ND<2.0	10	0.33	Phenol	ND<2.0	10	0.33
1,2-Dichlorobenzene	ND<2.0	10	0.33	Pyrene	ND<2.0	10	0.33
1,3-Dichlorobenzene	ND<2.0	10	0.33	1,2,4-Trichlorobenzene	ND<2.0	10	0.33
1,4-Dichlorobenzene	ND<2.0	10	0.33	2,4,5-Trichlorophenol	ND<2.0	10	0.33
3,3-Dichlorobenzidine	ND<4.0	20	0.66	2,4,6-Trichlorophenol	ND<2.0	10	0.33
2,4-Dichlorophenol	ND<2.0	10	0.33	Comments:j			
Diethyl Phthalate	ND<2.0	10	0.33	Surrogate Recoveries (%)			
2,4-Dimethylphenol	ND<2.0	10	0.33	2-Fluorophenol		95	
Dimethyl Phthalate	ND<2.0	10	0.33	Phenol-d5		83	
4,6-Dinitro-2-methylphenol	ND<10	50	1.6	Nitrobenzene-d5		92	
2,4-Dinitrophenol	ND<10	50	1.6	2-Fluorobiphenyl		92	
2,4-Dinitrotoluene	ND<2.0	10	0.33	2,4,6-Tribromophenol		63	
2,6-Dinitrotoluene	ND<2.0	10	0.33	p-Terphenyl-d14		100	

*water samples are reported in ug/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L
 ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

[#] surrogate diluted out of range

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content

DHS Certification No. 1644

EP Edward Hamilton, Lab Director



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Semi-Volatile Organics By GC/MS

EPA method 625 and 3510 or 8270 and 3550

Lab ID	65446
Client ID	SS-6
Matrix	S

Compound	Concentration*	Reporting Limit		Compound	Concentration*	Reporting Limit	
		W	S			W	S
Acenaphthene	ND	10	0.33	Di-n-octyl Phthalate	ND	10	0.33
Accnaphthylene	ND	10	0.33	1,2-Diphenylhydrazine	ND	10	0.33
Anthracene	ND	10	0.33	Fluoranthene	ND	10	0.33
Benzdine	ND	50	1.6	Fluorene	ND	10	0.33
Benzoic Acid	ND	50	1.6	Hexachlorobenzene	ND	10	0.33
Benzo(a)anthracene	ND	10	0.33	Hexachlorobutadiene	ND	10	0.33
Benzo(b)fluoranthene	ND	10	0.33	Hexachlorocyclopentadiene	ND	50	1.6
Benzo(k)fluoranthene	ND	10	0.33	Hexachloroethane	ND	10	0.33
