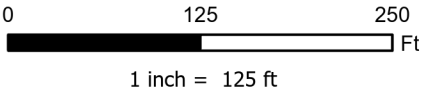




Legend

● Spill Origin ● Soil Sample Location — Spill Path




Project No: 018-065	AC McLaughlin 26 Spill Chevron USA, Inc. Rio Blanco County, Colorado SW4 SW4 Section 14 T2S R102W SE4 SE4 Section 15 T2S R102W	 330 Grand Avenue, Unit C Grand Junction, CO 81501 970-549-1015	Figure
Map By: NDB			1
Date: 3/16/2020			

Table 1
A.C. McLaughlin 26 Spill Response
Data Summary

SAMPLE SUMMARY	
Location Description	A.C. McLaughlin 26 Spill
Sample Type	Grab Soil

LABORATORY DATA SUMMARY																
Sample ID	ACMCL-26-SS1	ACMCL-26-SS1	ACMCL-26-SS1	ACMCL-26-SS1	ACMCL-26-SS2	ACMCL-26-SS2	ACMCL-26-SS2	ACMCL-26-SS3	ACMCL-26-SS3	ACMCL-26-DG	ACMCL-26-DG	ACMCL-26-BG	ACMCL-26-BG2	ACMCL-26-BG3	ALLOWABLE LIMITS	UNITS
Depth	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"		
Sample Date	2/10/2011	5/4/2011	6/20/2011	8/19/2020	2/10/2011	5/4/2011	8/19/2020	5/4/2011	8/19/2020	5/4/2011	8/19/2020	2/10/2011	5/4/2011	5/4/2011		
Analytical Parameters																
TPH																
TPH Gasoline Range Organics	53.4	NT	NT	NT	<16	NT	NT	<6.4	NT	<5.3	NT	NT	NT	NT	500	mg/kg
TPH Diesel Range Organics	305	NT	NT	NT	40.7	NT	NT	461	NT	15.1	NT	NT	NT	NT		
BTEX																
Benzene	0.174	<0.027	NT	NT	0.235	<0.026	NT	<0.028	NT	<0.023	NT	NT	NT	NT	0.17	mg/kg
Toluene	0.183	<0.062	NT	NT	0.586	<0.058	NT	<0.064	NT	<0.053	NT	NT	NT	NT	85	mg/kg
Ethylbenzene	0.238	<0.031	NT	NT	0.0861 J	<0.029	NT	<0.032	NT	<0.026	NT	NT	NT	NT	100	mg/kg
m,p-Xylene	0.797	NT	NT	NT	0.276 J	NT	NT	NT	NT	NT	NT	NT	NT	NT	175	mg/kg
o-Xylene	0.473	NT	NT	NT	0.111 J	NT	NT	NT	NT	NT	NT	NT	NT	NT	175	mg/kg
Xylene (total)	NT	<0.062	NT	NT	NT	<0.058	NT	<0.064	NT	<0.053	NT	NT	NT	NT	175	mg/kg
Metals																
Arsenic	5.7	NT	NT	NT	5.7	NT	NT	5.4	NT	5.5	NT	4.5	5.7	4.9	0.39	mg/kg
Barium	75.8	NT	NT	NT	712	NT	NT	346	NT	206	NT	77.7	NT	NT	15,000	mg/kg
Cadmium	<1.3	NT	NT	NT	<1.2	NT	NT	<1.1	NT	<0.97	NT	<1.3	NT	NT	70	mg/kg
Chromium	8.9	NT	NT	NT	14.6	NT	NT	9.8	NT	8.9	NT	9.1	NT	NT	NA	mg/kg
Copper	11.2	NT	NT	NT	11.8	NT	NT	10	NT	10.9	NT	9.7	NT	NT	3,100	mg/kg
Lead	15.0	NT	NT	NT	16.6	NT	NT	14.9	NT	13.7	NT	12.0	NT	NT	400	mg/kg
Mercury	<0.10	NT	NT	NT	<0.11	NT	NT	<0.10	NT	<0.096	NT	<0.12	NT	NT	23	mg/kg
Nickel	12.7	NT	NT	NT	14.2	NT	NT	12.4	NT	12	NT	9.9	NT	NT	1,600	mg/kg
Selenium	<6.7	NT	NT	NT	<6.0	NT	NT	<5.6	NT	<4.9	NT	<6.3	NT	NT	390	mg/kg
Silver	<4.0	NT	NT	NT	<3.6	NT	NT	<3.4	NT	<2.9	NT	<3.8	NT	NT	390	mg/kg
Zinc	54.1	NT	NT	NT	72.5	NT	NT	57.2	NT	55.9	NT	49.9	NT	NT	23,000	mg/kg
SAR Metals Analysis																
Calcium	219	242	41.3	NT	239	12.8	NT	5.4	NT	18.9	NT	21.3	NT	NT	NA	mg/L
Magnesium	48.8	51.3	8.89	NT	55.4	6.31	NT	1.35	NT	3.95	NT	5.93	NT	NT	NA	mg/L
Sodium	1160	1250	6.83	NT	2160	28.7	NT	42.3	NT	12.6	NT	162	NT	NT	NA	mg/L
Sodium Adsorption Ratio	18.4	19	0.251	NT	32.7	1.64	NT	4.22	NT	0.688	NT	8.0	NT	NT	<12	
Polynuclear Aromatic Hyrdrocarbons																
Acenaphthene	<0.043	NT	NT	<0.00093	<0.042	NT	<0.0011	<0.012	<0.00099	<0.011	<0.0018	NT	NT	NT	1,000	mg/kg
Anthracene	<0.043	NT	NT	<0.0016	<0.042	NT	<0.0020	<0.014	0.0032 J	<0.012	<0.0031	NT	NT	NT	1,000	mg/kg
Benzo(a)anthracene	<0.043	NT	NT	0.018	<0.042	NT	0.013	<0.02	0.026	<0.018	<0.0038	NT	NT	NT	0.22	mg/kg
Benzo(a)pyrene	<0.043	NT	NT	<0.0013	<0.042	NT	<0.0016	<0.028	<0.0014	<0.025	<0.0025	NT	NT	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.043	NT	NT	<0.0012	<0.042	NT	<0.0014	<0.028	0.0048 J	<0.025	<0.0022	NT	NT	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.043	NT	NT	<0.0014	<0.042	NT	<0.0017	<0.017	0.0022 J	<0.015	<0.0027	NT	NT	NT	2.2	mg/kg
Chrysene	<0.043	NT	NT	0.019	<0.042	NT	0.016	0.0461	0.026	<0.015	<0.0019	NT	NT	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.043	NT	NT	0.0020 J	<0.042	NT	<0.0014	<0.028	<0.0012	<0.025	<0.0021	NT	NT	NT	0.022	mg/kg
Fluoranthene	<0.043	NT	NT	<0.00089	<0.042	NT	<0.0011	<0.015	0.0074	<0.014	<0.0017	NT	NT	NT	1,000	mg/kg
Fluorene	<0.043	NT	NT	<0.0016	<0.042	NT	<0.0019	<0.013	0.0024 J	<0.012	<0.0030	NT	NT	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.043	NT	NT	<0.0017	<0.042	NT	<0.0021	<0.042	<0.0018	<0.038	<0.0033	NT	NT	NT	0.22	mg/kg
Napthalene	0.097 J	NT	NT	<0.0021	<0.210	NT	<0.0026	<0.015	<0.0022	<0.013	<0.0040	NT	NT	NT	23	mg/kg
Pyrene	<0.043	NT	NT	0.0023 J	<0.042	NT	<0.00097	0.0272	0.0081	<0.013	<0.0015	NT	NT	NT	1,000	mg/kg
General Chemistry																
Chromium, Hexavalent	0.70	NT	NT	NT	0.80	NT	NT	<0.46	NT	<0.41	NT	1.3	NT	NT	23	mg/kg
Chromium, Trivalent	8.2	NT	NT	NT	13.8	NT	NT	9.8	NT	8.7	NT	7.8	NT	NT	120,000	mg/kg
Specific Conductivity	8.55	7.80	0.25	NT	13.5	0.2	NT	0.2	NT	0.2	NT	1.0	NT	NT	<4 or 2 x the background	mmhos/cm
pH	8.21	NT	NT	NT	8.72	NT	NT	9.51	7.15	8.98	NT	9.72	NT	NT	6-9	su

mg/kg - milligrams per kilogram
J - indicates an estimated value
NT - parameter was not tested
mmhos/cm - millimhos per centimeter
mv - millivolts
su - standard units
NA - not applicable

Over allowable limit but under BACKGROUND level.
Over allowable limit and not within BACKGROUND level.
Over allowable limit



03/03/11

Technical Report for

Olsson Associates

009-0082_201_201004, Grand Junction, CO

AC McLaughlin 26 Spill

Accutest Job Number: D21012

Sampling Date: 02/10/11

Report to:

**Olsson Associates
826 21 1/2 Road
Grand Junction, CO 81505
tdobransky@oaconsulting.com**

ATTN: Tim Dobransky

Total number of pages in report: 89



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read 'J. Hamilton'.

