W. A. CRAIG, INC.
Environmental Contracting and Consulting

6940 Tremont Road
Dixon, California 95620
Contractor and Hazardous Substances License #455752
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April 11, 2000

Job No. 3890
Claim # 14885

Mr. Scott Seary
Alameda County
Department of Health Services
1131 Harbor Bay Parkway
Alameda, California 94502

Subject: **Interim Remedial Action Report**
111 East 14th Street
San Leandro, California

Dear Mr. Seary:

Enclosed is the Interim Remedial Action Report for 111 East 14th Street in San Leandro, California. I am sending a copy of the report to Mr. Mashhoon and to Karl Busche of the City of San Leandro, Environmental Services Division. Please call me with any questions or comments.

Sincerely,

W. A. Craig, Inc.

Brian Milton
Associate Engineer

cc: Mr. M. Mashhoon

NEARBY SITE TO RO302

W. A. CRAIG, INC.
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INTERIM REMEDIAL ACTION REPORT

Project site:
111 East 14th Street
San Leandro, California

Prepared for:
Mr. Mohammed Mashhoon
Mash Petroleum, Inc.
1721 Jefferson Street
Oakland, California 94612

Submitted to:
Mr. Karl Busche
Hazardous Materials Inspector
City of San Leandro
Environmental Services Division
835 East 14th Street
San Leandro, California 94577

W. A. CRAIG, INC. PROJECT # 3890

March 31, 2000

PROFESSIONAL CERTIFICATION

Interim Remedial Action Report

Mash Petroleum, Inc.
111 East 14th Street
San Leandro, California

W.A. Craig, Inc., Project No. 3890
March 31, 2000

This report has been prepared by the staff of W. A. Craig, Inc., under the professional supervision of the persons whose seals and signatures appear hereon. No warranty, either expressed or implied, is made as to the professional advice presented herein. The analysis, conclusions and recommendations contained in this report are based upon site conditions as they existed at the time of this report and they are subject to change.

Recommendations and conclusions presented in this report are professional opinions based solely upon visual observations of the site and vicinity, and interpretation of available information as described in this report. W. A. Craig, Inc., recognizes that the limited scope of services performed in execution of this report may not be appropriate to satisfy the needs, or requirements of other state agencies, or of other users. Any use or reuse of this document or its findings, conclusions or recommendations presented herein is at the sole risk of the user.

REGISTERED PROFESSIONAL ENGINEER
TIMOTHY D. COOK
No. C054036
Exp. 1-31-03
CIVIL
STATE OF CALIFORNIA

Tim D. Cook, P.E.
Principal Engineer

REGISTERED ENVIRONMENTAL ASSESSOR
WILLIAM A. CRAIG, II
No. 01414
Expires 6-00
STATE OF CALIFORNIA

William A. Craig, II, R.E.A.
Principal

1.0 INTRODUCTION

W. A. Craig, Inc. (WAC) is pleased to submit this Interim Remedial Action Report on behalf of Mash Petroleum, Inc. 111 East 14th Street, (site), in San Leandro, California (**Figure 1**). The investigation was performed in accordance with the scope of services described in the Interim Remedial Action Plan (IRAP) dated November 9, 1999. The IRAP was approved by the Environmental Services Division of the City of San Leandro.

1.1 Site Location and Description

The site is located at 111 East 14th Street, in San Leandro, California **(Figure 1)**. The site topography is flat. Regionally, the topography slopes slightly to the west toward San Francisco Bay. Site soils are primarily sandy silts and clays. Site structures, and other features are indicated on **Figure 2**.

1.2 Background

On October 21, 1999 three 10,000-gallon underground storage tanks (USTs) for gasoline were excavated and removed from the site. Following UST removal, six soil samples (samples T1 through T6) were collected from the excavation bottom. Total petroleum hydrocarbons as gasoline (TPH-g) was detected in all six samples in concentrations ranging from 2.8 milligrams per kilogram (mg/kg) to [illegible]000 mg/kg. Benzene concentrations ranged from 0.052 mg/kg to 2.8 mg/kg. A summary of the analytical results for TPH-g, benzene, toluene, ethylbenzene, and xylene (BTEX) is presented in **Table 1.** The locations of the samples taken at the time the tanks were removed are shown on **Figure 2**.

Soil samples (T1 through T6), taken at the time the USTs were removed, were analyzed for fuel oxygenates using EPA method 8260, modified. Methyl tertiary-butyl ether (MtBE) concentrations ranged from 640 micrograms per kilogram (ug/kg) to 78,000 ug/kg. A summary of the results for fuel oxygenates included in **Table 2.**

soil

On October 25, 1999 one sample was obtained from each of the three dispenser island areas (samples D1 through D3) at approximately 3 feet bgs. A summary of the results for the dispenser samples is included in **Table 1**. Sample locations are included on **Figure 2**. TPH-g and BTEX were not detected in any of the soil samples taken from the dispenser islands.

2.0 SCOPE OF WORK

Interim remedial activities conducted by WAC during this period from October 1999 to March 2000 include the following tasks:

- Excavating, loading, hauling, profiling and disposing of approximately 1,691 tons of hydrocarbon contaminated soil;
- Collecting representative soil samples to verify the cleanup and characterize the waste;
- Analysis of soil samples for TPH-g using EPA Method 8015 (modified), benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA method 8020 and fuel oxygenates by EPA method 8260;
- Introduction of 350 pounds of Oxygen Releasing Compound (ORC) into the bottom of the excavation; and
- Preparation of this report.

3.0 SOIL EXCAVATION AND SAMPLING

3.1 Soil Excavation

Between December 28, 1999 and March 6, 2000 WAC excavated approximately 1,691 tons of contaminated soil from the former UST Pit. Soil was excavated to a depth of 29 feet below grade surface (bgs) at the southern end of the area and to 16 feet bgs in the northern end of the excavation area (**Figure 3**). Soil was excavated in areas with grossly contaminated soils as evidenced by a greenish gray colorizing and strong hydrocarbon odor. The pit was limited by a canopy footing on the east; by the existing building on the south; and by Farrelly Avenue on the north; and by the property line to the west.

Contaminated soil was disposed of as non-hazardous solid waste at the B&J Landfill in Vacaville, California. A summary of the amounts disposed, date of disposal, and the soil tag numbers of each truckload is included in **Appendix A**. The sample results for stockpiled soils are included in **Appendix B**.

3.2 Soil Sampling

Twelve soil samples were collected for laboratory analysis from native soil taken from the bottom and sidewall of the excavation. Samples were collected in 2-inch diameter brass tubes. The ends of the brass tubes were covered with Teflon film, capped with polyethylene lids, and placed in sealed polyethylene bags.

All soil samples for laboratory analysis were immediately placed on ice, inside a portable insulated container, and stored under refrigeration for delivery. The samples were submitted under chain-of-custody protocol to McCampbell Analytical, Inc. (MAI), of Pacheco, California. MAI is certified by the State of California to perform the required analyses.

3.3 Soil Sample Analytical Results

Laboratory analysis reported TPH-g concentrations ranging from 1.2 mg/kg to 6,800 mg/kg in excavation bottom samples. The concentration of MtBE (EPA method 8260) in soil samples ranged from 640 micrograms per kilogram (ug/mg) to 41,000 ug/kg. A summary of the soil sample results for TPH-g, BTEX and MtBE (EPA method 8015/8020) are presented in **Table 3**. The location code of each sample in **Table 3** is shown on **Figure 3**. A summary of the soil sample results for fuel oxygenates by EPA method 8260 is presented in **Table 4**. Copies of the laboratory analytical reports and chain-of-custody documentation are included in **Appendix B**.

4.0 ORC INTRODUCTION

On February 10 and February 15, 2000, 350 pounds of a magnesium peroxide compound was introduced in a slurry form to the excavation bottom. The dry compound was slurried with clean water then spread in the excavation bottom. The slurried compound was mixed with clean fill material and clean soil from the excavation sidewall. The ORC was introduced and mixed from 24 to 28 feet bgs. The purpose of the ORC is to stimulate in-situ bio-remediation by raising the dissolved oxygen concentration in soil and groundwater at the site.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Although residual concentrations of gasoline hydrocarbons remain in site soil, it is not feasible to excavate all contaminated soil. The foundations of the canopy on the eastern edge of the excavation and the building on the southern edge of the excavation could be undermined by further excavation. Farrelly Avenue could be damaged by further excavation to the north. The risk involved in further excavation is not warranted.

A Sensitive Receptor Survey (SRS) is recommended to identify and evaluate the potential for contamination of nearby surface and groundwater aquifers in the area. Known surface waters in the area include San Leandro Creek, an anadromous fish-bearing creek located approximately 2,500 feet south of the site.

WAC recommends preparation and implementation of a workplan to delineate and monitor the extent of soil and groundwater contamination and to characterize water-bearing zones in the site vicinity.

Due to the levels of MtBE in site soils and the proximity to San Leandro Creek it is recommended that future actions be implemented quickly to limit the spread of the contaminant plume, to utilize more efficient treatment methods, and to reduce overall project costs.