Benzo(g,h,i)perylene	ND	10	0.33	Indeno(1,2,3-cd)pyrene	ND	10	0.33
Benzo(a)pyrene	ND	10	0.33	Isophorone	ND	10	0.33
Benzyl Alcohol	ND	20	0.66	2-Methylnaphthalene	ND	10	0.33
Bis(2-chloroethoxy)methane	ND	10	0.33	2-Methylphenol (o-Cresol)	ND	10	0.33
Bis(2-chloroethyl) Ether	ND	10	0.33	3 &/or 4-Methylphenol (m &/or p-Cresol)	ND	10	0.33
Bis(2-chloroisopropyl)Ether	ND	10	0.33	Naphthalene	ND	10	0.33
Bis(2-ethylhexyl) Phthalate	ND	10	0.33	2-Nitroaniline	ND	50	1.6
4-Bromophenyl Phenyl Ether	ND	10	0.33	3-Nitroaniline	ND	50	1.6
Butylbenzyl Phthalate	ND	10	0.33	4-Nitroaniline	ND	50	1.6
4-Chloroaniline	ND	20	0.66	2-Nitrophenol	ND	50	1.6
4-Chloro-3-methylpheno ^l	ND	10	0.33	4-Nitrophenol	ND	50	1.6
2-Chloronaphthalene	ND	10	0.33	Nitrobenzene	ND	10	0.33
2-Chlorophenol	ND	10	0.33	N-Nitrosodimethylamine	ND	10	0.33
4-Chlorophenyl Phenyl Ether	ND	10	0.33	N-Nitrosodiphenylamine	ND	10	0.33
Chrysene	ND	10	0.33	N-Nitrosodi-n-propylamine	ND	10	0.33
Dibenzo(a,h)anthracene	ND	10	0.33	Pentachlorophenol	ND	50	1.6
Dibenzofuran	ND	10	0.33	Phenanthrene	ND	10	0.33
Di-n-butyl Phthalate	ND	10	0.33	Phenol	ND	10	0.33
1,2-Dichlorobenzene	ND	10	0.33	Pyrene	ND	10	0.33
1,3-Dichlorobenzene	ND	10	0.33	1,2,4-Trichlorobenzene	ND	10	0.33
1,4-Dichlorobenzene	ND	10	0.33	2,4,5-Trichlorophenol	ND	10	0.33
3,3-Dichlorobenzidine	ND	20	0.66	2,4,6-Trichlorophenol	ND	10	0.33
2,4-Dichlorophenol	ND	10	0.33	Comments:			
Diethyl Phthalate	ND	10	0.33	Surrogate Recoveries (%)			
2,4-Dimethylphenol	ND	10	0.33	2-Fluorophenol		91	
Dimethyl Phthalate	ND	10	0.33	Phenol-d5		85	
4,6-Dinitro-2-methylphenol	ND	50	1.6	Nitrobenzene-d5		88	
2,4-Dinitrophenol	ND	50	1.6	2-Fluorobiphenyl		80	
2,4-Dinitrotoluene	ND	10	0.33	2,4,6-Tribromophenol		70	
2,6-Dinitrotoluene	ND	10	0.33	p-Terphenyl-d14		91	