**John Hamilton
Laboratory Director**

Client Service contact: Amanda Kissell 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Sample Results	8
3.1: D21012-1: ACMCL-26-SS1(0-6")	9
3.2: D21012-1A: ACMCL-26-SS1(0-6")	15
3.3: D21012-2: ACMCL-26-SS2(0-6")	17
3.4: D21012-2A: ACMCL-26-SS2(0-6")	23
3.5: D21012-3: ACMCL-26-BG(0-6")	25
3.6: D21012-3A: ACMCL-26-BG(0-6")	27
Section 4: Misc. Forms	29
4.1: Chain of Custody	30
Section 5: GC/MS Volatiles - QC Data Summaries	32
5.1: Method Blank Summary	33
5.2: Blank Spike Summary	34
5.3: Matrix Spike/Matrix Spike Duplicate Summary	35
Section 6: GC/MS Semi-volatiles - QC Data Summaries	36
6.1: Method Blank Summary	37
6.2: Blank Spike Summary	39
6.3: Matrix Spike/Matrix Spike Duplicate Summary	41
Section 7: GC Volatiles - QC Data Summaries	43
7.1: Method Blank Summary	44
7.2: Blank Spike Summary	45
7.3: Matrix Spike/Matrix Spike Duplicate Summary	46
Section 8: GC Semi-volatiles - QC Data Summaries	47
8.1: Method Blank Summary	48
8.2: Blank Spike Summary	49
8.3: Matrix Spike/Matrix Spike Duplicate Summary	50
Section 9: Metals Analysis - QC Data Summaries	51
9.1: Prep QC MP4012: Ba,Cd,Cr,Cu,Pb,Ni,Se,Ag,Zn	52
9.2: Prep QC MP4013: As	62
9.3: Prep QC MP4031: Hg	67
9.4: Prep QC MP4048: Ca,Mg,Na,Sodium Adsorption Ratio	71
Section 10: General Chemistry - QC Data Summaries	79
10.1: Method Blank and Spike Results Summary	80
10.2: Matrix Spike Results Summary	81
10.3: Matrix Spike Duplicate Results Summary	82
Section 11: Misc. Forms (Accutest Labs of New England, Inc.)	83
11.1: Chain of Custody	84
Section 12: General Chemistry - QC Data (Accutest Labs of New England, Inc.)	86
12.1: Method Blank and Spike Results Summary	87
12.2: Duplicate Results Summary	88
12.3: Matrix Spike Results Summary	89

Sample Summary

Olsson Associates

Job No: D21012

009-0082_201_201004, Grand Junction, CO

Project No: AC McLaughlin 26 Spill

Sample Number	Collected			Received	Matrix		Client Sample ID
	Date	Time	By		Code	Type	
D21012-1	02/10/11	12:50	TD	02/12/11	SO	Soil	ACMCL-26-SS1(0-6")
D21012-1A	02/10/11	12:50	TD	02/12/11	SO	Soil	ACMCL-26-SS1(0-6")
D21012-2	02/10/11	13:10	TD	02/12/11	SO	Soil	ACMCL-26-SS2(0-6")
D21012-2A	02/10/11	13:10	TD	02/12/11	SO	Soil	ACMCL-26-SS2(0-6")
D21012-3	02/10/11	13:30	TD	02/12/11	SO	Soil	ACMCL-26-BG(0-6")
D21012-3A	02/10/11	13:30	TD	02/12/11	SO	Soil	ACMCL-26-BG(0-6")

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Olsson Associates**Job No** D21012**Site:** 009-0082_201_201004, Grand Junction, CO**Report Dat** 3/3/2011 10:02:20 AM

On 02/12/2011, three (3) samples, 0 Trip Blanks, and 0 Field Blanks were received at Accutest Mountain States (AMS) at a temperature of 2.8°C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D21012 was assigned to the project. The lab sample IDs, client sample IDs, and dates of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix SO**Batch ID:** V5V775

- All samples were analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D21155-1MS and D21155-1MSD were used as the QC samples indicated.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix SO**Batch ID:** OP3180

- All samples were extracted and analyzed within the recommended method holding time.
- Samples D21155-1MS and D21155-1MSD were used as the QC samples indicated.
- The method blank for this batch meets method specific criteria.
- Sample D21012-2: Sample dilution was required due to matrix interference.

Matrix SO**Batch ID:** OP3193

- All samples were extracted and analyzed within the recommended method holding time.
- Samples D21012-1MS and D21012-1MSD were used as the QC samples indicated.
- The method blank for this batch meets method specific criteria.
- The matrix spike (MS) recoveries of 1-Methylnaphthalene and 2-Methylnaphthalene are outside control limits. Outside control limits due to matrix interference. Refer to the lab control or spike blank for recovery information.
- The RPDs for the MS and MSD recoveries of 1-Methylnaphthalene, 2-Methylnaphthalene, and Naphthalene are outside control limits for sample OP3193-MSD. Variability of recovery may be due to sample matrix/homogeneity.

Volatiles by GC By Method SW846 8015B

Matrix SO**Batch ID:** GGB512

- All samples were analyzed within the recommended method holding time.
- Samples D21012-1MS and D21012-1MSD were used as the QC samples indicated.
- The method blank for this batch meets method specific criteria.

Extractables by GC By Method SW846-8015B

Matrix SO

Batch ID: OP3200

- All samples were extracted and analyzed within the recommended method holding time.
- Samples D21191-1MS and D21191-1MSD were used as the QC samples indicated.
- The method blank for this batch meets method specific criteria.
- Sample OP3200-MSD has surrogates outside control limits. Probable cause due to matrix interference.

Metals By Method SW846 6010B

Matrix AQ

Batch ID: MP4048

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D21012-1AMS and D21012-1AMSD were used as the QC samples for the metals analysis.
- The matrix spike (MS) recovery of Sodium is outside control limits. The spike amount is low relative to the sample amount. Refer to the lab control or spike blank for recovery information.

Matrix SO

Batch ID: MP4012

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D21004-10MS, D21004-10MSD, and D21004-10SDL were used as the QC samples for the metals analysis.
- The matrix spike and matrix spike duplicate (MS/MSD) recoveries of Chromium, Lead, and Nickel and the MSD recovery of Zinc are outside control limits. The spike recovery indicates possible matrix interference. Refer to the lab control or spike blank for recovery information.
- The matrix spike (MS) recovery of Barium are outside control limits. The spike amount is low relative to the sample amount. Refer to the lab control or spike blank for recovery information.
- The serial dilution RPDs for Lead and Selenium are outside control limits for sample MP4012-SD1. The percent difference acceptable is for Selenium due to low initial sample concentration (< 50 times IDL).
- MP4012-SD1 for Lead: Serial dilution indicates possible matrix interference.

Metals By Method SW846 6020

Matrix SO

Batch ID: MP4013

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D21004-10MS, D21004-10MSD, and D21004-10SDL were used as the QC samples for the metals analysis.

Metals By Method SW846 7471A

Matrix SO

Batch ID: MP4031

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D20885-1MS and D20885-1MSD were used as the QC samples for the Mercury analysis.