Attachments: Figure 1 Site Location Map
Figure 2 Tank Sampling Map
Figure 3 Excavation Sampling Map
Appendix A -Summary of Soil Disposal Information
Appendix B -Laboratory Analytical Reports

Location Map

Project No:3890

March, 2000

Mash Petroleum, Inc. Site
111 East 14th St.
San Leandro, CA

Figure 1

NORTH

Checked by:

W. A. Craig, Inc.
Environmental Contracting and Consulting

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Table 1. Analytical Results for TPH-g, BTEX and Lead in Soil Samples 111 E. 14th St., San Leandro

Sample Site	Matrix	TPH-g	Benzene	Toluene	Ethyl-benzene	Xylenes	Lead
T1	Soil	1,400	1.6	50	35	220	9.5
T2	Soil	3.7	0.052	0.10	0.076	0.20	8.0
T3	Soil	18	0.49	0.20	0.79	4.1	8.1
T4	Soil	2.8	0.24	0.43	0.008	0.11	5.0
T5	Soil	1,400	2.8	49	34	230	9.8
T6	Soil	12	0.74	0.060	0.65	2.5	8.9
D1	Soil	ND	ND	ND	ND	ND	30
D2	Soil	ND	ND	ND	ND	ND	15
D3	Soil	ND	ND	ND	ND	ND	14
SP1-SP4	Soil	2.4	ND	0.029	ND	0.061	13
SP5-SP8	Soil	260	ND<0.05	3.0	3.5	24	27
Detection limits	Soil	1.0	0.005	0.005	0.005	0.005	5.0

ND-Not Detectable at laboratory limits;
soil samples in mg/kg,
NA – Not Applicable
TPH-g and BTEX by EPA Method 8015 modified, Lead by EPA method 6010/200.7, 239.2

Table 2. Analytical Results for Fuel Oxygenates in Soil Samples from 111 E. 14th St. San Leandro.

initial

Sample Site	Matrix	Di-isopropyl Ether (DIPE)	Ethyl tert-Butyl Ether (ETBE)	Methyl tert-Butyl Ether (MTBE)	Tert-Amyl Ether (TAME)	Tert-Butanol
T1	Soil	ND<1,700	ND<1,700	56,000	ND<1700	ND<8,500
T2	Soil	ND<200	ND<200	5,400	ND<200	ND<1,000
T3	Soil	ND<710	ND<710	26,000	ND<710	ND<3,600
T4	Soil	Nd<20	Nd<20	640	Nd<20	ND<100
T5	Soil	ND<250	ND<250	78,000	ND<250	ND<13,000
T6	Soil	ND<2,000	ND<2,000	58,000	ND<2,000	NDND<10,000
SP1-SP4	Soil	ND<67	ND	40	ND	ND
SP5-SP8	Soil	ND	ND<67	760	ND<67	2,300
Detection limits	Soil	5.0	5.0	5.0	5.0	5.0

ND-Not Detectable at laboratory limits;
soil samples in ug/kg,
EPA Method 8260 modified

Table 3. Analytical Results for Gas, BTEX and Lead in Soil Samples from 111 E. 14th St. San Leandro.

Sample Site	Date	Depth (feet)	Map ID	TPH-g	MtBE	Benzene	Toluene	Ethyl-benzene	Xylene
SW1	1/5/00	16	A	ND	ND	ND	ND	ND	ND
PB-1	1/5/00	18	B	1,300	33	ND<0.40	6.1	13	88
PB-2	1/5/00	20	C	890	11	ND<0.030	1.6	1.7	57
PB-3	1/11/00	29	D	120	3.4	ND<0.05	0.77	0.69	3.8
PB-4	1/11/00	29	E	4,700	7.7	6.5	110	93	580
PB-1	2/1/00	26	F	1,100	4.5	1.1	3.8	15	84
PB-2	2/1/00	26	G	2,900	16	2.0	34	27	230
PB-7	2/8/00	25	H	640	46	1.8	16	9.3	64
PB-8	2/8/00	26	I	5,200	ND<5.0	9.5	96	81	480
PB-9	2/8/00	25	J	6,800	ND<9.0	16	220	110	680
PB-7	2/11/00	16	K	9.1	18	0.027	ND	0.051	0.26
PB-8	2/11/00	18	L	1.2	0.94	0.024	ND	ND	0.008
Detection limits			1.0	0.05	0.005	0.005	0.005	0.005	0.005

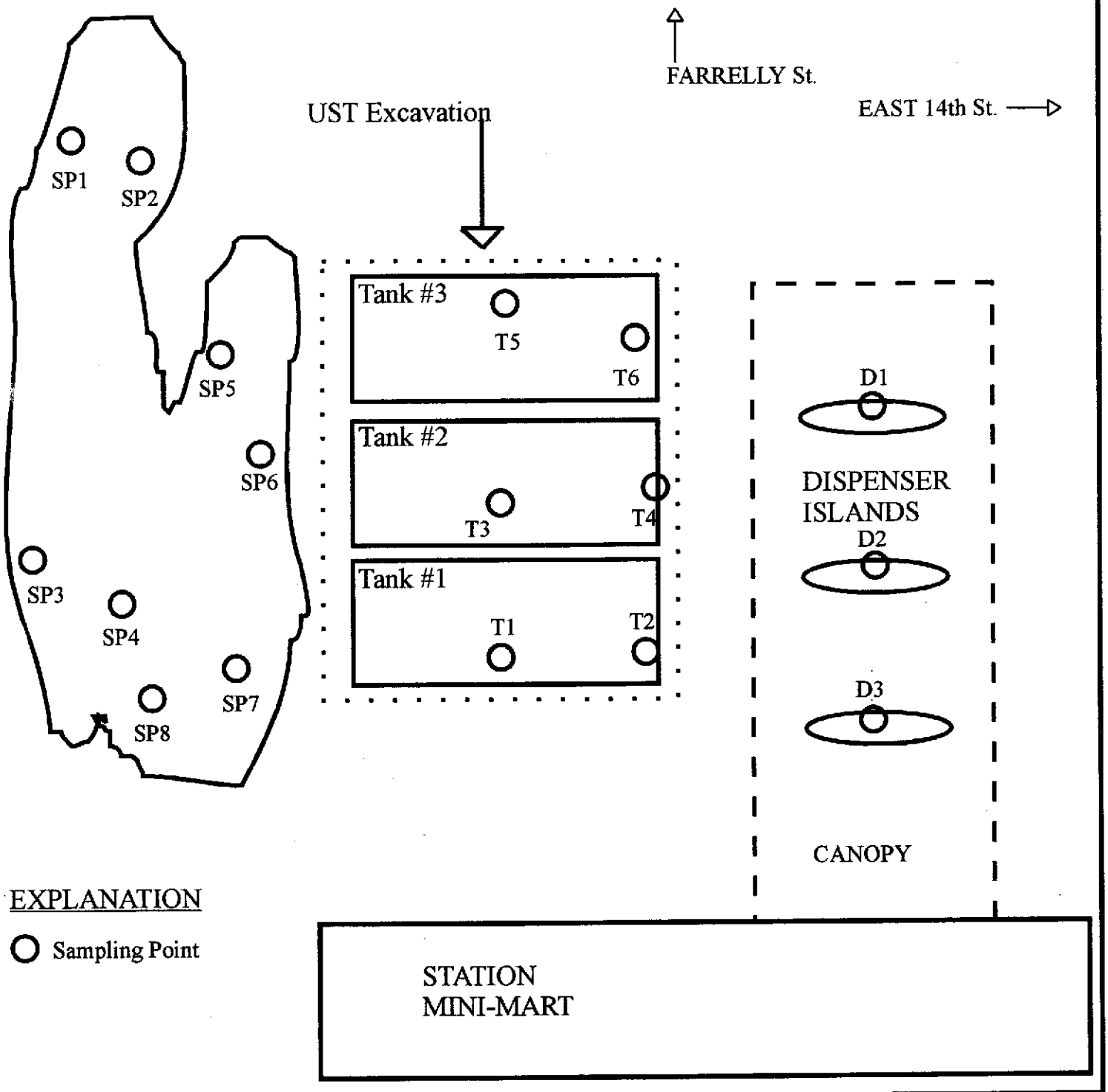
ND-Not Detectable at laboratory limits; NA-Not Analyzed
samples in mg/kg,
TPH-g and BTEX by EPA Methods 5030, 8015 modified, and 8020 or 602, California RWQCB (SF Bay Region) method GCFID(5030)
Lead by EPA method 6010/200.7, 239.2

Table 4. Analytical Results for Fuel Oxygenates in Soil Samples from 111 E. 14th St. San Leandro.

final

Sample Site	Depth (feet)	Map ID	Di-isopropyl Ether	Ethyl tert-Butyl Ether (ETBE)	[illegible] Butyl Ether (MTBE)	Tert-Amyl Ether (TAME)	Tert-Butanol
PB-3	29	D	ND<100	ND<100	640	ND<100	ND<1100
PB-4	29	E	ND<250	ND<250	700	ND<250	ND<1300
PB-1	26	F	ND<100	ND<100	1,500	ND<100	ND<500
PB-2	26	G	ND<350	ND<350	12,000	ND<350	5900
PB-7	25	H	ND<1000	ND<1000	31,000	ND<1000	ND<5000
PB-8	26	I	ND<250	ND<250	3,200	ND<250	ND<1250
PB-9	25	J	ND<2500	ND<2500	8,700	ND<2500	ND<12500
PB-7	16	K	ND<1000	ND<1000	13,000	ND<1000	ND<5000
PB-8	18	L	ND<50	ND<50	840	ND<50	ND<250
Detection limits			5.0	5.0	5.0	5.0	5.0

ND-Not Detectable at laboratory limits; NA-Not Analyzed
soil samples in ug/kg,
EPA Method 8260 modified



Location Map

Mash Petroleum, Inc. Site
111 East 14th Street
San Leadro, CA

Project No:3890

March, 2000

Checked by:

Figure 2

NORTH

W. A. Craig, Inc.
Environmental Contracting and Consulting

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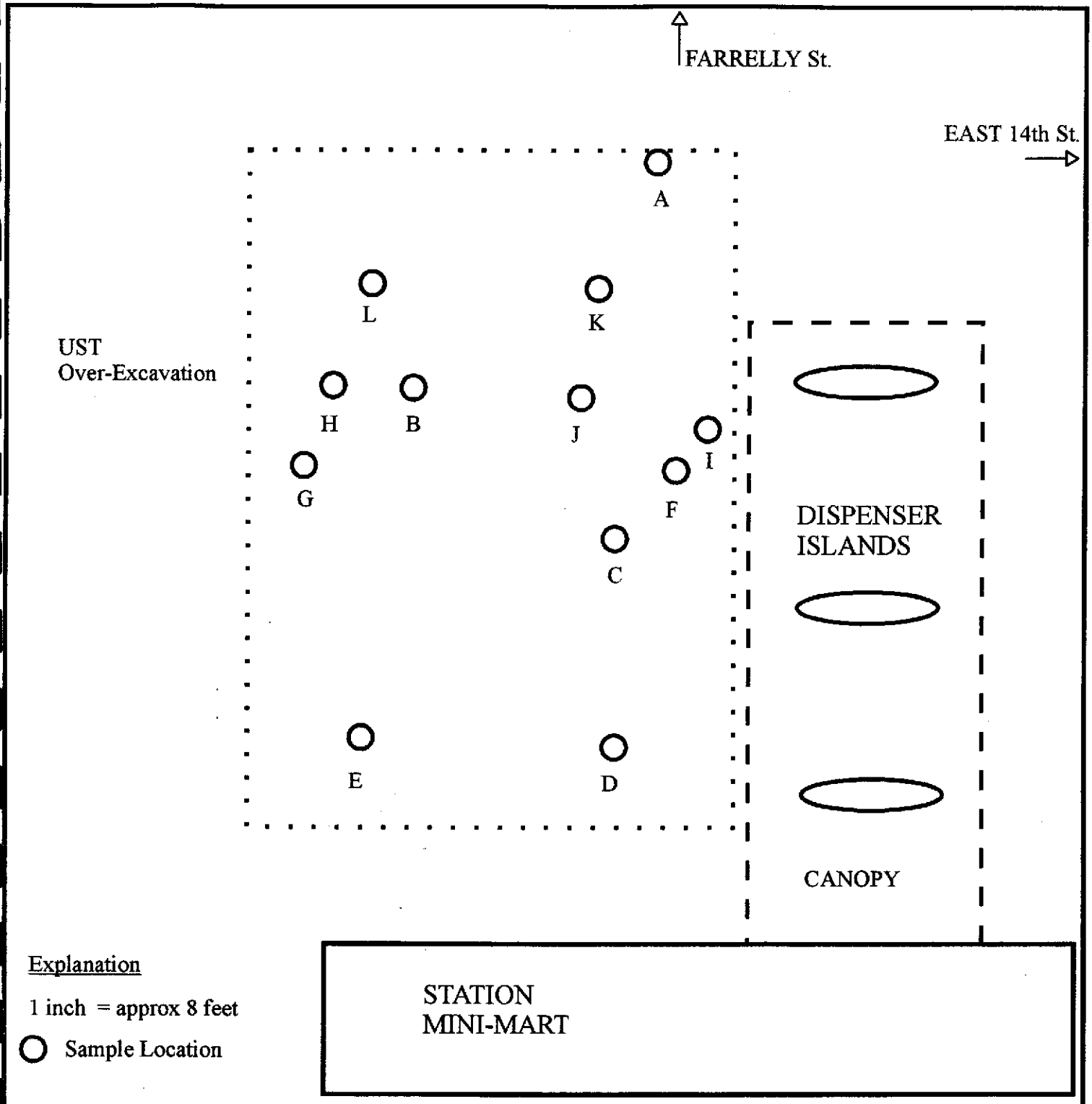
FAX (707) 693-2922



Explanation

1 inch = approx 8 feet

○ Sample Location

Excavation Sampling Map

Mash Petroleum, Inc. Site
111 East 14th Street
San Leandro, CA

Project No:3890

March, 2000

Checked by:

Figure 3

NORTH

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Appendix A

Summary of Soil Disposal Information

Summary of Soil Disposal Information at 111 E. 14th St. San Leandro, CA

Date	Landfill Acceptance #	Title	Tons
21-Dec	57154	B&J Class II Landfill	19.40
21-Dec	57158	B&J Class II Landfill	10.64
22-Dec	57211	B&J Class II Landfill	23.39
23-Dec	57265	B&J Class II Landfill	23.39
23-Dec	57291	B&J Class II Landfill	19.78
23-Dec	57345	B&J Class II Landfill	18.78
28-Dec	57670	B&J Class II Landfill	23.75
29-Dec	57735	B&J Class II Landfill	19.20
29-Dec	57779	B&J Class II Landfill	22.31
29-Dec	57780	B&J Class II Landfill	19.47
29-Dec	57849	B&J Class II Landfill	15.64
30-Dec	57862	B&J Class II Landfill	23.92
3-Jan	58252	B&J Class II Landfill	16.54
4-Jan	58357	B&J Class II Landfill	17.88
4-Jan	58444	B&J Class II Landfill	17.58
5-Jan	58523	B&J Class II Landfill	19.04
5-Jan	58584	B&J Class II Landfill	21.71
5-Jan	58593	B&J Class II Landfill	18.13
6-Jan	58649	B&J Class II Landfill	21.32
6-Jan	58740	B&J Class II Landfill	18.61
7-Jan	58763	B&J Class II Landfill	22.98
7-Jan	58832	B&J Class II Landfill	22.74
10-Jan	59044	B&J Class II Landfill	20.31
10-Jan	59087	B&J Class II Landfill	10.80
11-Jan	59102	B&J Class II Landfill	20.89
12-Jan	59178	B&J Class II Landfill	17.62
12-Jan	59173	B&J Class II Landfill	9.58
13-Jan	59261	B&J Class II Landfill	18.27
14-Jan	59333	B&J Class II Landfill	21.06
14-Jan	59363	B&J Class II Landfill	18.60
14-Jan	59421	B&J Class II Landfill	19.61
14-Jan	59413	B&J Class II Landfill	20.85
19-Jan	59680	B&J Class II Landfill	23.82
19-Jan	59710	B&J Class II Landfill	18.61
19-Jan	59711	B&J Class II Landfill	17.90
20-Jan	59768	B&J Class II Landfill	17.58
21-Jan	59828	B&J Class II Landfill	18.51
22-Jan	59904	B&J Class II Landfill	19.37
25-Jan	60074	B&J Class II Landfill	18.98
26-Jan	60141	B&J Class II Landfill	20.58
26-Jan	60142	B&J Class II Landfill	19.39
27-Jan	60198	B&J Class II Landfill	21.85
27-Jan	60199	B&J Class II Landfill	18.89
27-Jan	60312	B&J Class II Landfill	22.01
28-Jan	60323	B&J Class II Landfill	19.00
28-Jan	60454	B&J Class II Landfill	19.21
28-Jan	60456	B&J Class II Landfill	24.20
1-Feb	60644	B&J Class II Landfill	21.41
1-Feb	60649	B&J Class II Landfill	18.50
1-Feb	60692	B&J Class II Landfill	18.37
2-Feb	60726	B&J Class II Landfill	21.03
2-Feb	60784	B&J Class II Landfill	17.32
3-Feb	60840	B&J Class II Landfill	18.57
3-Feb	60859	B&J Class II Landfill	21.38
4-Feb	60890	B&J Class II Landfill	19.18
4-Feb	60931	B&J Class II Landfill	19.94
4-Feb	60932	B&J Class II Landfill	17.82
7-Feb	61101	B&J Class II Landfill	17.01
7-Feb	61102	B&J Class II Landfill	19.24
7-Feb	61157	B&J Class II Landfill	22.92
8-Feb	61174	B&J Class II Landfill	23.34
8-Feb	61215	B&J Class II Landfill	25.96
8-Feb	61202	B&J Class II Landfill	17.35
8-Feb	61268	B&J Class II Landfill	21.15
11-Feb	61424	B&J Class II Landfill	17.84
15-Feb	61607	B&J Class II Landfill	19.08
15-Feb	61608	B&J Class II Landfill	16.69
16-Feb	61667	B&J Class II Landfill	18.31
16-Feb	61668	B&J Class II Landfill	18.03
17-Feb	61712	B&J Class II Landfill	18.63
17-Feb	61724	B&J Class II Landfill	19.87
17-Feb	61750	B&J Class II Landfill	21.41
18-Feb	61786	B&J Class II Landfill	21.05
18-Feb	61824	B&J Class II Landfill	18.35
18-Feb	61871	B&J Class II Landfill	22.38
25-Feb	61786	B&J Class II Landfill	12.59
25-Feb	61824	B&J Class II Landfill	7.86
28-Feb	62881	B&J Class II Landfill	19.32
28-Feb	62889	B&J Class II Landfill	18.16
28-Feb	62900	B&J Class II Landfill	18.09
28-Feb	62915	B&J Class II Landfill	18.58
3-Mar	63226	B&J Class II Landfill	20.37
3-Mar	63252	B&J Class II Landfill	19.27
3-Mar	63270	B&J Class II Landfill	19.14
3-Mar	63288	B&J Class II Landfill	20.40
3-Mar	63206	B&J Class II Landfill	19.77
3-Mar	63301	B&J Class II Landfill	16.23
3-Mar	63277	B&J Class II Landfill	15.58
	Total Tons Landfilled		1691.18

Appendix B

Laboratory Analytical Reports

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

W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashhoon	Date Sampled: 02/11/00
		Date Received: 02/11/00
	Client Contact: Brian Milton	Date Extracted: 02/11/00
	Client P.O:	Date Analyzed: 02/11/00

02/18/00

Dear Brian:

Enclosed are:

1). the results of 3 samples from your **#3890; Mashhoon** 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.
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W. A. Craig, Inc.	Client Project ID: #3890; Mashhoon	Date Sampled: 02/11/00
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Dixon, CA 95620-9603	Client Contact: Brian Milton	Date Extracted: 02/11-02/18/00
	Client P.O:	Date Analyzed: 02/11-02/18/00

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	Ethylben-zene	Xylenes	% Recovery Surrogate
31061	PB-7	S	9.1,g	18	0.027	ND	0.051	0.26	107
31062	PB-8	S	1.2,b	0.94	0.024	ND	ND	0.008	104
31063	SP 1-4	S	370,b	4.1	ND<0.20	3.5	2.4	25	105
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.