*water samples are reported in ug/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L
 ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

* surrogate diluted out of range

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content

DHS Certification No. 1644

DP Edward Hamilton, Lab Director



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ICES P O Box 99288 Emeryville, CA 94662	Client Project ID: #2262	Date Sampled: 04/13/01
		Date Received: 04/13/01
	Client Contact: Peng Leong	Date Extracted: 04/13/01
	Client P.O:	Date Analyzed: 04/13-04/16/01

Semi-Volatile Organics By GC/MS

EPA method 625 and 3510 or 8270 and 3550


Lab ID		65447					
Client ID		SS-7					
Matrix		S					
Compound	Concentration*	Reporting Limit		Compound	Concentration*	Reporting Limit	
		W	S			W	S
Acenaphthene	ND<2.0	10	0.33	Di-n-octyl Phthalate	ND<2.0	10	0.33
Acenaphthylene	ND<2.0	10	0.33	1,2-Diphenylhydrazine	ND<2.0	10	0.33
Anthracene	ND<2.0	10	0.33	Fluoranthene	ND<2.0	10	0.33
Benzdine	ND<10	50	1.6	Fluorene	ND<2.0	10	0.33
Benzoic Acid	ND<10	50	1.6	Hexachlorobenzene	ND<2.0	10	0.33
Benzo(a)anthracene	ND<2.0	10	0.33	Hexachlorobutadiene	ND<2.0	10	0.33
Benzo(b)fluoranthene	ND<2.0	10	0.33	Hexachlorocyclopentadiene	ND<10	50	1.6
Benzo(k)fluoranthene	ND<2.0	10	0.33	Hexachloroethane	ND<2.0	10	0.33
Benzo(g,h,i)perylene	ND<2.0	10	0.33	Indeno(1,2,3-cd)pyrene	ND<2.0	10	0.33
Benzo(a)pyrene	ND<2.0	10	0.33	Isophorone	ND<2.0	10	0.33
Benzyl Alcohol	ND<4.0	20	0.66	2-Methylnaphthalene	ND<2.0	10	0.33
Bis(2-chloroethoxy)methane	ND<2.0	10	0.33	2-Methylphenol (o-Cresol)	ND<2.0	10	0.33
Bis(2-chloroethyl) Ether	ND<2.0	10	0.33	3 &/or 4-Methylphenol (m &/or p-Cresol)	ND<2.0	10	0.33
Bis(2-chloroisopropyl)Ether	ND<2.0	10	0.33	Naphthalene	ND<2.0	10	0.33
Bis(2-ethylhexyl) Phthalate	ND<2.0	10	0.33	2-Nitroaniline	ND<10	50	1.6
4-Bromophenyl Phenyl Ether	ND<2.0	10	0.33	3-Nitroaniline	ND<10	50	1.6
Butylbenzyl Phthalate	ND<2.0	10	0.33	4-Nitroaniline	ND<10	50	1.6
4-Chloroaniline	ND<4.0	20	0.66	2-Nitrophenol	ND<10	50	1.6
4-Chloro-3-methylpheno ^l	ND<2.0	10	0.33	4-Nitrophenol	ND<10	50	1.6
2-Chloronaphthalene	ND<2.0	10	0.33	Nitrobenzene	ND<2.0	10	0.33
2-Chlorophenol	ND<2.0	10	0.33	N-Nitrosodimethylamine	ND<2.0	10	0.33
4-Chlorophenyl Phenyl Ether	ND<2.0	10	0.33	N-Nitrosodiphenylamine	ND<2.0	10	0.33
Chrysene	ND<2.0	10	0.33	N-Nitrosodi-n-propylamine	ND<2.0	10	0.33
Dibenzo(a,h)anthracene	ND<2.0	10	0.33	Pentachlorophenol	ND<10	50	1.6
Dibenzofuran	ND<2.0	10	0.33	Phenanthrene	ND<2.0	10	0.33
Di-n-butyl Phthalate	ND<2.0	10	0.33	Phenol	ND<2.0	10	0.33
1,2-Dichlorobenzene	ND<2.0	10	0.33	Pyrene	ND<2.0	10	0.33
1,3-Dichlorobenzene	ND<2.0	10	0.33	1,2,4-Trichlorobenzene	ND<2.0	10	0.33
1,4-Dichlorobenzene	ND<2.0	10	0.33	2,4,5-Trichlorophenol	ND<2.0	10	0.33
3,3-Dichlorobenzidine	ND<4.0	20	0.66	2,4,6-Trichlorophenol	ND<2.0	10	0.33
2,4-Dichlorophenol	ND<2.0	10	0.33	Comments:j			
Diethyl Phthalate	ND<2.0	10	0.33	Surrogate Recoveries (%)			
2,4-Dimethylphenol	ND<2.0	10	0.33	2-Fluorophenol			95
Dimethyl Phthalate	ND<2.0	10	0.33	Phenol-d5			77
4,6-Dinitro-2-methylphenol	ND<10	50	1.6	Nitrobenzene-d5			90
2,4-Dinitrophenol	ND<10	50	1.6	2-Fluorobiphenyl			91
2,4-Dinitrotoluene	ND<2.0	10	0.33	2,4,6-Tribromophenol			64
2,6-Dinitrotoluene	ND<2.0	10	0.33	p-Terphenyl-d14			98