Wet Chemistry By Method ASTM D1498-76M

Matrix SO

Batch ID: M:GN34144

- The data for ASTM D1498-76M meets quality control requirements.
- Redox Potential Vs H2: Analysis performed at Accutest Laboratories, Marlborough, MA.

Wet Chemistry By Method EPA 300/SW846 9056

Matrix SO	Batch ID: GP3849
------------------	-------------------------

- All samples were prepared and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D21012-3MS and D21012-3MSD were used as the QC samples for the anion analysis.

Wet Chemistry By Method LADNR29B

Matrix SO	Batch ID: MP4048
------------------	-------------------------

- Sodium Adsorption Ratio: Calculated as: $(\text{Na meq/L}) / \sqrt{[(\text{Ca meq/L}) + (\text{Mg meq/L})/2]}$

Wet Chemistry By Method SM19 2540B M

Matrix SO	Batch ID: GN8246
------------------	-------------------------

- The data for SM19 2540B M meets quality control requirements.

Wet Chemistry By Method SW846 3060/7196A M

Matrix SO	Batch ID: R6312
------------------	------------------------

- The data for SW846 3060/7196A M meets quality control requirements.
- Trivalent Chromium, : Calculated as: $(\text{Chromium}) - (\text{Hexavalent Chromium})$

Wet Chemistry By Method SW846 3060A/7196A

Matrix SO	Batch ID: M:GP12639
------------------	----------------------------

- The data for SW846 3060A/7196A meets quality control requirements.
- Hexavalent Chromium: Analysis performed at Accutest Laboratories, Marlborough, MA.

Wet Chemistry By Method SW846 9045C

Matrix SO	Batch ID: GN8251
------------------	-------------------------

- The following samples were run outside of holding time for method SW846 9045C: D21012-1, D21012-2, and D21012-3.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Accutest Mountain States

Job No D21012

Site: CORCCOGJ: AC McLaughlin 26 Spill (009-0082_201_201004)

Report Date 2/24/2011 10:38:58 AM

3 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 02/10/2011 and were received at Accutest on 02/12/2011 properly preserved, at 2.1 Deg. C and intact. These Samples received an Accutest job number of D21012. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Wet Chemistry By Method ASTM D1498-76M

Matrix SO

Batch ID: GN34144

- Sample(s) D21004-10DUP were used as the QC samples for Redox Potential Vs H2.

Wet Chemistry By Method SW846 3060A/7196A

Matrix SO

Batch ID: GP12639

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D21155-1DUP, D21155-1MS were used as the QC samples for Chromium, Hexavalent.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(D21012).

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	ACMCL-26-SS1(0-6")				
Lab Sample ID:	D21012-1			Date Sampled:	02/10/11
Matrix:	SO - Soil			Date Received:	02/12/11
Method:	SW846 8260B			Percent Solids:	77.0
Project:	009-0082_201_201004, Grand Junction, CO				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V13323.D	1	02/21/11	DC	n/a	n/a	V5V775
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.01 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	174	80	24	ug/kg	
108-88-3	Toluene	183	160	80	ug/kg	
100-41-4	Ethylbenzene	238	160	32	ug/kg	
	m,p-Xylene	797	320	56	ug/kg	
95-47-6	o-Xylene	473	160	56	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		70-130%
460-00-4	4-Bromofluorobenzene	104%		70-130%
17060-07-0	1,2-Dichloroethane-D4	107%		70-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ACMCL-26-SS1(0-6")				
Lab Sample ID:	D21012-1			Date Sampled:	02/10/11
Matrix:	SO - Soil			Date Received:	02/12/11
Method:	SW846 8270C BY SIM SW846 3540C			Percent Solids:	77.0
Project:	009-0082_201_201004, Grand Junction, CO				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G02900.D	5	02/22/11	TMB	02/21/11	OP3193	E3G103
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	43	40	ug/kg	
208-96-8	Acenaphthylene	ND	220	44	ug/kg	
120-12-7	Anthracene	ND	43	28	ug/kg	
56-55-3	Benzo(a)anthracene	ND	43	42	ug/kg	
50-32-8	Benzo(a)pyrene	ND	43	27	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	43	31	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	43	27	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	43	27	ug/kg	
218-01-9	Chrysene	ND	43	22	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	43	32	ug/kg	
206-44-0	Fluoranthene	ND	43	27	ug/kg	
86-73-7	Fluorene	ND	43	42	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	43	28	ug/kg	
90-12-0	1-Methylnaphthalene	143	43	38	ug/kg	
91-57-6	2-Methylnaphthalene	164	220	66	ug/kg	J
91-20-3	Naphthalene	96.8	220	48	ug/kg	J
85-01-8	Phenanthrene	53.8	43	34	ug/kg	
129-00-0	Pyrene	ND	43	29	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	57%		10-193%
321-60-8	2-Fluorobiphenyl	43%		20-138%
1718-51-0	Terphenyl-d14	53%		17-174%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ACMCL-26-SS1(0-6")			Date Sampled:	02/10/11		
Lab Sample ID:	D21012-1			Date Received:	02/12/11		
Matrix:	SO - Soil			Percent Solids:	77.0		
Method:	SW846 8015B						
Project:	009-0082_201_201004, Grand Junction, CO						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB9473.D	1	02/14/11	JL	n/a	n/a	GGB512
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	53.4	16	16	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	100%		60-140%		

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	ACMCL-26-SS1(0-6")		Date Sampled:	02/10/11
Lab Sample ID:	D21012-1		Date Received:	02/12/11
Matrix:	SO - Soil		Percent Solids:	77.0
Method:	SW846-8015B SW846 3550B			
Project:	009-0082_201_201004, Grand Junction, CO			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE6006.D	1	02/25/11	JB	02/23/11	OP3200	GFE299
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	305	17	11	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	130%		63-130%		

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: ACMCL-26-SS1(0-6")**Lab Sample ID:** D21012-1**Date Sampled:** 02/10/11**Matrix:** SO - Soil**Date Received:** 02/12/11**Percent Solids:** 77.0**Project:** 009-0082_201_201004, Grand Junction, CO

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.7	0.54	mg/kg	5	02/14/11	02/15/11 JY	SW846 6020 ²	SW846 3050B ⁶
Barium	75.8	1.3	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Cadmium	< 1.3	1.3	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Chromium	8.9	1.3	mg/kg	1	02/14/11	02/15/11 GJ	SW846 6010B ³	SW846 3050B ⁵
Copper	11.2	0.67	mg/kg	1	02/14/11	02/15/11 GJ	SW846 6010B ³	SW846 3050B ⁵
Lead	15.0	6.7	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Mercury	< 0.10	0.10	mg/kg	1	02/16/11	02/17/11 JM	SW846 7471A ⁴	SW846 7471A ⁷
Nickel	12.7	4.0	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Selenium	< 6.7	6.7	mg/kg	1	02/14/11	02/15/11 GJ	SW846 6010B ³	SW846 3050B ⁵
Silver	< 4.0	4.0	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Zinc	54.1	4.0	mg/kg	1	02/14/11	02/15/11 GJ	SW846 6010B ³	SW846 3050B ⁵

(1) Instrument QC Batch: MA1311

(2) Instrument QC Batch: MA1314

(3) Instrument QC Batch: MA1315

(4) Instrument QC Batch: MA1320

(5) Prep QC Batch: MP4012

(6) Prep QC Batch: MP4013

(7) Prep QC Batch: MP4031

RL = Reporting Limit

Report of Analysis

Client Sample ID: ACMCL-26-SS1(0-6")**Lab Sample ID:** D21012-1**Date Sampled:** 02/10/11**Matrix:** SO - Soil**Date Received:** 02/12/11**Percent Solids:** 77.0**Project:** 009-0082_201_201004, Grand Junction, CO