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

W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashhoon	Date Sampled: 02/11/00
		Date Received: 02/11/00
	Client Contact: Brian Milton	Date Extracted: 02/11/00
	Client P.O:	Date Analyzed: 02/11-02/15/00

Oxygenated Volatile Organics By GC/MS

EPA method 8260 modified

Lab ID	31061	31062			Reporting Limit	
Client ID	PB-7	PB-8				
Matrix	S	S			S	W
Compound	Concentration*				ug/kg	ug/L
Di-isopropyl Ether (DIPE)	ND<1000	ND<50			5.0	1.0
Ethyl tert-Butyl Ether (ETBE)	ND<1000	ND<50			5.0	1.0
Methyl-tert Butyl Ether (MTBE)	13,000	840			5.0	1.0
tert-Amyl Methyl Ether (TAME)	ND<1000	ND<50			5.0	1.0
tert-Butanol	ND<5000	ND<250			25	5.0
Surrogate Recoveries (%)						
Dibromofluoromethane	102	94				
Comments:						

* water samples are reported in ug/L, soil and sludge samples in ug/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 surrogate not applicable to this analysis

(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

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

W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashhoon	Date Sampled: 02/11/00
		Date Received: 02/11/00
	Client Contact: Brian Milton	Date Extracted: 02/11/00
	Client P.O:	Date Analyzed: 02/12/00

Lead*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
31063	SP 1-4	S	TTLC	4.8	103
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

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

+Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

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

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due 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.

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QC REPORT

Date: 02/11/00-02/12/00 Matrix: Soil

Extraction: N/A

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 25117				Instrument: GC-7			
Xylenes	0.000	319.0	285.0	300.00	106	95	11.3
Ethyl Benzene	0.000	107.0	90.0	100.00	107	90	17.3
Toluene	0.000	99.0	90.0	100.00	99	90	9.5
Benzene	0.000	93.0	88.0	100.00	93	88	5.5
MTBE	0.000	88.0	82.0	100.00	88	82	7.1
GAS	0.000	1018.6	944.1	1000.00	102	94	7.6
SampleID: 16710				Instrument: GC-11 A			
Surrogate1	0.000	111.0	113.0	100.00	111	113	1.8
TPH (diesel)	0.000	341.0	342.0	300.00	114	114	0.3

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

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 200$$

RPD means Relative Percent Deviation

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QC REPORT

VOCs (EPA 8240/8260)

Date: 02/11/00-02/12/00 Matrix: Soil

Extraction: N/A

Compound	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 25118				Instrument: GC-4			
tert-Amyl Methyl Ether	0.000	85.0	86.0	100.00	85	86	1.2
Methyl tert-Butyl Ether	0.000	84.0	94.0	100.00	84	94	11.2
Ethyl tert-Butyl Ether	0.000	89.0	102.0	100.00	89	102	13.6
Di-isopropyl Ether	0.000	87.0	99.0	100.00	87	99	12.9

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

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

RPD means Relative Percent Deviation

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QC REPORT

LUFT

Date: 02/12/00-02/13/00 Matrix: Soil

Extraction: TTLC

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 21200					Instrument: ICP-1		
Surrogate1	0.000	109.6	108.7	100.00	110	109	0.8
Copper	0.000	5.1	5.0	5.00	102	100	2.0
Zinc	0.000	5.5	5.4	5.00	111	109	2.0
Lead	0.000	5.2	5.0	5.00	104	101	3.1
Nickel	0.000	5.4	5.2	5.00	107	103	3.5
Chromium	0.000	5.2	5.1	5.00	104	101	2.6
Cadmium	0.000	5.9	5.8	5.00	118	116	1.5

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

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

RPD means Relative Percent Deviation

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR [redacted] ☐ 72 HR ☒ 5 DAY

Report To: Brian Mitton Bill To:
Company: W.A. Craig Inc.
Tele: ( ) 707 693 2929 Fax: ( )
Project #: 111 E. 14th St. 3890 Project Name: Mashhoon
Project Location: San Leandro
Sampler Signature: Brian Mitton

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
PB-7	16'bg	2/11/00	2:45	1			X							
PB-8	18'bg	2/11/00	3:00	1			X							
SP1-4		2/11/00	3:15	4			X							

Analysis Request

BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&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 Fuel oxys only	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI
X								4						
X								4						
X ← 48 hour								4					X	

Other: [redacted]
Comments: [redacted]

Relinquished By:	Date:	Time:	Received By:
Brian Mitton	2/11/00	4:25	Anna ABuller
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks:
ICE/T° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓

VOAS O&G METALS OTHER

Paid check # 92

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W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashoon	Date Sampled: 02/08/00
		Date Received: 02/08/00
	Client Contact: Brian Milton	Date Extracted: 02/08/00
	Client P.O:	Date Analyzed: 02/08/00

02/16/00

Dear Brian:

Enclosed are:

1). the results of **5** samples from your **#3890; Mashoon** 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

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W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashoon	Date Sampled: 02/08/00
		Date Received: 02/08/00
	Client Contact: Brian Milton	Date Extracted: 02/08/00
	Client P.O:	Date Analyzed: 02/08-02/09/00

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	Ethylben-zene	Xylenes	% Recovery Surrogate
30701	PB-7	S	640,b	46	1.8	16	9.3	64	110
30702	PB-8	S	5200,b,j	ND<5.0	9.5	96	81	480	---#
30703	PB-9	S	6800,b,j	ND<9.0	16	220	110	680	104
30704	SP-1-4	S	1300,b,j	7.8	0.85	17	13	100	104
30705	SP-5-8	S	290,b	ND<1.0	ND<0.10	2.2	1.7	15	100
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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashoon	Date Sampled: 02/08/00
		Date Received: 02/08/00
	Client Contact: Brian Milton	Date Extracted: 02/08/00
	Client P.O:	Date Analyzed: 02/10-02/11/00

Oxygenated Volatile Organics By GC/MS

EPA method 8260 modified

Lab ID	30701	30702	30703		Reporting Limit	
Client ID	PB-7	PB-8	PB-9			
Matrix	S	S	S		S	W
Compound	Concentration*				ug/kg	ug/L
Di-isopropyl Ether (DIPE)	ND<1000	ND<250	ND<2500		5.0	1.0
Ethyl tert-Butyl Ether (ETBE)	ND<1000	ND<250	ND<2500		5.0	1.0
Methyl-tert Butyl Ether (MTBE)	41,000	3200	8700		5.0	1.0
tert-Amyl Methyl Ether (TAME)	ND<1000	ND<250	ND<2500		5.0	1.0
tert-Butanol	ND<5000	ND<1250	ND<12,500		25	5.0
Surrogate Recoveries (%)						
Dibromofluoromethane	99	92	87			
Comments:						

* water samples are reported in ug/L, soil and sludge samples in ug/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 surrogate not applicable to this analysis

(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

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W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashoon	Date Sampled: 02/08/00
		Date Received: 02/08/00
	Client Contact: Brian Milton	Date Extracted: 02/08/00
	Client P.O:	Date Analyzed: 02/08/00

Lead*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
30704	SP-1-4	S	TTLC	17	103
30705	SP-5-8	S	TTLC	16	101
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

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

+Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

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

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due 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

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QC REPORT

Date: 02/08/00 Matrix: Soil

Extraction: N/A

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 25117					Instrument: GC-7		
Surrogate1	0.000	101.0	101.0	100.00	101	101	0.0
Xylenes	0.000	318.0	310.0	300.00	106	103	2.5
Ethyl Benzene	0.000	102.0	98.0	100.00	102	98	4.0
Toluene	0.000	100.0	97.0	100.00	100	97	3.0
Benzene	0.000	95.0	92.0	100.00	95	92	3.2
MTBE	0.000	93.0	91.0	100.00	93	91	2.2
GAS	0.000	1057.9	1049.2	1000.00	106	105	0.8
SampleID: 25118					Instrument: GC-11 A		
Surrogate1	0.000	110.0	102.0	100.00	110	102	7.5
TPH (diesel)	0.000	306.0	286.0	300.00	102	95	6.8

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

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

RPD means Relative Percent Deviation

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QC REPORT

VOCs (EPA 8240/8260)

Date: 02/09/00-02/10/00 Matrix: Soil

Extraction: N/A

Compound	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 25118					Instrument: GC-4		
Surrogate	0.000	108.0	118.0	100.00	108	118	8.8
tert-Amyl Methyl Ether	0.000	87.0	88.0	100.00	87	88	1.1
Methyl tert-Butyl Ether	0.000	100.0	97.0	100.00	100	97	3.0
Ethyl tert-Butyl Ether	0.000	101.0	97.0	100.00	101	97	4.0
Di-isopropyl Ether	0.000	95.0	95.0	100.00	95	95	0.0
Surrogate	0.000	112.0	110.0	100.00	112	110	1.8
Tolune	0.000	110.0	120.0	100.00	110	120	8.7
Benzene	0.000	110.0	114.0	100.00	110	114	3.6
Chlorobenzene	0.000	105.0	111.0	100.00	105	111	5.6
Trichloroethane	0.000	81.0	84.0	100.00	81	84	3.6
1,1-Dichloroethene	0.000	94.0	97.0	100.00	94	97	3.1

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

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

RPD means Relative Percent Deviation

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QC REPORT

Lead

Date: 02/08/00-02/09/00 Matrix: Soil

Extraction: TTLC

Compound	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 2800					Instrument: GFAA-1		
Lead	0.000	5.2	5.2	5.00	103	104	0.7

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

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

RPD means Relative Percent Deviation

18859 ZWAC190

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☒ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

Report To: Brian Mitton Bill To:
Company: WA Chris

Tele: ( ) 707 693 2929 Fax: ( )
Project #: 3890 Project Name: Mashhoon
Project Location: San Leandro
Sampler Signature: Tim Cobb