*water samples are reported in ug/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L
 ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

* surrogate diluted out of range

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content

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	Client Contact: Peng Leong	Date Extracted: 04/13/01
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Semi-Volatile Organics By GC/MS

EPA method 625 and 3510 or 8270 and 3550

Compound	Concentration*	Reporting Limit		Compound	Concentration*	Reporting Limit	
		W	S			W	S
Acenaphthene	ND<2.0	10	0.33	Di-n-octyl Phthalate	ND<2.0	10	0.33
Acenaphthylene	ND<2.0	10	0.33	1,2-Diphenylhydrazine	ND<2.0	10	0.33
Anthracene	ND<2.0	10	0.33	Fluoranthene	ND<2.0	10	0.33
Benzidine	ND<10	50	1.6	Fluorene	ND<2.0	10	0.33
Benzoic Acid	ND<10	50	1.6	Hexachlorobenzene	ND<2.0	10	0.33
Benzo(a)anthracene	ND<2.0	10	0.33	Hexachlorobutadiene	ND<2.0	10	0.33
Benzo(b)fluoranthene	ND<2.0	10	0.33	Hexachlorocyclopentadiene	ND<10	50	1.6
Benzo(k)fluoranthene	ND<2.0	10	0.33	Hexachloroethane	ND<2.0	10	0.33
Benzo(g,h,i)perylene	ND<2.0	10	0.33	Indeno(1,2,3-cd)pyrene	ND<2.0	10	0.33
Benzo(a)pyrene	ND<2.0	10	0.33	Isophorone	ND<2.0	10	0.33
Benzyl Alcohol	ND<4.0	20	0.66	2-Methylnaphthalene	ND<2.0	10	0.33
Bis(2-chloroethoxy)methane	ND<2.0	10	0.33	2-Methylphenol (o-Cresol)	ND<2.0	10	0.33
Bis(2-chloroethyl) Ether	ND<2.0	10	0.33	3 &/or 4-Methylphenol (m &/or p-Cresol)	ND<2.0	10	0.33
Bis(2-chloroisopropyl)Ether	ND<2.0	10	0.33	Naphthalene	ND<2.0	10	0.33
Bis(2-ethylhexyl) Phthalate	ND<2.0	10	0.33	2-Nitroaniline	ND<10	50	1.6
4-Bromophenyl Phenyl Ether	ND<2.0	10	0.33	3-Nitroaniline	ND<10	50	1.6
Butylbenzyl Phthalate	ND<2.0	10	0.33	4-Nitroaniline	ND<10	50	1.6
4-Chloroaniline	ND<4.0	20	0.66	2-Nitrophenol	ND<10	50	1.6
4-Chloro-3-methylpheno ^l	ND<2.0	10	0.33	4-Nitrophenol	ND<10	50	1.6
2-Chloronaphthalene	ND<2.0	10	0.33	Nitrobenzene	ND<2.0	10	0.33
2-Chlorophenol	ND<2.0	10	0.33	N-Nitrosodimethylamine	ND<2.0	10	0.33
4-Chlorophenyl Phenyl Ether	ND<2.0	10	0.33	N-Nitrosodiphenylamine	ND<2.0	10	0.33
Chrysene	ND<2.0	10	0.33	N-Nitrosodi-n-propylamine	ND<2.0	10	0.33
Dibenzo(a,h)anthracene	ND<2.0	10	0.33	Pentachlorophenol	ND<10	50	1.6
Dibenzofuran	ND<2.0	10	0.33	Phenanthrene	ND<2.0	10	0.33
Di-n-butyl Phthalate	ND<2.0	10	0.33	Phenol	ND<2.0	10	0.33
1,2-Dichlorobenzene	ND<2.0	10	0.33	Pyrene	ND<2.0	10	0.33
1,3-Dichlorobenzene	ND<2.0	10	0.33	1,2,4-Trichlorobenzene	ND<2.0	10	0.33
1,4-Dichlorobenzene	ND<2.0	10	0.33	2,4,5-Trichlorophenol	ND<2.0	10	0.33
3,3-Dichlorobenzidine	ND<4.0	20	0.66	2,4,6-Trichlorophenol	ND<2.0	10	0.33
2,4-Dichlorophenol	ND<2.0	10	0.33	Comments:j			
Diethyl Phthalate	ND<2.0	10	0.33	Surrogate Recoveries (%)			
2,4-Dimethylphenol	ND<2.0	10	0.33	2-Fluorophenol		87	
Dimethyl Phthalate	ND<2.0	10	0.33	Phenol-d5		84	
4,6-Dinitro-2-methylphenol	ND<10	50	1.6	Nitrobenzene-d5		83	
2,4-Dinitrophenol	ND<10	50	1.6	2-Fluorobiphenyl		82	
2,4-Dinitrotoluene	ND<2.0	10	0.33	2,4,6-Tribromophenol		6.0	
2,6-Dinitrotoluene	ND<2.0	10	0.33	p-Terphenyl-d14		93	

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

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

[#] surrogate diluted out of range

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content

DHS Certification No. 1644

DP Edward Hamilton, Lab Director



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ICES P O Box 99288 Emeryville, CA 94662	Client Project ID: #2262	Date Sampled: 04/13/01
		Date Received: 04/13/01
	Client Contact: Peng Leong	Date Extracted: 04/13/01
	Client P.O:	Date Analyzed: 04/13-04/16/01