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	2480	32	mg/kg	5	02/24/11 11:32	GH	EPA 300/SW846 9056
Chromium, Hexavalent ^a	0.70	0.51	mg/kg	1	02/21/11 16:05	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	8.2	1.8	mg/kg	1	02/21/11 16:05	AMA	SW846 3060/7196A M
Redox Potential Vs H2 ^a	229		mv	1	02/15/11	AMA	ASTM D1498-76M
Solids, Percent	77		%	1	02/14/11	SWT	SM19 2540B M
Specific Conductivity	8550	1.0	umhos/cm	1	02/22/11	JD	DEPT.OF AG, BOOK N9
pH	8.21		su	1	02/14/11 13:30	JD	SW846 9045C

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID: ACMCL-26-SS1(0-6")**Lab Sample ID:** D21012-1A**Date Sampled:** 02/10/11**Matrix:** SO - Soil**Date Received:** 02/12/11**Percent Solids:** 77.0**Project:** 009-0082_201_201004, Grand Junction, CO

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	219	2.0	mg/l	1	02/17/11	02/17/11 GJ	SW846 6010B ¹	EPA 200.7 ²
Magnesium	48.8	1.0	mg/l	1	02/17/11	02/17/11 GJ	SW846 6010B ¹	EPA 200.7 ²
Sodium	1160	2.0	mg/l	1	02/17/11	02/17/11 GJ	SW846 6010B ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA1323

(2) Prep QC Batch: MP4048

RL = Reporting Limit

Report of Analysis

Client Sample ID:	ACMCL-26-SS1(0-6")	Date Sampled:	02/10/11
Lab Sample ID:	D21012-1A	Date Received:	02/12/11
Matrix:	SO - Soil	Percent Solids:	77.0
Project:	009-0082_201_201004, Grand Junction, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	18.4		ratio	1	02/17/11 21:35	GJ	LADNR29B

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID: ACMCL-26-SS2(0-6")**Lab Sample ID:** D21012-2**Date Sampled:** 02/10/11**Matrix:** SO - Soil**Date Received:** 02/12/11**Method:** SW846 8260B**Percent Solids:** 78.2**Project:** 009-0082_201_201004, Grand Junction, CO

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V13324.D	1	02/21/11	DC	n/a	n/a	V5V775
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	235	78	23	ug/kg	
108-88-3	Toluene	586	160	78	ug/kg	
100-41-4	Ethylbenzene	86.1	160	31	ug/kg	J
	m,p-Xylene	276	310	54	ug/kg	J
95-47-6	o-Xylene	111	160	54	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		70-130%
460-00-4	4-Bromofluorobenzene	104%		70-130%
17060-07-0	1,2-Dichloroethane-D4	105%		70-130%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ACMCL-26-SS2(0-6")				
Lab Sample ID:	D21012-2			Date Sampled:	02/10/11
Matrix:	SO - Soil			Date Received:	02/12/11
Method:	SW846 8270C BY SIM SW846 3540C			Percent Solids:	78.2
Project:	009-0082_201_201004, Grand Junction, CO				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3G02895.D	5	02/22/11	TMB	02/18/11	OP3180	E3G103
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	42	40	ug/kg	
208-96-8	Acenaphthylene	ND	210	44	ug/kg	
120-12-7	Anthracene	ND	42	27	ug/kg	
56-55-3	Benzo(a)anthracene	ND	42	42	ug/kg	
50-32-8	Benzo(a)pyrene	ND	42	27	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	42	31	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	42	26	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	42	27	ug/kg	
218-01-9	Chrysene	ND	42	21	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	42	31	ug/kg	
206-44-0	Fluoranthene	ND	42	26	ug/kg	
86-73-7	Fluorene	ND	42	42	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	42	28	ug/kg	
90-12-0	1-Methylnaphthalene	ND	42	38	ug/kg	
91-57-6	2-Methylnaphthalene	ND	210	65	ug/kg	
91-20-3	Naphthalene	ND	210	47	ug/kg	
85-01-8	Phenanthrene	ND	42	34	ug/kg	
129-00-0	Pyrene	ND	42	29	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	42%		10-193%
321-60-8	2-Fluorobiphenyl	38%		20-138%
1718-51-0	Terphenyl-d14	47%		17-174%

(a) Dilution required due to matrix interference.

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ACMCL-26-SS2(0-6")			Date Sampled:	02/10/11					
Lab Sample ID:	D21012-2			Date Received:	02/12/11					
Matrix:	SO - Soil			Percent Solids:	78.2					
Method:	SW846 8015B									
Project:	009-0082_201_201004, Grand Junction, CO									

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB9476.D	1	02/14/11	JL	n/a	n/a	GGB512
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	16	16	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	96%		60-140%		

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: ACMCL-26-SS2(0-6")
Lab Sample ID: D21012-2
Matrix: SO - Soil
Method: SW846-8015B SW846 3550B
Project: 009-0082_201_201004, Grand Junction, CO

Date Sampled: 02/10/11
Date Received: 02/12/11
Percent Solids: 78.2

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE6007.D	1	02/25/11	JB	02/23/11	OP3200	GFE299
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	40.7	17	11	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	111%		63-130%		

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: ACMCL-26-SS2(0-6")**Lab Sample ID:** D21012-2**Date Sampled:** 02/10/11**Matrix:** SO - Soil**Date Received:** 02/12/11**Percent Solids:** 78.2**Project:** 009-0082_201_201004, Grand Junction, CO

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.7	0.48	mg/kg	5	02/14/11	02/15/11 JY	SW846 6020 ²	SW846 3050B ⁶
Barium	712	1.2	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Cadmium	< 1.2	1.2	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Chromium	14.6	1.2	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Copper	11.8	1.2	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Lead	16.6	6.0	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Mercury	< 0.11	0.11	mg/kg	1	02/16/11	02/17/11 JM	SW846 7471A ⁴	SW846 7471A ⁷
Nickel	14.2	3.6	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Selenium	< 6.0	6.0	mg/kg	1	02/14/11	02/15/11 GJ	SW846 6010B ³	SW846 3050B ⁵
Silver	< 3.6	3.6	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Zinc	72.5	3.6	mg/kg	1	02/14/11	02/15/11 GJ	SW846 6010B ³	SW846 3050B ⁵

(1) Instrument QC Batch: MA1311

(2) Instrument QC Batch: MA1314

(3) Instrument QC Batch: MA1315

(4) Instrument QC Batch: MA1320

(5) Prep QC Batch: MP4012

(6) Prep QC Batch: MP4013

(7) Prep QC Batch: MP4031

RL = Reporting Limit

Report of Analysis

Client Sample ID: ACMCL-26-SS2(0-6")**Lab Sample ID:** D21012-2**Date Sampled:** 02/10/11**Matrix:** SO - Soil**Date Received:** 02/12/11**Percent Solids:** 78.2**Project:** 009-0082_201_201004, Grand Junction, CO

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	3900	64	mg/kg	10	02/24/11 11:45	GH	EPA 300/SW846 9056
Chromium, Hexavalent ^a	0.80	0.50	mg/kg	1	02/21/11 16:05	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	13.8	1.7	mg/kg	1	02/21/11 16:05	AMA	SW846 3060/7196A M
Redox Potential Vs H2 ^a	239		mv	1	02/15/11	AMA	ASTM D1498-76M
Solids, Percent	78.2		%	1	02/14/11	SWT	SM19 2540B M
Specific Conductivity	13500	1.0	umhos/cm	1	02/22/11	JD	DEPT.OF AG, BOOK N9
pH	8.72		su	1	02/14/11 13:30	JD	SW846 9045C

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID: ACMCL-26-SS2(0-6")**Lab Sample ID:** D21012-2A**Date Sampled:** 02/10/11**Matrix:** SO - Soil**Date Received:** 02/12/11**Percent Solids:** 78.2**Project:** 009-0082_201_201004, Grand Junction, CO

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	239	2.0	mg/l	1	02/17/11	02/17/11 GJ	SW846 6010B ¹	EPA 200.7 ³
Magnesium	55.4	1.0	mg/l	1	02/17/11	02/18/11 GJ	SW846 6010B ²	EPA 200.7 ³
Sodium	2160	2.0	mg/l	1	02/17/11	02/18/11 GJ	SW846 6010B ²	EPA 200.7 ³