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
PB-7	Mashoon	2/8/00		1	40ml		X				X			
PB-8							X				X			
PB-9							X				X			
SP-1							X				X			
SP-2							X				X			
SP-3							X				X			
SP-4							X				X			
SP-5							X				X			
SP-6							X				X			
SP-7							X				X			
SP-8							X				X			

BTEX & TPH as Gas (602/8020 + 8015)/ MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&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 Halocarbons	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Other	Other	Other
X								X										
X								X										
X								X										
X													X					
X													X					
X													X					
X													X					
X													X					
X													X					
X													X					
X													X					

Comments:
30701
30702
30703
30704
30705

5day TAT
" "
" "
24 hr TAT Composite
24 TAT Composite *

Relinquished By:	Date:	Time:	Received By:
Tim Cobb	2/8/00		Nina A Butler
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks:

ICE/ ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ____
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓

VOAS	O&G	METALS	OTHER

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

W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashhoon	Date Sampled: 02/01/00
		Date Received: 02/01/00
	Client Contact: Brian Milton	Date Extracted: 02/01/00
	Client P.O:	Date Analyzed: 02/01/00

02/08/00

Dear Brian:

Enclosed are:

1). the results of **4** samples from your **#3890; Mashhoon** 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

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W. A. Craig, Inc.	Client Project ID: #3890; Mashhoon	Date Sampled: 02/01/00
6940 Tremont Road		Date Received: 02/01/00
Dixon, CA 95620-9603	Client Contact: Brian Milton	Date Extracted: 02/01-02/07/00
	Client P.O:	Date Analyzed: 02/01-02/07/00

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	Ethylben-zene	Xylenes	% Recovery Surrogate
30072	SP-1-4	S	480,g	8.8	0.21	5.0	4.8	36	89
30073	SP-5-8	S	280,b,j	2.2	ND<0.01	0.94	1.2	14	107
30074	PB-1	S	1100,b,j	4.5	1.1	3.8	15	84	89
30075	PB-2	S	2900,b	16	2.0	34	27	230	94
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.

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

W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashhoon	Date Sampled: 02/01/00
		Date Received: 02/01/00
	Client Contact: Brian Milton	Date Extracted: 02/07/00
	Client P.O:	Date Analyzed: 02/08/00

Oxygenated Volatile Organics By GC/MS

EPA method 8260 modified

Lab ID	30074	30075	Reporting Limit	
Client ID	PB-1	PB-2		
Matrix	S	S	S	W
Compound	Concentration*		ug/kg	ug/L
Di-isopropyl Ether (DIPE)	ND<100	ND<350	5.0	1.0
Ethyl tert-Butyl Ether (ETBE)	ND<100	ND<350	5.0	1.0
Methyl-tert Butyl Ether (MTBE)	1500	17,000	5.0	1.0
tert-Amyl Methyl Ether (TAME)	ND<100	ND<350	5.0	1.0
tert-Butanol	ND<500	5900	25	5.0
Surrogate Recoveries (%)				
Dibromofluoromethane	97	97		
Comments:				

* water samples are reported in ug/L, soil and sludge samples in ug/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 surrogate not applicable to this analysis

(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

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W. A. Craig, Inc.	Client Project ID: #3890; Mashhoon	Date Sampled: 02/01/00
6940 Tremont Road		Date Received: 02/01/00
Dixon, CA 95620-9603	Client Contact: Brian Milton	Date Extracted: 02/01/00
	Client P.O:	Date Analyzed: 02/01/00

Lead*

EPA analytical methods 6010/200.7, 239.2[+]

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
30072	SP-1-4	S	TTLC	7.7	96
30073	SP-5-8	S	TTLC	9.3	97
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

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

[+]Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

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

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due 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.

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QC REPORT

Date: 02/01/00 Matrix: Soil

Extraction: N/A

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 13100					Instrument: GC-7		
Surrogate1	0.000	103.0	103.0	100.00	103	103	0.0
Xylenes	0.000	331.0	323.0	300.00	110	108	2.4
Ethyl Benzene	0.000	104.0	102.0	100.00	104	102	1.9
Toluene	0.000	104.0	102.0	100.00	104	102	1.9
Benzene	0.000	102.0	101.0	100.00	102	101	1.0
MTBE	0.000	93.0	94.0	100.00	93	94	1.1
GAS	0.000	1071.2	1071.2	1000.00	107	107	0.0
SampleID: 25117					Instrument: GC-11 A		
Surrogate1	0.000	109.0	110.0	100.00	109	110	0.9
TPH (diesel)	0.000	351.0	325.0	300.00	117	108	7.7
SampleID: 25118					Instrument: IR-1		
Surrogate1	0.000	96.2	95.4	100.00	96	95	0.8
TRPH	0.000	23.4	24.4	20.80	113	117	4.2

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

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

RPD means Relative Percent Deviation

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QC REPORT

VOCs (EPA 8240/8260)

Date: 02/07/00-02/08/00 Matrix: Soil

Extraction: N/A

Compound	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 25118				Instrument: GC-4			
Surrogate	0.000	113.0	105.0	100.00	113	105	7.3
tert-Amyl Methyl Ether	0.000	87.0	91.0	100.00	87	91	4.5
Methyl tert-Butyl Ether	0.000	100.0	102.0	100.00	100	102	2.0
Ethyl tert-Butyl Ether	0.000	100.0	104.0	100.00	100	104	3.9
Di-isopropyl Ether	0.000	96.0	105.0	100.00	96	105	9.0
Tolune	0.000	117.0	107.0	100.00	117	107	8.9
Benzene	0.000	118.0	104.0	100.00	118	104	12.6
Chlorobenzene	0.000	109.0	99.0	100.00	109	99	9.6
Trichloroethane	0.000	84.0	80.0	100.00	84	80	4.9
1,1-Dichloroethene	0.000	95.0	83.0	100.00	95	83	13.5

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

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

RPD means Relative Percent Deviation

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QC REPORT

Lead

Date: 02/01/2000 Matrix: Soil

Extraction: TTLC

Compound	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 2200					Instrument: GFAA-1		
Lead	0.000	5.2	4.8	5.00	104	96	7.7

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

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

RPD means Relative Percent Deviation

18756 ZWAC 183

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☒ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

Report To: Brian Milton	Bill To:
Company: W. A. Craig	
6940 Tremont Road	
Dixon, CA 95620-9603	
Tele: (707) 693-2929	Fax: (707) 693-2922
Project #: 3890	Project Name: Mashhoon
Project Location: 111 East 14th St. San Leandro	
Sampler Signature: Brian Milton	

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
SP1-SP4		2-1-00	2:30pm	4			X							
SP5-SP8		2-1-00	2:45pm	4			X							
PB1	28'bg	2-1-00	2:50pm	1			X							
PB2	26'bg	2-1-00	3:00pm	1			X							

Analysis Request

BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&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 Fuel Oxy's only 2/7 per B.M.	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI
X												X	X	
X													X	
X								X						
X								X						

Other: 24 hr. (SP1-SP4); 5-day (PB1, PB2)

Comments: 30072 (SP1-SP4); 30073 (SP5-SP8); 30074 (PB1); 30075 (PB2)

20
60
45
45
170

Relinquished By:	Date:	Time:	Received By:
Brian Milton	2/1/00	3:45	Dina A Burton
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks:

Paid # 180 Check # 4927

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

W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashoon	Date Sampled: 01/21/00
		Date Received: 01/21/00
	Client Contact: Brian Milton	Date Extracted: 01/21/00
	Client P.O:	Date Analyzed: 01/21/00

01/28/00

Dear Brian:

Enclosed are:

1). the results of **2** samples from your **#3890; Mashoon** 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

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W. A. Craig, Inc.	Client Project ID: #3890; Mashoon	Date Sampled: 01/21/00
6940 Tremont Road		Date Received: 01/21/00
Dixon, CA 95620-9603	Client Contact: Brian Milton	Date Extracted: 01/21/00
	Client P.O:	Date Analyzed: 01/21-01/24/00

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	Ethylben-zene	Xylenes	% Recovery Surrogate
29515	Comp 1-4	S	130,b,j	ND<0.25	ND<0.01	0.10	0.091	1.2	104
29516	Comp 5-8	S	95,g,j	0.30	ND	ND	ND	0.065	106
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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashoon	Date Sampled: 01/21/00
		Date Received: 01/21/00
	Client Contact: Brian Milton	Date Extracted: 01/21/00
	Client P.O:	Date Analyzed: 01/22/00

Lead*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
29515	Comp 1-4	S	TTLC	20	101
29516	Comp 5-8	S	TTLC	15	103
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

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

+Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

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

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due 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

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QC REPORT

Date: 01/21/00-01/22/00 Matrix: Soil

Extraction: N/A

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 19799				Instrument: GC-3			
Surrogate1	0.000	106.0	103.0	100.00	106	103	2.9
Xylenes	0.000	287.0	285.0	300.00	96	95	0.7
Ethyl Benzene	0.000	96.0	95.0	100.00	96	95	1.0
Toluene	0.000	99.0	98.0	100.00	99	98	1.0
Benzene	0.000	103.0	101.0	100.00	103	101	2.0
MTBE	0.000	82.0	81.0	100.00	82	81	1.2
GAS	0.000	902.6	916.8	1000.00	90	92	1.6
SampleID: 15088				Instrument: GC-11 A			
Surrogate1	0.000	113.0	113.0	100.00	113	113	0.0
TPH (diesel)	0.000	332.0	345.0	300.00	111	115	3.8
SampleID: 12100				Instrument: IR-1			
Surrogate1	0.000	97.7	93.9	100.00	98	94	4.0
TRPH	0.000	24.7	23.6	20.80	119	113	4.6