Semi-Volatile Organics By GC/MS

EPA method 625 and 3510 or 8270 and 3550

Compound	Concentration*	Reporting Limit		Compound	Concentration*	Reporting Limit	
		W	S			W	S
Acenaphthene	ND<1.0	10	0.33	Di-n-octyl Phthalate	ND<1.0	10	0.33
Acenaphthylene	ND<1.0	10	0.33	1,2-Diphenylhydrazine	ND<1.0	10	0.33
Anthracene	ND<1.0	10	0.33	Fluoranthene	ND<1.0	10	0.33
Benzidine	ND<5.0	50	1.6	Fluorene	ND<1.0	10	0.33
Benzoic Acid	ND<5.0	50	1.6	Hexachlorobenzene	ND<1.0	10	0.33
Benzo(a)anthracene	ND<1.0	10	0.33	Hexachlorobutadiene	ND<1.0	10	0.33
Benzo(b)fluoranthene	ND<1.0	10	0.33	Hexachlorocyclopentadiene	ND<5.0	50	1.6
Benzo(k)fluoranthene	ND<1.0	10	0.33	Hexachloroethane	ND<1.0	10	0.33
Benzo(g,h,i)perylene	ND<1.0	10	0.33	Indeno(1,2,3-cd)pyrene	ND<1.0	10	0.33
Benzo(a)pyrene	ND<1.0	10	0.33	Isophorone	ND<1.0	10	0.33
Benzyl Alcohol	ND<2.0	20	0.66	2-Methylnaphthalene	ND<1.0	10	0.33
Bis(2-chloroethoxy)methane	ND<1.0	10	0.33	2-Methylphenol (o-Cresol)	ND<1.0	10	0.33
Bis(2-chloroethyl) Ether	ND<1.0	10	0.33	3 &/or 4-Methylphenol (m &/or p-Cresol)	ND<1.0	10	0.33
Bis(2-chloroisopropyl)Ether	ND<1.0	10	0.33	Naphthalene	ND<1.0	10	0.33
Bis(2-ethylhexyl) Phthalate	ND<1.0	10	0.33	2-Nitroaniline	ND<5.0	50	1.6
4-Bromophenyl Phenyl Ether	ND<1.0	10	0.33	3-Nitroaniline	ND<5.0	50	1.6
Butylbenzyl Phthalate	ND<1.0	10	0.33	4-Nitroaniline	ND<5.0	50	1.6
4-Chloroaniline	ND<2.0	20	0.66	2-Nitrophenol	ND<5.0	50	1.6
4-Chloro-3-methylpheno ^l	ND<1.0	10	0.33	4-Nitrophenol	ND<5.0	50	1.6
2-Chloronaphthalene	ND<1.0	10	0.33	Nitrobenzene	ND<1.0	10	0.33
2-Chlorophenol	ND<1.0	10	0.33	N-Nitrosodimethylamine	ND<1.0	10	0.33
4-Chlorophenyl Phenyl Ether	ND<1.0	10	0.33	N-Nitrosodiphenylamine	ND<1.0	10	0.33
Chrysene	ND<1.0	10	0.33	N-Nitrosodi-n-propylamine	ND<1.0	10	0.33
Dibenzo(a,h)anthracene	ND<1.0	10	0.33	Pentachlorophenol	ND<5.0	50	1.6
Dibenzofuran	ND<1.0	10	0.33	Phenanthrene	ND<1.0	10	0.33
Di-n-butyl Phthalate	ND<1.0	10	0.33	Phenol	ND<1.0	10	0.33
1,2-Dichlorobenzene	ND<1.0	10	0.33	Pyrene	ND<1.0	10	0.33
1,3-Dichlorobenzene	ND<1.0	10	0.33	1,2,4-Trichlorobenzene	ND<1.0	10	0.33
1,4-Dichlorobenzene	ND<1.0	10	0.33	2,4,5-Trichlorophenol	ND<1.0	10	0.33
3,3-Dichlorobenzidine	ND<2.0	20	0.66	2,4,6-Trichlorophenol	ND<1.0	10	0.33
2,4-Dichlorophenol	ND<1.0	10	0.33	Comments: j			
Diethyl Phthalate	ND<1.0	10	0.33	Surrogate Recoveries (%)			
2,4-Dimethylphenol	ND<1.0	10	0.33	2-Fluorophenol		85	
Dimethyl Phthalate	ND<1.0	10	0.33	Phenol-d5		75	
4,6-Dinitro-2-methylphenol	ND<5.0	50	1.6	Nitrobenzene-d5		80	
2,4-Dinitrophenol	ND<5.0	50	1.6	2-Fluorobiphenyl		100	
2,4-Dinitrotoluene	ND<1.0	10	0.33	2,4,6-Tribromophenol		70	
2,6-Dinitrotoluene	ND<1.0	10	0.33	p-Terphenyl-d14		85	

*water samples are reported in ug/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L
 ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content

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ICES P O Box 99288 Emeryville, CA 94662	Client Project ID: #2262	Date Sampled: 04/13/01
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		Date Analyzed: 04/13-04/18/01

CAM / CCR 17 Metals*
 EPA methods 6010/200.7; 7470/7471/245.1/245.5 (Hg); 7060/206.2 (As); 7740/270.2 (Se); 7841/279.2 (Tl); 239.2 (Pb, water matrix)