(1) Instrument QC Batch: MA1323

(2) Instrument QC Batch: MA1325

(3) Prep QC Batch: MP4048

RL = Reporting Limit

Report of Analysis

Client Sample ID:	ACMCL-26-SS2(0-6")	Date Sampled:	02/10/11
Lab Sample ID:	D21012-2A	Date Received:	02/12/11
Matrix:	SO - Soil	Percent Solids:	78.2
Project:	009-0082_201_201004, Grand Junction, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	32.7		ratio	1	02/18/11 10:39	GJ	LADNR29B

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID: ACMCL-26-BG(0-6")**Lab Sample ID:** D21012-3**Date Sampled:** 02/10/11**Matrix:** SO - Soil**Date Received:** 02/12/11**Percent Solids:** 81.6**Project:** 009-0082_201_201004, Grand Junction, CO

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.5	0.50	mg/kg	5	02/14/11	02/15/11 JY	SW846 6020 ²	SW846 3050B ⁶
Barium	77.7	1.3	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Cadmium	< 1.3	1.3	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Chromium	9.1	1.3	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Copper	9.7	1.3	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Lead	12.0	6.3	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Mercury	< 0.12	0.12	mg/kg	1	02/16/11	02/17/11 JM	SW846 7471A ⁴	SW846 7471A ⁷
Nickel	9.9	3.8	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Selenium	< 6.3	6.3	mg/kg	1	02/14/11	02/15/11 GJ	SW846 6010B ³	SW846 3050B ⁵
Silver	< 3.8	3.8	mg/kg	1	02/14/11	02/14/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Zinc	49.9	3.8	mg/kg	1	02/14/11	02/15/11 GJ	SW846 6010B ³	SW846 3050B ⁵

(1) Instrument QC Batch: MA1311

(2) Instrument QC Batch: MA1314

(3) Instrument QC Batch: MA1315

(4) Instrument QC Batch: MA1320

(5) Prep QC Batch: MP4012

(6) Prep QC Batch: MP4013

(7) Prep QC Batch: MP4031

RL = Reporting Limit

Report of Analysis

Client Sample ID: ACMCL-26-BG(0-6")**Lab Sample ID:** D21012-3**Date Sampled:** 02/10/11**Matrix:** SO - Soil**Date Received:** 02/12/11**Percent Solids:** 81.6**Project:** 009-0082_201_201004, Grand Junction, CO

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	< 6.1	6.1	mg/kg	1	02/24/11 11:58	GH	EPA 300/SW846 9056
Chromium, Hexavalent ^a	1.3	0.48	mg/kg	1	02/21/11 16:05	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	7.8	1.8	mg/kg	1	02/21/11 16:05	AMA	SW846 3060/7196A M
Redox Potential Vs H2 ^a	254		mv	1	02/15/11	AMA	ASTM D1498-76M
Solids, Percent	81.6		%	1	02/14/11	SWT	SM19 2540B M
Specific Conductivity	1000	1.0	umhos/cm	1	02/22/11	JD	DEPT.OF AG, BOOK N9
pH	9.72		su	1	02/14/11 13:30	JD	SW846 9045C

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID: ACMCL-26-BG(0-6")**Lab Sample ID:** D21012-3A**Date Sampled:** 02/10/11**Matrix:** SO - Soil**Date Received:** 02/12/11**Percent Solids:** 81.6**Project:** 009-0082_201_201004, Grand Junction, CO

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	21.3	2.0	mg/l	1	02/17/11	02/17/11 GJ	SW846 6010B ¹	EPA 200.7 ³
Magnesium	5.93	1.0	mg/l	1	02/17/11	02/18/11 GJ	SW846 6010B ²	EPA 200.7 ³
Sodium	162	2.0	mg/l	1	02/17/11	02/18/11 GJ	SW846 6010B ²	EPA 200.7 ³

(1) Instrument QC Batch: MA1323

(2) Instrument QC Batch: MA1325

(3) Prep QC Batch: MP4048

RL = Reporting Limit

Report of Analysis

Client Sample ID:	ACMCL-26-BG(0-6")	Date Sampled:	02/10/11
Lab Sample ID:	D21012-3A	Date Received:	02/12/11
Matrix:	SO - Soil	Percent Solids:	81.6
Project:	009-0082_201_201004, Grand Junction, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	8.00		ratio	1	02/18/11 10:49	GJ	LADNR29B

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



FED-EX Tracking #	Bottle Order Control #
Accutest Quote BS8/2010-41	Accutest Job # 02/012

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D21012

Client:
Immediate Client Services Action Required: No

Date / Time Received: 2/14/2011

No. Coolers:
Client Service Action Required at Login: No

Project:
Airbill #'s:
Cooler Security
Y or N
Y or N

- | | |
|--|--|
| 1. Custody Seals Present: <input checked="" type="checkbox"/> <input type="checkbox"/> | 3. COC Present: <input checked="" type="checkbox"/> <input type="checkbox"/> |
| 2. Custody Seals Intact: <input checked="" type="checkbox"/> <input type="checkbox"/> | 4. Smpl Dates/Time OK <input checked="" type="checkbox"/> <input type="checkbox"/> |

Cooler Temperature
Y or N

- | | |
|---|--------------|
| 1. Temp criteria achieved: <input checked="" type="checkbox"/> <input type="checkbox"/> | Infrared gun |
| 2. Cooler temp verification: | Ice (bag) |
| 3. Cooler media: | |

Quality Control Preservation
Y or N
N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Sample Integrity - Documentation
Y or N

- | | | | |
|--|-------------------------------------|--------------------------|--|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Sample Integrity - Condition
Y or N

- | | | | |
|----------------------------------|-------------------------------------|--------------------------|--------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 3. Condition of sample: | | | Intact |

Sample Integrity - Instructions
Y or N N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume rec'd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments

 Accutest Laboratories
 V: (303) 425-6021

 4036 Youngfield Street
 F: (303) 425-6854

 Wheat Ridge, CO
 www.accutest.com

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V775-MB1	5V13317.D	1	02/21/11	DC	n/a	n/a	V5V775

The QC reported here applies to the following samples:

Method: SW846 8260B

D21012-1, D21012-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	0.40	ug/kg	
108-88-3	Toluene	ND	2.0	1.0	ug/kg	
	m,p-Xylene	ND	4.0	0.70	ug/kg	
95-47-6	o-Xylene	ND	2.0	0.70	ug/kg	

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	91% 70-130%
460-00-4	4-Bromofluorobenzene	88% 70-130%
17060-07-0	1,2-Dichloroethane-D4	106% 70-130%

Blank Spike Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V775-BS1	5V13318.D	1	02/21/11	DC	n/a	n/a	V5V775

The QC reported here applies to the following samples:

Method: SW846 8260B

D21012-1, D21012-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	56.0	112	68-130
100-41-4	Ethylbenzene	50	54.7	109	70-130
108-88-3	Toluene	50	50.4	101	70-130
	m,p-Xylene	50	49.0	98	53-130
95-47-6	o-Xylene	50	47.5	95	61-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	95%	70-130%
460-00-4	4-Bromofluorobenzene	103%	70-130%
17060-07-0	1,2-Dichloroethane-D4	108%	70-130%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D21155-1MS	5V13320.D	1	02/21/11	DC	n/a	n/a	V5V775
D21155-1MSD	5V13321.D	1	02/21/11	DC	n/a	n/a	V5V775
D21155-1	5V13319.D	1	02/21/11	DC	n/a	n/a	V5V775

The QC reported here applies to the following samples:

Method: SW846 8260B

D21012-1, D21012-2

CAS No.	Compound	D21155-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	50.8	J	4250	4650	108	5080	118	9	55-140/30
100-41-4	Ethylbenzene	46.6	J	4250	4400	102	4880	114	10	56-139/30
108-88-3	Toluene	169	J	4250	4070	92	4540	103	11	57-144/30
	m,p-Xylene	176	J	4250	4120	93	4560	103	10	47-130/30
95-47-6	o-Xylene	ND		4250	3950	93	4330	102	9	51-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D21155-1	Limits
2037-26-5	Toluene-D8	90%	94%	89%	70-130%
460-00-4	4-Bromofluorobenzene	109%	113%	98%	70-130%
17060-07-0	1,2-Dichloroethane-D4	103%	106%	106%	70-130%