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

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

RPD means Relative Percent Deviation

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QC REPORT

Date: 01/21/00-01/22/00 Matrix: Soil

Extraction: TTLC

Compound	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 12100				Instrument: GFAA-1			
Lead	0.000	4.5	4.7	5.00	91	94	3.3
SampleID: 12100				Instrument: ICP-1			
Zinc	0.000	4.7	4.8	5.00	94	96	2.6

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

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

RPD means Relative Percent Deviation

18667 ZWAC. 181

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ~~24 HOUR~~ ~~48 HOUR~~ 5 DAY

Report To: Brian Milton Bill To:
Company: W. A. Craig
6940 Tremont Road
Dixon, CA 95620-9603
Tele: (707) 693-2929 Fax: (707) 693-2922
Project #: 3890 Project Name: Mashoon
Project Location: 111 East 14th San Leandro Ca.
Sampler Signature: Tom Winthey

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&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	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
	Stockpile #1	1-21-00	11:30 AM	brass	brass tube		✓				✓				X													X			
4pt Composite	" #2	1-21-00	11:35	1	"		✓				✓				X													X		24 Hr	29515
	" #3	1-21-00	11:40	1	"		✓				✓				X													X			
	" #4	1-21-00	11:45	1	"		✓				✓				X													X			
4pt. Composite	" #5	1-21-00	11:50	1	"		✓				✓				X													X		5 Day	
	" #6	1-21-00	11:55	1	"		✓				✓				X													X			
	" #7	1-21-00	12:00	1	"		✓				✓				X													X			
	" #8	1-21-00	12:05	1	"		✓				✓				X													X			29516

Relinquished By:	Date:	Time:	Received By:
Tom Winthey	1-21-00	3:25 PM	
Relinquished By:	Date:	Time:	Received By:
	1/21	6:15	Dina A Butler
Relinquished By:	Date:	Time:	Received By:

Remarks:

* Paid check #4886

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W. A. Craig, Inc.	Client Project ID: #3890; Mashhoon	Date Sampled: 01/11/00
6940 Tremont Road		Date Received: 01/12/00
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 01/12/00
	Client P.O:	Date Analyzed: 01/13-01/14/00

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	Ethylben-zene	Xylenes	% Recovery Surrogate
29081	PB-3	S	120,b,j	3.4	ND<0.05	0.77	0.69	3.8	113
29082	PB-4	S	4700,b,j	7.7	6.5	110	93	580	---#
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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashhoon	Date Sampled: 01/11/00
		Date Received: 01/12/00
	Client Contact: Tim Cook	Date Extracted: 02/07/00
	Client P.O:	Date Analyzed: 02/08/00

Oxygenated Volatile Organics By GC/MS

EPA method 8260 modified

Lab ID	29081	29082	Reporting Limit	
Client ID	PB-3	PB-4		
Matrix	S	S	S	W
Compound	Concentration*		ug/kg	ug/L
Di-isopropyl Ether (DIPE)	ND<100	ND<250	5.0	1.0
Ethyl tert-Butyl Ether (ETBE)	ND<100	ND<250	5.0	1.0
Methyl-tert Butyl Ether (MTBE)	640	770	5.0	1.0
tert-Amyl Methyl Ether (TAME)	ND<100	ND<250	5.0	1.0
tert-Butanol	ND<1100	ND<1300	25	5.0
Surrogate Recoveries (%)				
Dibromofluoromethane	102	105		
Comments:	j	j		

* water samples are reported in ug/L, soil and sludge samples in ug/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 surrogate not applicable to this analysis

(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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QC REPORT

Hydrocarbons Analysis

Date: 01/13/00 Matrix: Soil

Extraction: N/A

Compound	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 19790					Instrument: GC-7		
Xylenes	0.000	317.0	325.0	300.00	106	108	2.5
Ethyl Benzene	0.000	103.0	104.0	100.00	103	104	1.0
Toluene	0.000	102.7	106.0	100.00	103	106	3.2
Benzene	0.000	99.1	102.0	100.00	99	102	2.9
MTBE	0.000	100.0	103.0	100.00	100	103	3.0
GAS	0.000	979.4	977.4	1000.00	98	98	0.2

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

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

RPD means Relative Percent Deviation

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QC REPORT

VOCs (EPA 8240/8260)

Date: 02/07/00-02/08/00 Matrix: Soil

Extraction: N/A

Compound	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 25118					Instrument: GC-4		
Surrogate	0.000	113.0	105.0	100.00	113	105	7.3
tert-Amyl Methyl Ether	0.000	87.0	91.0	100.00	87	91	4.5
Methyl tert-Butyl Ether	0.000	100.0	102.0	100.00	100	102	2.0
Ethyl tert-Butyl Ether	0.000	100.0	104.0	100.00	100	104	3.9
Di-isopropyl Ether	0.000	96.0	105.0	100.00	96	105	9.0
Tolune	0.000	117.0	107.0	100.00	117	107	8.9
Benzene	0.000	118.0	104.0	100.00	118	104	12.6
Chlorobenzene	0.000	109.0	99.0	100.00	109	99	9.6
Trichloroethane	0.000	84.0	80.0	100.00	84	80	4.9
1,1-Dichloroethene	0.000	95.0	83.0	100.00	95	83	13.5

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

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

RPD means Relative Percent Deviation

#0552

ZWAC174

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

Report To: Tim Cook Bill To:
Company: W. A. Craig
6940 Tremont Road
Dixon, CA 95620-9603
Tele: (707) 693-2929 Fax: (707) 693-2922
Project #: 3890 Project Name: Mashhoon
Project Location: San Leandro
Sampler Signature: Tim Cook

SAMPLE ID	LOCATION	Sampling Date	Sampling Time	# Containers	Type Containers	Matrix: Water	Matrix: Soil	Matrix: Air	Matrix: Sludge	Matrix: Other	Method Preserved: Ice	Method Preserved: HCl	Method Preserved: HNO_3	Method Preserved: Other
PB-3	Mashhoon	1/11/00		1	brass		X				X			
PB-4				1			X				X			

SAMPLE ID	BTEX & TPH as Gas (602/8020 + 8015)/ MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&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 (Fuel Oxy's Only [illegible])	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
PB-3	X								X								29081
PB-4	X								X								29082

ICE/t° ✓ GOOD CONDITION ✓ HEAD SPACE ABSENT ✓

	VOAS	O&G	METALS	OTHER
PRESERVATION				

APPROPRIATE CONTAINERS ✓

Relinquished By:	Date:	Time:	Received By:
Tim Cook	1/12	7:30p	[illegible] 7:30 pm

Remarks: paid check # 4832

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W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashhoon	Date Sampled: 01/10/00
		Date Received: 01/10/00
	Client Contact: Brian Milton	Date Extracted: 01/10/00
	Client P.O:	Date Analyzed: 01/10/00

01/17/00

Dear Brian:

Enclosed are:

1). the results of **1** samples from your **#3890; Mashhoon** 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

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W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashhoon	Date Sampled: 01/10/00
		Date Received: 01/10/00
	Client Contact: Brian Milton	Date Extracted: 01/10/00
	Client P.O:	Date Analyzed: 01/10-01/11/00

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	Ethylben-zene	Xylenes	% Recovery Surrogate
28909	SP-1-4	S	400,b,j	6.4	0.12	3.7	2.4	26	112
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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; Mashhoon	Date Sampled: 01/10/00
		Date Received: 01/10/00
	Client Contact: Brian Milton	Date Extracted: 01/10/00
	Client P.O:	Date Analyzed: 01/10/00

Lead*

EPA analytical methods 6010/200.7, 239.2†

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
28909	SP-1-4	S	TTLC	12	101
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

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

†Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

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

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due 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

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QC REPORT

Date: 01/09/00-01/10/00 Matrix: Soil

Extraction: N/A

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 19797					Instrument: GC-7		
Xylenes	0.000	337.0	326.0	300.00	112	109	3.3
Ethyl Benzene	0.000	110.0	107.0	100.00	110	107	2.8
Toluene	0.000	111.0	106.0	100.00	111	106	4.6
Benzene	0.000	107.0	104.0	100.00	107	104	2.8
MTBE	0.000	112.0	104.0	100.00	112	104	7.4
GAS	0.000	979.4	963.4	1000.00	98	96	1.6
SampleID: 19101					Instrument: MB-1		
Oil & Grease	0.000	23.3	23.3	20.00	116	117	0.3
SampleID: 19794					Instrument: GC-6 B		
TPH (diesel)	0.000	330.0	319.0	300.00	110	106	3.4
SampleID: 19120					Instrument: IR-1		
TRPH	0.000	24.8	23.6	20.80	119	113	5.0

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

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

RPD means Relative Percent Deviation

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QC REPORT

LUFT

Date: 01/10/00-01/11/00 Matrix: Soil

Extraction: TTLC

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 11000				Instrument: ICP-1			
Copper	0.000	4.7	4.8	5.00	94	95	0.8
Zinc	0.000	5.0	5.0	5.00	100	101	0.8
Lead	0.000	4.7	4.8	5.00	94	96	1.8
Nickel	0.000	4.9	4.9	5.00	98	99	1.1
Chromium	0.000	5.0	5.0	5.00	100	100	0.0
Cadmium	0.000	5.2	5.3	5.00	104	105	1.2

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

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

RPD means Relative Percent Deviation

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☒ 24 HOUR ☐ 48 HOUR ☐ 5 DAY

Report To: Brian Milton	Bill To:
Company: W. A. Craig	
6940 Tremont Road	
Dixon, CA 95620-9603	
Tele: (707) 693-2929	Fax: (707) 693-2922
Project #: 3890	Project Name: Mashburn
Project Location: 111 E 14th St, San Leandro	
Sampler Signature: Leland Rialdi	

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other
SP-1	Stockpile	1-10-00	2:45	1	T		X							
SP-2	Stockpile	1-10-00	2:54	1	T		X							
SP-3	Stockpile	1-10-00	2:57	1	T		X							
SP-4	Stockpile	1-10-00	3:02	1	T		X							