Lab ID	65441	65442	65443	65444	Reporting Limit		
	Client ID	SS-1	SS-2	SS-3	SS-4	S	W
Matrix	S	S	S	S	S	W	
Extraction ^o	TTLIC	TTLIC	TTLIC	TTLIC	TTLIC	TTLIC	
Compound	Concentration*				mg/kg	mg/L	mg/L
Antimony (Sb)	ND	ND	ND	ND	2.5	0.006	0.05
Arsenic (As)	6.7	2.9	6.2	ND	2.5	0.005	0.25
Barium (Ba)	120	98	46	75	2.5	0.05	0.05
Beryllium (Be)	ND	ND	ND	ND	0.5	0.004	0.01
Cadmium (Cd)	ND	ND	ND	ND	0.5	0.005	0.01
Chromium (Cr)	22	11	4.1	22	0.5	0.02	0.05
Cobalt (Co)	10	7.2	8.6	3.6	2.0	0.05	0.05
Copper (Cu)	29	27	25	12	2.0	0.05	0.05
Lead (Pb)	25	60	23	83	3.0	0.005	0.2
Mercury (Hg)	0.11	0.22	0.14	0.16	0.06	0.0008	0.005
Molybdenum (Mo)	ND	ND	ND	ND	2.0	0.05	0.05
Nickel (Ni)	37	10	3.6	12	2.0	0.05	0.05
Selenium (Se)	ND	ND	ND	ND	2.5	0.005	0.25
Silver (Ag)	ND	ND	ND	ND	1.0	0.01	0.05
Thallium (Tl)	ND	ND	ND	ND	1.8	0.005	0.5
Vanadium (V)	36	27	69	21	2.0	0.05	0.05
Zinc (Zn)	81	110	130	51	1.0	0.05	0.05
% Recovery Surrogate	105	101	104	107			
Comments							

* water samples are reported in mg/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in mg/L
 ND means not detected above the reporting limit; N/A means surrogate not applicable to this analysis
^o EPA extraction methods 1311(TCLP), 3010/3020(water,TTLIC), 3040(organic matrices,TTLIC), 3050(solids,TTLIC); STLC - CA Title 22
[@] DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.
^{*} surrogate diluted out of range
^{*} reporting limit raised due to matrix interference
 i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

Edward Hamilton, Lab Director



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ICES P O Box 99288 Emeryville, CA 94662	Client Project ID: #2262	Date Sampled: 04/13/01
		Date Received: 04/13/01
	Client Contact: Peng Leong	Date Extracted: 04/13/01
	Client P.O:	Date Analyzed: 04/13-04/18/01

CAM / CCR 17 Metals*

EPA methods 6010/200.7; 7470/7471/245.1/245.5 (Hg); 7060/206.2 (As); 7740/270.2 (Se); 7841/279.2 (Tl); 239.2 (Pb, water matrix)

Lab ID	65445	65446	65447	65448	Reporting Limit		
	Client ID	SS-5	SS-6	SS-7	SS-8	S	W
Matrix	S	S	S	S	S	W	
Extraction ^o	TTLc	TTLc	TTLc	TTLc	TTLc	TTLc	
Compound	Concentration*				mg/kg	mg/L	mg/L
Antimony (Sb)	ND	ND	ND	ND	2.5	0.006	0.05
Arsenic (As)	2.7	ND	ND	ND	2.5	0.005	0.25
Barium (Ba)	58	71	76	39	2.5	0.05	0.05
Beryllium (Be)	ND	ND	ND	ND	0.5	0.004	0.01
Cadmium (Cd)	ND	ND	ND	ND	0.5	0.005	0.01
Chromium (Cr)	25	21	21	22	0.5	0.02	0.05
Cobalt (Co)	7.3	2.8	4.1	2.1	2.0	0.05	0.05
Copper (Cu)	49	12	14	13	2.0	0.05	0.05
Lead (Pb)	98	29	86	11	3.0	0.005	0.2
Mercury (Hg)	0.11	0.095	0.13	0.061	0.06	0.0008	0.005
Molybdenum (Mo)	ND	ND	ND	ND	2.0	0.05	0.05
Nickel (Ni)	28	15	12	10	2.0	0.05	0.05
Selenium (Se)	ND	ND	ND	ND	2.5	0.005	0.25
Silver (Ag)	ND	ND	ND	ND	1.0	0.01	0.05
Thallium (Tl)	ND	ND	ND	ND	1.8	0.005	0.5
Vanadium (V)	22	18	20	17	2.0	0.05	0.05
Zinc (Zn)	79	30	52	22	1.0	0.05	0.05
% Recovery Surrogate	106	106	108	107			
Comments							

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

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

^o EPA extraction methods 1311(TCLP), 3010/3020(water, TTLc), 3040(organic matrices, TTLc), 3050(solids, TTLc); STLC - CA Title 22

@ DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

surrogate diluted out of range

* reporting limit raised due to matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

DHS Certification No. 1644

Edward Hamilton, Lab Director



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

ICES P O Box 99288 Emeryville, CA 94662	Client Project ID: #2262	Date Sampled: 04/13/01
	Client Contact: Peng Leong	Date Received: 04/13/01
	Client P.O:	Date Extracted: 04/13/01
		Date Analyzed: 04/13-04/18/01

CAM / CCR 17 Metals*

EPA methods 6010/200.7; 7470/7471/245.1/245.5 (Hg); 7060/206.2 (As); 7740/270.2 (Se); 7841/279.2 (Tl); 239.2 (Pb, water matrix)

Lab ID	65449	Client ID	SS-9	Matrix	S	Reporting Limit		STLC, TCLP
						S	W	
Extraction ^o	TTLIC				TTLIC	TTLIC		
Compound	Concentration*				mg/kg	mg/L	mg/L	
Antimony (Sb)	ND				2.5	0.006	0.05	
Arsenic (As)	ND				2.5	0.005	0.25	
Barium (Ba)	38				2.5	0.05	0.05	
Beryllium (Be)	ND				0.5	0.004	0.01	
Cadmium (Cd)	ND				0.5	0.005	0.01	
Chromium (Cr)	26				0.5	0.02	0.05	
Cobalt (Co)	3.9				2.0	0.05	0.05	
Copper (Cu)	15				2.0	0.05	0.05	
Lead (Pb)	20				3.0	0.005	0.2	
Mercury (Hg)	ND				0.06	0.0008	0.005	
Molybdenum (Mo)	ND				2.0	0.05	0.05	
Nickel (Ni)	11				2.0	0.05	0.05	
Selenium (Se)	ND				2.5	0.005	0.25	
Silver (Ag)	ND				1.0	0.01	0.05	
Thallium (Tl)	ND				1.8	0.005	0.5	
Vanadium (V)	23				2.0	0.05	0.05	
Zinc (Zn)	25				1.0	0.05	0.05	
% Recovery Surrogate	111							
Comments								

* water samples are reported in mg/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in mg/L
 ND means not detected above the reporting limit; N/A means surrogate not applicable to this analysis

^o EPA extraction methods 1311(TCLP), 3010/3020(water, TTLIC), 3040(organic matrices, TTLIC), 3050(solids, TTLIC); STLC - CA Title 22

@ DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

* surrogate diluted out of range

* reporting limit raised due to matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

DHS Certification No. 1644

Edward Hamilton, Lab Director



QC REPORT

Date: 04/13/01-04/14/01 Matrix: Soil

Extraction: TTLC

Compound	Concentration: mg/kg			%Recovery		RPD	
	Sample	MS	MSD	Amount Spiked	MS		MSD
SampleID: 41301				Instrument:		GC-7	
Surrogate1	0.000	94.000	98.000	100.00	94	98	4.2
Xylenes	0.000	0.266	0.256	0.30	89	85	3.8
Ethyl Benzene	0.000	0.084	0.081	0.10	84	81	3.6
Toluene	0.000	0.085	0.082	0.10	85	82	3.6
Benzene	0.000	0.081	0.078	0.10	81	78	3.8
MTBE	0.000	0.090	0.086	0.10	90	86	4.5
GAS	0.000	0.947	0.947	1.00	95	95	0.0
SampleID: 41301				Instrument:		GC-2 A	
Surrogate1	0.000	104.000	102.000	100.00	104	102	1.9
TPH (diesel)	0.000	266.000	264.000	300.00	89	88	0.8

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 100$$

RPD means Relative Percent Deviation



QC REPORT

SVOCs (EPA 8270/625/525)

Date: 04/15/01-04/16/01 Matrix: Soil

Extraction: N/A

Compound	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 43001	Instrument:				GC-8		
Surrogate1	0.000	890.0	880.0	1000.00	89	88	1.1
Pyrene	0.000	960.0	920.0	1000.00	96	92	4.3
Pentachlorophenol	0.000	1930.0	1850.0	2000.00	97	93	4.2
2,4-Dinitrotoluene	0.000	870.0	890.0	1000.00	87	89	2.3
4-Nitrophenol	0.000	1840.0	1850.0	2000.00	92	93	0.5
Acenaphtene	0.000	930.0	960.0	1000.00	93	96	3.2
4-Chloro-3-metylphenol	0.000	2050.0	1990.0	2000.00	103	100	3.0
1,2,4-trichlorobenzene	0.000	1000.0	990.0	1000.00	100	99	1.0
N-nitroso-di-n-propyl	0.000	960.0	890.0	1000.00	96	89	7.6
1,4-Dichlorobenzene	0.000	1000.0	990.0	1000.00	100	99	1.0
2-Chlorophenol	0.000	1980.0	1950.0	2000.00	99	98	1.5
Phenol	0.000	1840.0	1800.0	2000.00	92	90	2.2