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3180-MB	3G02888.D	1	02/22/11	TMB	02/18/11	OP3180	E3G103

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D21012-2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	6.7	6.2	ug/kg	
208-96-8	Acenaphthylene	ND	33	6.9	ug/kg	
120-12-7	Anthracene	ND	6.7	4.3	ug/kg	
56-55-3	Benzo(a)anthracene	ND	6.7	6.5	ug/kg	
50-32-8	Benzo(a)pyrene	ND	6.7	4.2	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	6.7	4.8	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	6.7	4.2	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	6.7	4.2	ug/kg	
218-01-9	Chrysene	ND	6.7	3.3	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	6.7	4.9	ug/kg	
206-44-0	Fluoranthene	ND	6.7	4.1	ug/kg	
86-73-7	Fluorene	ND	6.7	6.5	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	6.7	4.4	ug/kg	
90-12-0	1-Methylnaphthalene	ND	6.7	5.9	ug/kg	
91-57-6	2-Methylnaphthalene	ND	33	10	ug/kg	
91-20-3	Naphthalene	ND	33	7.4	ug/kg	
85-01-8	Phenanthrene	ND	6.7	5.3	ug/kg	
129-00-0	Pyrene	ND	6.7	4.5	ug/kg	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	65% 10-193%
321-60-8	2-Fluorobiphenyl	51% 20-138%
1718-51-0	Terphenyl-d14	60% 17-174%

Method Blank Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3193-MB	3G02898.D	1	02/22/11	TMB	02/21/11	OP3193	E3G103

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D21012-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	6.7	6.2	ug/kg	
208-96-8	Acenaphthylene	ND	33	6.9	ug/kg	
120-12-7	Anthracene	ND	6.7	4.3	ug/kg	
56-55-3	Benzo(a)anthracene	ND	6.7	6.5	ug/kg	
50-32-8	Benzo(a)pyrene	ND	6.7	4.2	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	6.7	4.8	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	6.7	4.2	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	6.7	4.2	ug/kg	
218-01-9	Chrysene	ND	6.7	3.3	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	6.7	4.9	ug/kg	
206-44-0	Fluoranthene	ND	6.7	4.1	ug/kg	
86-73-7	Fluorene	ND	6.7	6.5	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	6.7	4.4	ug/kg	
90-12-0	1-Methylnaphthalene	ND	6.7	5.9	ug/kg	
91-57-6	2-Methylnaphthalene	ND	33	10	ug/kg	
91-20-3	Naphthalene	ND	33	7.4	ug/kg	
85-01-8	Phenanthrene	ND	6.7	5.3	ug/kg	
129-00-0	Pyrene	ND	6.7	4.5	ug/kg	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	47% 10-193%
321-60-8	2-Fluorobiphenyl	38% 20-138%
1718-51-0	Terphenyl-d14	54% 17-174%

Blank Spike Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3180-BS	3G02889.D	1	02/22/11	TMB	02/18/11	OP3180	E3G103

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D21012-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	83.3	44.3	53	40-136
208-96-8	Acenaphthylene	83.3	43.2	52	42-139
120-12-7	Anthracene	83.3	44.5	53	40-141
56-55-3	Benzo(a)anthracene	83.3	46.2	55	38-143
50-32-8	Benzo(a)pyrene	83.3	40.7	49	39-145
205-99-2	Benzo(b)fluoranthene	83.3	38.1	46	38-151
191-24-2	Benzo(g,h,i)perylene	83.3	40.6	49	35-136
207-08-9	Benzo(k)fluoranthene	83.3	44.7	54	38-147
218-01-9	Chrysene	83.3	44.6	54	39-137
53-70-3	Dibenzo(a,h)anthracene	83.3	39.9	48	35-139
206-44-0	Fluoranthene	83.3	47.6	57	34-132
86-73-7	Fluorene	83.3	44.5	53	41-136
193-39-5	Indeno(1,2,3-cd)pyrene	83.3	40.4	48	31-144
90-12-0	1-Methylnaphthalene	83.3	43.4	52	36-130
91-57-6	2-Methylnaphthalene	83.3	43.0	52	40-131
91-20-3	Naphthalene	83.3	47.1	57	36-130
85-01-8	Phenanthrene	83.3	42.8	51	40-135
129-00-0	Pyrene	83.3	42.1	51	29-157

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	61%	10-193%
321-60-8	2-Fluorobiphenyl	45%	20-138%
1718-51-0	Terphenyl-d14	51%	17-174%

Blank Spike Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3193-BS	3G02899.D	1	02/22/11	TMB	02/21/11	OP3193	E3G103

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D21012-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	83.3	43.5	52	40-136
208-96-8	Acenaphthylene	83.3	48.7	58	42-139
120-12-7	Anthracene	83.3	51.6	62	40-141
56-55-3	Benzo(a)anthracene	83.3	64.5	77	38-143
50-32-8	Benzo(a)pyrene	83.3	58.4	70	39-145
205-99-2	Benzo(b)fluoranthene	83.3	57.6	69	38-151
191-24-2	Benzo(g,h,i)perylene	83.3	37.2	45	35-136
207-08-9	Benzo(k)fluoranthene	83.3	49.6	60	38-147
218-01-9	Chrysene	83.3	49.2	59	39-137
53-70-3	Dibenzo(a,h)anthracene	83.3	45.9	55	35-139
206-44-0	Fluoranthene	83.3	55.7	67	34-132
86-73-7	Fluorene	83.3	49.3	59	41-136
193-39-5	Indeno(1,2,3-cd)pyrene	83.3	60.4	72	31-144
90-12-0	1-Methylnaphthalene	83.3	39.8	48	36-130
91-57-6	2-Methylnaphthalene	83.3	39.6	48	40-131
91-20-3	Naphthalene	83.3	44.1	53	36-130
85-01-8	Phenanthrene	83.3	45.4	54	40-135
129-00-0	Pyrene	83.3	61.3	74	29-157

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	54%	10-193%
321-60-8	2-Fluorobiphenyl	43%	20-138%
1718-51-0	Terphenyl-d14	56%	17-174%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3180-MS	3G02891.D	5	02/22/11	TMB	02/18/11	OP3180	E3G103
OP3180-MSD	3G02892.D	5	02/22/11	TMB	02/18/11	OP3180	E3G103
D21155-1 ^a	3G02890.D	5	02/22/11	TMB	02/18/11	OP3180	E3G103

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D21012-2

CAS No.	Compound	D21155-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		113	52.7	47	54.5	49	3	20-151/30
208-96-8	Acenaphthylene	ND		113	67.6	60	72.3	65	7	23-156/30
120-12-7	Anthracene	ND		113	68.3	61	71.7	64	5	25-149/30
56-55-3	Benzo(a)anthracene	ND		113	87.5	78	88.9	79	2	22-157/30
50-32-8	Benzo(a)pyrene	ND		113	77.4	69	78.9	70	2	23-153/30
205-99-2	Benzo(b)fluoranthene	ND		113	67.9	60	70.7	63	4	22-161/30
191-24-2	Benzo(g,h,i)perylene	ND		113	55.6	49	56.6	51	2	20-158/30
207-08-9	Benzo(k)fluoranthene	ND		113	73.7	65	66.1	59	11	17-161/30
218-01-9	Chrysene	ND		113	51.1	45	51.6	46	1	16-159/30
53-70-3	Dibenzo(a,h)anthracene	ND		113	56.4	50	63.1	56	11	21-154/30
206-44-0	Fluoranthene	ND		113	88.5	79	90.8	81	3	16-140/30
86-73-7	Fluorene	ND		113	61.9	55	64.3	57	4	15-153/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		113	63.7	57	51.9	46	20	21-159/30
90-12-0	1-Methylnaphthalene	ND		113	64.9	58	73.0	65	12	10-148/30
91-57-6	2-Methylnaphthalene	ND		113	80.2	71	97.0	87	19	10-181/30
91-20-3	Naphthalene	ND		113	70.9	63	74.2	66	5	10-176/30
85-01-8	Phenanthrene	ND		113	56.6	50	58.6	52	3	22-152/30
129-00-0	Pyrene	ND		113	55.8	50	57.3	51	3	10-200/30