Analysis Request

BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&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	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
X													X			Composite

28909

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓
VOAS | O&G | METALS | OTHER

Relinquished By:	Date:	Time:	Received By:
Leland Rialdi	1/10/00		
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks: PO # 18357

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓
VOAS | O&G | METALS | OTHER

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

W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; San Leandro	Date Sampled: 01/05/00
		Date Received: 01/05/00
	Client Contact: Tim Cook	Date Extracted: 01/05/00
	Client P.O:	Date Analyzed: 01/05/00

01/12/00

Dear Tim:

Enclosed are:

1). the results of 5 samples from your **#3890; San Leandro** 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

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W. A. Craig, Inc.	Client Project ID: #3890; San Leandro	Date Sampled: 01/05/2000
6940 Tremont Road		Date Received: 01/05/2000
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 01/05/2000
	Client P.O:	Date Analyzed: 01/05/2000

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

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

Lab ID	Client ID	Matrix	TPH(g)*	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	% Recovery Surrogate
28577	SW-1	S	---	---	---	---	---	---	---
28578	PB-1	S	---	---	---	---	---	---	---
28579	PB-2	S	---	---	---	---	---	---	---
28580	SP1-4	S	220,b	ND<0.40	ND<0.030	0.30	ND<0.030	2.0	95
28581	SP5-8	S	110,b	1.6	ND<0.060	ND<0.060	0.33	2.2	100
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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

W. A. Craig, Inc.	Client Project ID: #3890; San Leandro	Date Sampled: 01/05/2000
6940 Tremont Road		Date Received: 01/05/2000
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 01/05/2000
	Client P.O:	Date Analyzed: 01/05-01/07/00

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	Ethylben-zene	Xylenes	% Recovery Surrogate
28577	SW-1	S	ND	ND	ND	ND	ND	ND	98
28578	PB-1	S	1300,b	33	ND<0.40	6.1	13	88	103
28579	PB-2	S	890,b,j	11	ND<0.030	1.6	1.7	57	111
28580	SP1-4	S	220,b	ND<0.40	ND<0.030	0.30	ND<0.030	2.0	95
28581	SP5-8	S	110,b	1.6	ND<0.060	ND<0.060	0.33	2.2	100
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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; San Leandro	Date Sampled: 01/05/2000
		Date Received: 01/05/2000
	Client Contact: Tim Cook	Date Extracted: 01/05/2000
	Client P.O:	Date Analyzed: 01/06/2000

Lead*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
28580	SP1-4	S	TTLC	10	101
28581	SP5-8	S	TTLC	9.0	101
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

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

+Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

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

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due 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

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QC REPORT

Date: 01/05/00 Matrix: Soil

Extraction: N/A

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 19799					Instrument: GC-3		
Xylenes	0.000	329.0	326.0	300.00	110	109	0.9
Ethyl Benzene	0.000	110.0	109.0	100.00	110	109	0.9
Toluene	0.000	109.0	107.0	100.00	109	107	1.9
Benzene	0.000	108.0	106.0	100.00	108	106	1.9
MTBE	0.000	96.0	99.0	100.00	96	99	3.1
GAS	0.000	926.8	975.8	1000.00	93	98	5.2
SampleID: 19101					Instrument: MB-1		
Oil & Grease	0.000	24.2	23.1	20.00	121	115	4.9
SampleID: 15414					Instrument: GC-6 A		
TPH (diesel)	0.000	328.0	334.0	300.00	109	111	1.8
SampleID: 19120					Instrument: IR-1		
TRPH	0.000	23.4	23.7	20.80	113	114	1.3

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

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

RPD means Relative Percent Deviation

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QC REPORT

Date: 01/06/00-01/07/00 Matrix: Soil

Extraction: TTLC

Compound	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 1600					Instrument: GFAA-1		
Lead	0.000	4.9	5.0	5.00	97	100	2.4

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

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

RPD means Relative Percent Deviation

18447 zwac 171. do

REMARKS

McCAMPBELL ANALYTICAL INC.
110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: ☐ RUSH ☒ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

Report To: Tim Cook Bill To:
Company: W.A. Craig, Inc
Tele: (707-693-2929 Fax: ( )707 693-2922
Project #: Project Name: 3890
Project Location: San Leandro
Sampler Signature: Tim Cook

SAMPLE ID	LOCATION	Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	Other	Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (602/8020 + 8015)/ MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&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	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
SW-1	Sidewall	1/5		1			X				X				X																28577
PB-1	Pit bot	↓		↓			X				X				X																28578
PB-2	Pit bot						X				X				X																28579
SP-1	Stockpile						X				X				X												~~X~~	X			28580
SP-2	↓						X				X				X												~~X~~	X			RUSH Composite
SP-3							X				X				X												~~X~~	X			
SP-4							X				X				X												~~X~~	X			
SP-5							X				X				X												~~X~~	X			RUSH Composite
SP-6							X				X				X												~~X~~	X			
SP-7							X				X				X												~~X~~	X			
SP-8	↓	↓		↓			X				X				X												~~X~~	X			

Composite (SP-1 – SP-4)
Composite (SP-5 – SP-8)

ICE/t° ✓ PRESERVATION | VOAS | O&G | METALS | OTHER
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT ✓ CONTAINERS ✓

28581

Relinquished By:	Date:	Time:	Received By:
Tim Cook	1/5	4:50	Vivian Vonnet
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks: 24-hr rush on SP-1 - SP-4 composite
SP-5 - SP-8 composite

5 day TAT on remaining samples

File 3890

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

INVOICE FOR ANALYTICAL SERVICES

COPY

Attention: Accounts Payable

W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; San Leandro	Date Sampled: 01/05/2000
		Date Received: 01/05/2000
	Client Contact: Tim Cook	Date Extracted: 01/05/2000
	Client P.O:	Date Analyzed: 01/05/2000

Billing Date: 01/12/2000 Invoice # 18447

Number of Samples	Analysis	TAT	Unit Price	Sub-Total
2	TPH(g)-BTEX MTBE	Rush	$90	$180
3	TPH(g)-BTEX MTBE	5d	$45	$135
0	Oil & Grease (418.1 or 5520 or 1661)	5d	$45	$0
0	EPA 601 / 8010 / EDB	5d	$60	$0
0	EPA 624 / 8240 / 8260	5d	$125	$0
0	Fuel Oxygenates by 8260	5d	$90	$0
0	EPA 625 / 8270	5d	$180	$0
0	PCB / Chlorinated Pesticides, EPA 608 / 8080	5d	$50 / $75	$0
0	RCI	5d	$60	$0
0	CAM 17 Metals	5d	$125	$0
0	13 Priority Pollutant Metals	5d	$110	$0
0	RCRA 8 Metals	5d	$80	$0
0	5 LUFT Metals	5d	$50	$0
2	Lead	Rush	$30	$60
0	STLC Extraction	5d	$50	$0
0	ZHE TCLP Extraction	5d	$100	$0
0	Semi-Volatile TCLP Extraction	5d	$50	$0
0		Subbed	$0	$0
INVOICE TOTAL : $375				

Please include the invoice number(s) with your check and remit to:

McCampbell Analytical Inc.
110 2nd Avenue South, #D7
Pacheco, CA 94553-5560

Terms are net 30 days from the billing date. After this period 1.5% interest per month will be charged. Overdue accounts are responsible for all legal and collection fees. If you have any questions about billing please contact Accounts Receivable at McCampbell Analytical.

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
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http://www.mccampbell.com E-mail: main@mccampbell.com

W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: #3890; San Leandro	Date Sampled: 01/05/2000
		Date Received: 01/05/2000
	Client Contact: Tim Cook	Date Extracted: 01/05/2000
	Client P.O:	Date Analyzed: 01/05-01/07/00

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

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

Lab ID	Client ID	Matrix	TPH(g)*	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	% Recovery Surrogate
28577	SW-1	S	ND	ND	ND	ND	ND	ND	98
28578	PB-1	S	1300 b	33	ND<0.40	6.1	13	88	103
28579	PB-2	S	890,b,i	11	ND<0.030	16	1.7	57	111
28580	SP1-4	S	220,b	ND<0.40	ND<0.030	0.30	ND<0.030	2.0	95
28581	SP5-8	S	110 b	1.6	ND<0.060	ND<0.060	0.33	2.2	100
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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: Mashhoon	Date Sampled: 12/29/99
		Date Received: 12/29/99
	Client Contact: Tim Cook	Date Extracted: 12/29/99
	Client P.O:	Date Analyzed: 12/29/99

01/06/00

Dear Tim:

Enclosed are:

1). the results of 1 samples from your **Mashhoon** 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

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

W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: Mashhoon	Date Sampled: 12/29/99
		Date Received: 12/29/99
	Client Contact: Tim Cook	Date Extracted: 12/29/99
	Client P.O:	Date Analyzed: 12/29/99

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	Ethylben-zene	Xylenes	% Recovery Surrogate
28318	SP-1-4	S	300,b,j	7.7	0.099	1.6	3.5	23	---#
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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: Mashhoon	Date Sampled: 12/29/99
		Date Received: 12/29/99
	Client Contact: Tim Cook	Date Extracted: 12/29/99
	Client P.O:	Date Analyzed: 12/29/99

Lead*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
28318	SP-1-4	S	TTLC	11	102
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

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

+Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

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

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due 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

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QC REPORT

Date: 12/29/99 Matrix: Soil

Extraction: N/A

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 19773				Instrument: GC-7			
Xylenes	0.000	349.0	346.0	300.00	116	115	0.9
Ethyl Benzene	0.000	114.0	114.0	100.00	114	114	0.0
Toluene	0.000	114.0	112.0	100.00	114	112	1.8
Benzene	0.000	111.0	110.0	100.00	111	110	0.9
MTBE	0.000	92.0	87.0	100.00	92	87	5.6
GAS	0.000	937.5	969.4	1000.00	94	97	3.3
SampleID: 122999				Instrument: MB-1			
Oil & Grease	0.000	22.1	22.8	20.00	111	114	3.1
SampleID: 18387				Instrument: GC-2 B			
TPH (diesel)	0.000	260.0	265.0	300.00	87	88	1.9