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation



QC REPORT

CAM 17

Date: 04/18/01-04/19/01 Matrix: Soil

Extraction: TTLC

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 42301				Instrument: ICP-1 AA			
Beryllium	0.000	5.3	5.0	5.00	106	99	6.4
Selenium	0.000	11.0	11.0	10.00	110	110	0.0
Molybdenum	0.000	5.1	5.2	5.00	102	103	0.7
Silver	0.000	0.49	0.45	0.50	99	91	8.6
Thallium	0.000	9.0	8.5	10.00	90	85	5.7
Barium	0.000	4.9	4.5	5.00	97	90	7.5
Nickel	0.000	5.3	4.9	5.00	106	98	8.4
Arsenic	0.000	8.5	9.4	10.00	85	94	10.1
Vanadium	0.000	6.0	5.5	5.00	119	109	8.9
Surrogate1	0.000	122.3	118.1	100.00	122	118	3.5
Zinc	0.000	5.1	4.7	5.00	103	95	8.3
Copper	0.000	5.0	4.7	5.00	99	94	5.7
Antimony	0.000	11.0	11.0	10.00	110	110	0.0
Lead	0.000	10.0	10.0	10.00	100	100	0.0
Cadmium	0.000	5.4	5.3	5.00	108	106	1.4
Cobalt	0.000	4.6	4.7	5.00	93	95	1.7
Mercury	0.000	0.25	0.25	0.25	100	99	0.2
Chromium	0.000	5.1	4.7	5.00	102	94	8.0

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$\text{RPD} = \frac{(MS - \text{MSD})}{(MS + \text{MSD})} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

McCAMPBELL ANALYTICAL INC.

110 2ND AVENUE SOUTH, #D7
PACHICO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

RUSH

CHAIN OF CUSTODY RECORD

TURN AROUND TIME RUSH 24 HOUR 48 HOUR 5 DAY

Report To **Peng Leong**

Bill To: **Same**

Analysis Request

Other

Comments

Company: **I C E S**

P O BOX 99288

Emeryville, CA94662

Tele: **510-865-8890**

Fax: **510-865-8990**

Project #: **ICES 1207**

Project Name:

Project Location: **Alameda subdivision**

Sampler Signature: *[Signature]*

SAMPLE ID	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				BTEX & TPH as Gas (602/8020 + 8015) D.M.O	TPH as Diesel (8015) D.M.O	Total Petroleum Oil & Grease (5520 E&F/D&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAN-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RC1	* Will fax analysis requested						
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other																						
SS-1		4-13-01		1			✓				✓		✓	✓												✓	✓	✓	✓	✓					65441	
SS-2							✓				✓		✓	✓												✓	✓	✓	✓	✓					65442	
SS-3							✓				✓		✓	✓												✓	✓	✓	✓	✓					65443	
SS-4							✓				✓		✓	✓												✓	✓	✓	✓	✓					65444	
SS-5							✓				✓		✓	✓												✓	✓	✓	✓	✓					65445	
SS-6							✓				✓		✓	✓												✓	✓	✓	✓	✓					65446	
SS-7							✓				✓		✓	✓												✓	✓	✓	✓	✓					65447	
SS-8							✓				✓		✓	✓												✓	✓	✓	✓	✓					65448	
SS-9							✓				✓		✓	✓												✓	✓	✓	✓	✓					65449	

Relinquished By: <i>[Signature]</i>	Date: 4-13-01	Time:	Received By: <i>[Signature]</i>
Relinquished By: <i>[Signature]</i>	Date: 4-13	Time: 12:30	Received By: <i>[Signature]</i>
Relinquished By:	Date:	Time:	Received By:

Remarks:

ICE# ✓

GOOD CONDITION ✓

HEAD SPACE ABSENT ✓

PRESERVATION APPROPRIATE CONTAINERS ✓

VOAS | O&G | METALS | OTHER