CAS No.	Surrogate Recoveries	MS	MSD	D21155-1	Limits
4165-60-0	Nitrobenzene-d5	48%	49%	57%	10-193%
321-60-8	2-Fluorobiphenyl	38%	39%	45%	20-138%
1718-51-0	Terphenyl-d14	42%	42%	46%	17-174%

(a) Dilution required due to matrix interference.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3193-MS	3G02901.D	5	02/22/11	TMB	02/21/11	OP3193	E3G103
OP3193-MSD	3G02902.D	5	02/22/11	TMB	02/21/11	OP3193	E3G103
D21012-1	3G02900.D	5	02/22/11	TMB	02/21/11	OP3193	E3G103

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D21012-1

CAS No.	Compound	D21012-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		108	66.6	62	66.5	61	0	20-151/30
208-96-8	Acenaphthylene	ND		108	82.5	76	80.7	75	2	23-156/30
120-12-7	Anthracene	ND		108	84.1	78	79.9	74	5	25-149/30
56-55-3	Benzo(a)anthracene	ND		108	110	102	105	97	5	22-157/30
50-32-8	Benzo(a)pyrene	ND		108	103	95	98.3	91	5	23-153/30
205-99-2	Benzo(b)fluoranthene	ND		108	94.1	87	93.5	86	1	22-161/30
191-24-2	Benzo(g,h,i)perylene	ND		108	67.6	63	62.0	57	9	20-158/30
207-08-9	Benzo(k)fluoranthene	ND		108	81.6	76	79.5	73	3	17-161/30
218-01-9	Chrysene	ND		108	70.8	66	73.2	68	3	16-159/30
53-70-3	Dibenzo(a,h)anthracene	ND		108	79.2	73	81.0	75	2	21-154/30
206-44-0	Fluoranthene	ND		108	104	96	96.9	90	7	16-140/30
86-73-7	Fluorene	ND		108	88.6	82	92.1	85	4	15-153/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		108	107	99	109	101	2	21-159/30
90-12-0	1-Methylnaphthalene	143		108	149	6* a	231	81	43* b	10-148/30
91-57-6	2-Methylnaphthalene	164	J	108	165	1* a	259	88	44* b	10-181/30
91-20-3	Naphthalene	96.8	J	108	125	26	175	72	33* b	10-176/30
85-01-8	Phenanthrene	53.8		108	97.0	40	120	61	21	22-152/30
129-00-0	Pyrene	ND		108	87.3	81	86.5	80	1	10-200/30

CAS No.	Surrogate Recoveries	MS	MSD	D21012-1	Limits
4165-60-0	Nitrobenzene-d5	59%	59%	57%	10-193%
321-60-8	2-Fluorobiphenyl	43%	42%	43%	20-138%
1718-51-0	Terphenyl-d14	52%	49%	53%	17-174%

(a) Outside control limits due to matrix interference. Refer to Blank Spike.

(b) Variability of recovery may be due to sample matrix/homogeneity.

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB512-MB	GB9471.D	1	02/14/11	JL	n/a	n/a	GGB512

The QC reported here applies to the following samples:

Method: SW846 8015B

D21012-1, D21012-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	10	mg/kg	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	98% 60-140%

Blank Spike Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB512-BS	GB9472.D	1	02/14/11	JL	n/a	n/a	GGB512

The QC reported here applies to the following samples:

Method: SW846 8015B

D21012-1, D21012-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	101	92	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	111%	60-140%

7.2.1

7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D21012-1MS	GB9474.D	1	02/14/11	JL	n/a	n/a	GGB512
D21012-1MSD	GB9475.D	1	02/14/11	JL	n/a	n/a	GGB512
D21012-1	GB9473.D	1	02/14/11	JL	n/a	n/a	GGB512

The QC reported here applies to the following samples: Method: SW846 8015B

D21012-1, D21012-2

CAS No.	Compound	D21012-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	53.4		176	216	93	212	90	2	62-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D21012-1	Limits
120-82-1	1,2,4-Trichlorobenzene	106%	100%	100%	60-140%

7.3.1
7

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3200-MB	FE5977.D	1	02/24/11	JB	02/23/11	OP3200	GFE299

The QC reported here applies to the following samples:

Method: SW846-8015B

D21012-1, D21012-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	13	8.7	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	128% 63-130%

8.1.1

8

Blank Spike Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3200-BS	FE5997.D	1	02/24/11	JB	02/23/11	OP3200	GFE299

The QC reported here applies to the following samples:

Method: SW846-8015B

D21012-1, D21012-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	681	102	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	126%	63-130%

8.2.1

8

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D21012
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3200-MS	FE5998.D	1	02/24/11	JB	02/23/11	OP3200	GFE299
OP3200-MSD	FE5999.D	1	02/24/11	JB	02/23/11	OP3200	GFE299
D21191-1	FE6000.D	1	02/24/11	JB	02/23/11	OP3200	GFE299

The QC reported here applies to the following samples:

Method: SW846-8015B

D21012-1, D21012-2

CAS No.	Compound	D21191-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	26.4		721	736	98	725	97	2	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D21191-1	Limits
84-15-1	o-Terphenyl	128%	132%*	129%	63-130%

8.3.1
8

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4012
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 02/14/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.7	2		
Antimony	3.0	.17	.5		
Arsenic	2.5	.28	.72		
Barium	1.0	.014	.05	0.030	<1.0
Beryllium	1.0	.14	.21		
Boron	5.0	.35	.91		
Cadmium	1.0	.022	.12	0.090	<1.0
Calcium	40	1.7	2.7		
Chromium	1.0	.027	.18	0.060	<1.0
Cobalt	0.50	.048	.058		
Copper	0.50	.16	.38	0.60	<1.0
Iron	7.0	.77	.91		
Lead	5.0	.13	.24	0.070	<5.0
Lithium	0.20	.076	.09		
Magnesium	20	.58	.93		
Manganese	0.50	.021	.028		
Molybdenum	1.0	.041	.16		
Nickel	3.0	.038	.075	0.010	<3.0
Phosphorus	10	1.5	3.5		
Potassium	200	38	130		
Selenium	5.0	.28	.54	0.33	<5.0
Silicon	5.0	1.2	.68		
Silver	3.0	.098	.068	-0.040	<3.0
Sodium	40	23	6.3		
Strontium	5.0	.0091	.02		
Thallium	1.0	.31	.21		
Tin	5.0	1.4	.56		
Titanium	1.0	.0098	.041		
Uranium	5.0	.22	.53		
Vanadium	1.0	.027	.034		
Zinc	3.0	.076	.49	0.030	<3.0

Associated samples MP4012: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4012
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4012
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 02/14/11

Metal	D21004-10 Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum	anr				
Antimony	anr				
Arsenic	anr				
Barium	3380	5800	269	799.3(a)	75-125
Beryllium	anr				
Boron					
Cadmium	2.5	53.9	67.3	76.3	75-125
Calcium					
Chromium	21.5	71.9	67.3	74.9N(b)	75-125
Cobalt					
Copper	21.0	75.8	67.3	81.4	75-125
Iron	anr				
Lead	19.5	117	135	72.4N(b)	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum	anr				
Nickel	15.4	63.8	67.3	71.9N(b)	75-125
Phosphorus	anr				
Potassium	anr				
Selenium	14.5	174	135	118.4	75-125
Silicon					
Silver	0.0	21.7	26.9	80.6	75-125
Sodium					
Strontium					
Thallium	anr				
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	54.6	107	67.3	77.8	75-125

Associated samples MP4012: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4012
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4012
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 02/14/11