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

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

RPD means Relative Percent Deviation

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QC REPORT

LUFT

Date: 12/29/99-12/30/99 Matrix: Soil

Extraction: TTLC

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 122999					Instrument: ICP-1		
Copper	0.000	4.5	4.6	5.00	90	93	2.4
Zinc	0.000	5.0	5.1	5.00	101	102	1.1
Lead	0.000	4.7	4.7	5.00	94	95	0.7
Nickel	0.000	4.7	4.9	5.00	94	98	3.4
Chromium	0.000	4.8	4.8	5.00	96	96	0.0
Cadmium	0.000	5.3	5.4	5.00	107	107	0.7

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

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

RPD means Relative Percent Deviation

18280 ZWAC 169

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
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CHAIN OF CUSTODY RECORD

TURN AROUND TIME: ☐ RUSH ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAY

Report To: Tim Cook Bill To:
Company: WA Crabs, Inc
Tele: ( ) 707 693-2929 Fax: ( ) 707 693 2922
Project #: Project Name: Mashroom
Project Location: San Leandro
Sampler Signature: Tim Cook

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&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	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
SP-1	Stockpile	12/29	1:30p	1			✓				✓				✓			-										✓			MAKE ONE Composite sample
SP-2	↓	↓	↓	↓			✓				✓				✓													✓			Composite
SP-3							✓				✓				✓													✓			
SP-4							✓				✓				✓													✓			

28318

Relinquished By:	Date:	Time:	Received By:
Tim Cook	12/29	2:58	Dina A Butler
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks:
24 hr TAT fax results by 3pm Thur 12/30

McCAMPBELL ANALYTICAL INC.
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http://www.mccampbell.com E-mail: main@mccampbell.com

W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: Mashoon	Date Sampled: 10/21/99
		Date Received: 10/21/99
	Client Contact: Tim Cook	Date Extracted: 10/21/99
	Client P.O:	Date Analyzed: 10/21/99

10/28/99

Dear Tim:

Enclosed are:

1). the results of **8** samples from your **Mashoon** 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

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

W. A. Craig, Inc.	Client Project ID: Mashoon	Date Sampled: 10/21/99
6940 Tremont Road		Date Received: 10/21/99
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 10/23-10/25/99
	Client P.O:	Date Analyzed: 10/23-10/26/99

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	Ethylben-zene	Xylenes	% Recovery Surrogate
23876	SP1-4	S	2.4,b	0.075	ND	0.029	ND	0.061	97
23877	SP5-8	S	260,b,j	1.2	ND<0.05	3.0	3.5	24	104
23878	T-1	S	1400,b,j	82	1.6	50	35	220	100
23879	T-2	S	3.7,a	7.2	0.052	0.10	0.076	0.20	101
23880	T-3	S	18,a	29	0.49	0.20	0.79	4.1	99
23881	T-4	S	2.8,a	0.80	0.24	0.43	0.008	0.11	102
23882	T-5	S	1400,b,j	130	2.8	49	34	230	103
23883	T-6	S	12,a	88	0.74	0.060	0.65	2.5	107
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

cluttered chromatogram; sample peak coelutes with surrogate peak

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

DHS Certification No. 1644

Edward Hamilton, Lab Director

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W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: Mashoon	Date Sampled: 10/21/99
		Date Received: 10/21/99
	Client Contact: Tim Cook	Date Extracted: 10/21/99
	Client P.O:	Date Analyzed: 10/23-10/24/99

Oxygenated Volatile Organics By GC/MS

EPA method 8260 modified

Lab ID	23876	23877	23878	23879	Reporting Limit	
Client ID	SP1-4	SP5-8	T-1	T-2		
Matrix	S	S	S	S	S	W
Compound	Concentration*				ug/kg	ug/L
Di-isopropyl Ether (DIPE)	ND	ND<67	ND<1700	ND<200	5.0	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	ND<67	ND<1700	ND<200	5.0	1.0
Methyl-tert Butyl Ether (MTBE)	40	760	56,000	5400	5.0	1.0
tert-Amyl Methyl Ether (TAME)	ND	ND<67	ND<1700	ND<200	5.0	1.0
tert-Butanol	ND	2300	ND<8500	ND<1000	25	5.0
Surrogate Recoveries (%)						
Dibromofluoromethane	102	100	99	99		
Comments:						

* water samples are reported in ug/L, soil and sludge samples in ug/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 surrogate not applicable to this analysis

(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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W. A. Craig, Inc. 6940 Tremont Road Dixon, CA 95620-9603	Client Project ID: Mashoon	Date Sampled: 10/21/99
		Date Received: 10/21/99
	Client Contact: Tim Cook	Date Extracted: 10/21/99
	Client P.O:	Date Analyzed: 10/23-10/24/99

Oxygenated Volatile Organics By GC/MS

EPA method 8260 modified

Lab ID	23880	23881	23882	23883	Reporting Limit	
Client ID	T-3	T-4	T-5	T-6		
Matrix	S	S	S	S	S	W
Compound	Concentration*				ug/kg	ug/L
Di-isopropyl Ether (DIPE)	ND<710	ND<20	ND<2500	ND<2000	5.0	1.0
Ethyl tert-Butyl Ether (ETBE)	ND<710	ND<20	ND<2500	ND<2000	5.0	1.0
Methyl-tert Butyl Ether (MTBE)	26,000	640	78,000	58,000	5.0	1.0
tert-Amyl Methyl Ether (TAME)	ND<710	ND<20	ND<2500	ND<2000	5.0	1.0
tert-Butanol	ND<3600	ND<100	ND<13,000	ND<10,000	25	5.0
Surrogate Recoveries (%)						
Dibromofluoromethane	101	106	102	106		
Comments:						

* water samples are reported in ug/L, soil and sludge samples in ug/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 surrogate not applicable to this analysis

(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

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W. A. Craig, Inc.	Client Project ID: Mashoon	Date Sampled: 10/21/99
6940 Tremont Road		Date Received: 10/21/99
Dixon, CA 95620-9603	Client Contact: Tim Cook	Date Extracted: 10/21/99
	Client P.O:	Date Analyzed: 10/22/99

Lead*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction °	Lead*	% Recovery Surrogate
23876	SP1-4	S	TTLC	13	94
23877	SP5-8	S	TTLC	27	96
23878	T-1	S	TTLC	9.5	95
23879	T-2	S	TTLC	8.0	96
23880	T-3	S	TTLC	8.1	96
23881	T-4	S	TTLC	5.0	97
23882	T-5	S	TTLC	9.8	91
23883	T-6	S	TTLC	8.9	92
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

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

+Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

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

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due 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 Ave. South, # , Pacheco, CA 94553-5560
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QC REPORT

Date: 10/22/99-10/23/99 Matrix: Soil

Extraction: N/A

Analyte	Concentration:				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 17868					Instrument: GC-7		
o-Xy	0.0	0.1	0.1	0.10	109	110	0.9
m,p-Xy	0.0	0.2	0.2	0.20	105	106	0.5
Ethyl Benzene	0.0	0.1	0.1	0.10	107	108	0.9
Toluene	0.0	0.1	0.1	0.10	106	109	2.8
Benzene	0.0	0.1	0.1	0.10	103	105	1.9
MTBE	0.0	0.1	0.1	0.10	94	97	3.1
GAS	0.0	0.9	0.9	1.00	94	92	2.1
SampleID: 17868					Instrument: GC-6 A		
TPH (diesel)	0.0	308.1	303.4	300.00	103	101	1.5

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

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 200$$

RPD means Relative Percent Deviation

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QC REPORT

VOCs (EPA 8240/8260)

Date: 10/22/99-10/23/99 Matrix: Soil

Extraction: N/A

Analyte	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 17868					Instrument: GC-4		
Tolune	0.0	126.0	122.0	100.00	126	122	3.2
Benzene	0.0	102.0	98.0	100.00	102	98	4.0
Chlorobenzene	0.0	101.0	97.0	100.00	101	97	4.0
Trichloroethane	0.0	92.0	92.0	100.00	92	92	0.0
1,1-Dichloroethene	0.0	101.0	97.0	100.00	101	97	4.0

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

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

RPD means Relative Percent Deviation

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QC REPORT

Date: 10/21/99-10/22/99 Matrix: Soil

Extraction: TTLC

Compound	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 102199				Instrument: ICP-1			
Lead	0.0	5.4	5.3	5.00	108	106	1.6

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

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

RPD means Relative Percent Deviation

17340 ZMAC 121.doc

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

Report To: Tim Cook Bill To:
Company: W. A. Craig
6940 Tremont Road
Dixon, CA 95620-9603
Tele: (707) 693-2929 Fax: (707) 693-2922
Project #: Project Name: Mashoon
Project Location: San Leandro
Sampler Signature: Tim Cook

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&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) Oxys only	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
SP-1	Stockpile	10/21	10:30A	1			X								X								X					X			23876
SP-2							X								X								X					X			23877
SP-3							X								X								X					X			Composit
SP-4							X								X								X					X			
SP-5							X								X								X					X			Composit
SP-6							X								X								X					X			
SP-7							X								X								X					X			
SP-8							X								X								X					X			23878
T-1	Tank Pit						X								X								X					X			23879
T-2							X								X								X					X			23880
T-3							X								X								X					X			23881
T-4							X								X								X					X			23882
T-5							X								X								X					X			23883
T-6							X								X								X					X			

Composite

Relinquished By:	Date:	Time:	Received By:
Tim Cook	10/21	5:00P	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks: (pd Mashoon?)

VOAS	O&G	METALS	OTHER

ICE/● ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