Metal	D21004-10 Original MSD		Spikelot MPICPAL % Rec		MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	3380	5600	269	724.9(a)	3.5	20
Beryllium	anr					
Boron						
Cadmium	2.5	53.9	67.3	76.3	0.0	20
Calcium						
Chromium	21.5	71.4	67.3	74.1N(b)	0.7	20
Cobalt						
Copper	21.0	77.3	67.3	83.6	2.0	20
Iron	anr					
Lead	19.5	119	135	73.9N(b)	1.7	20
Lithium						
Magnesium						
Manganese						
Molybdenum	anr					
Nickel	15.4	63.0	67.3	70.7N(b)	1.3	20
Phosphorus	anr					
Potassium	anr					
Selenium	14.5	167	135	113.3	4.1	20
Silicon						
Silver	0.0	21.7	26.9	80.6	0.0	20
Sodium						
Strontium						
Thallium	anr					
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	54.6	105	67.3	74.9N(c)	1.9	20

Associated samples MP4012: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4012
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- (b) Spike recovery indicates possible matrix interference.
- (c) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4012
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 02/14/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	177	200	88.5	80-120
Beryllium	anr			
Boron				
Cadmium	41.3	50	82.6	80-120
Calcium				
Chromium	44.1	50	88.2	80-120
Cobalt				
Copper	46.2	50	92.4	80-120
Iron	anr			
Lead	86.6	100	86.6	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	42.4	50	84.8	80-120
Phosphorus	anr			
Potassium	anr			
Selenium	89.0	100	89.0	80-120
Silicon				
Silver	17.1	20	85.5	80-120
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	43.2	50	86.4	80-120

Associated samples MP4012: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4012
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4012
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: ug/l

Prep Date: 02/14/11

Metal	D21004-10 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	24200	27400	1.9	0-10
Beryllium	anr			
Boron				
Cadmium	18.1	17.5	3.3	0-10
Calcium				
Chromium	158	163	3.0	0-10
Cobalt				
Copper	155	140	9.4	0-10
Iron	anr			
Lead	143	125	13.2*(a)	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	113	119	4.9	0-10
Phosphorus	anr			
Potassium	anr			
Selenium	55.1	215	67.3 (b)	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	304	413	2.7	0-10

Associated samples MP4012: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4012
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

- (anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.
(b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

9.1.4

9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4013
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 02/14/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.14	1.2		
Antimony	0.20	.001	.0095		
Arsenic	0.40	.049	.22	0.022	<0.40
Barium	1.0	.0035	.1		
Beryllium	0.10	.0075	.014		
Boron	20	.97	1		
Cadmium	0.050	.023	.048		
Calcium	200	1.8	8.2		
Chromium	1.0	.021	.24		
Cobalt	0.10	.0033	.003		
Copper	1.0	.011	.063		
Iron	20	.81	3.7		
Lead	0.25	.0012	.015		
Magnesium	50	.067	2.6		
Manganese	0.50	.007	.029		
Molybdenum	0.50	.0044	.023		
Nickel	1.0	.0029	.031		
Phosphorus	30	1.8	3.5		
Potassium	100	2	3.2		
Selenium	0.20	.075	.19		
Silver	0.050	.0008	.002		
Sodium	250	.8	4.4		
Strontium	10	.004	.04		
Thallium	0.10	.015	.02		
Tin	5.0	.006	.028		
Titanium	1.0	.035	.062		
Uranium	0.25	.00038	.0009		
Vanadium	2.0	.052	.29		
Zinc	5.0	.039	.12		

Associated samples MP4013: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4013
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 02/14/11

Metal	D21004-10 Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic	8.1	124	135	86.1	60-119
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP4013: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4013
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 02/14/11

Metal	D21004-10 Original MSD	Spikelot MPICPALL % Rec	MSD RPD	QC Limit
Aluminum				
Antimony				
Arsenic	8.1	125	135	86.8
Barium				0.8
Beryllium				20
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP4013: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4013
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 02/14/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	99.9	100	99.9	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP4013: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4013
 Matrix Type: SOLID

Methods: SW846 6020
 Units: ug/l

Prep Date: 02/14/11

Metal	D21004-10		QC	
	Original	SDL 5:5	%DIF	Limits
Aluminum				
Antimony				
Arsenic	59.9	54.9	8.3	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP4013: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4031
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 02/16/11

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.10	.0011	.013	-0.0014	<0.10

Associated samples MP4031: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4031
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 02/16/11

Metal	D20885-1 Original MS	Spikelot HGWSR1	% Rec	QC Limits
-------	-------------------------	--------------------	-------	--------------

Mercury 0.38 0.87 0.479 102.2 85-115

Associated samples MP4031: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4031
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 02/16/11

Metal	D20885-1 Original	MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.38	0.87	0.47	104.2	0.0	20

Associated samples MP4031: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4031
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 02/16/11

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.39	0.4	97.5	80-120

Associated samples MP4031: D21012-1, D21012-2, D21012-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4048
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 02/17/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	35	250		
Antimony	150	8.5	65		
Arsenic	130	14	33		
Barium	50	.7	12		
Beryllium	50	7	22		
Boron	250	18	93		
Cadmium	50	1.1	6		
Calcium	2000	85	46	22.5	<2000
Chromium	50	1.4	8		
Cobalt	25	2.4	1.5		
Copper	25	8	14		
Iron	350	39	50		
Lead	250	6.5	16		
Lithium	10	3.8	8		
Magnesium	1000	29	62	-130	<1000
Manganese	25	1.1	3.5		
Molybdenum	50	2.1	6		
Nickel	150	1.9	3		
Phosphorus	500	75	270		
Potassium	5000	1900	2700		
Selenium	250	14	36		
Silicon	250	60	100		
Silver	150	4.9	1.5		
Sodium	2000	1200	110	-130	<2000
Strontium	25	.46	17		
Thallium	50	16	11		
Tin	250	70	22		
Titanium	50	.49	3.5		
Uranium	250	11	20		
Vanadium	50	1.4	1.5		
Zinc	150	3.8	8.5		

Associated samples MP4048: D21012-1A, D21012-2A, D21012-3A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4048
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

9.4.1

9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4048
 Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
 Units: ug/l

Prep Date: 02/17/11

Metal	D21012-1A Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	219000	361000	125000	113.6	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	48800	174000	125000	100.2	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	1160000	1350000	125000	152.0(a)	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP4048: D21012-1A, D21012-2A, D21012-3A

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4048
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4048
 Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
 Units: ug/l

Prep Date: 02/17/11

Metal	D21012-1A Original	MSD	Spikelot MPICPAL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	219000	354000	125000	108.0	2.0	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	48800	174000	125000	100.2	0.0	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	1160000	1320000	125000	128.0(a)	2.2	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP4048: D21012-1A, D21012-2A, D21012-3A

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4048
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D21012
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4048
 Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
 Units: ug/l

Prep Date: 02/17/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	129000	125000	103.2	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	122000	125000	97.6	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	124000	125000	99.2	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP4048: D21012-1A, D21012-2A, D21012-3A

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4048
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP3849/GN8422	5.0	0.0	mg/kg	200	185	92.5	90-110%
Specific Conductivity	GP3822/GN8367			umhos/cm	9985	10200	102.2	90-110%
pH	GN8251			su	8.00	8.00	100.0	99.3-100.7%
pH	GN8251			su	8.00	8.00	100.0	99.3-100.7%

Associated Samples:

Batch GN8251: D21012-1, D21012-2, D21012-3

Batch GP3822: D21012-1, D21012-2, D21012-3

Batch GP3849: D21012-1, D21012-2, D21012-3

(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP3849/GN8422	D21012-3	mg/kg	4.3	123	122	96.0	80-120%

Associated Samples:

Batch GP3849: D21012-1, D21012-2, D21012-3

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D21012
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chloride	GP3849/GN8422	D21012-3	mg/kg	4.3	123	120	1.7	20%

Associated Samples:
Batch GP3849: D21012-1, D21012-2, D21012-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Misc. Forms

Custody Documents and Other Forms

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

- Chain of Custody

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D21012

Client: AMS

Immediate Client Services Action Required: No

Date / Time Received: 2/15/2011

Delivery Method:

Client Service Action Required at Login: No

Project: N/A

No. Coolers: 1

Airbill #'s: N/A

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | Infrared gun | |
| 3. Cooler media: | Ice (bag) | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments

General Chemistry

QC Data Summaries

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D21012
Account: ALMS - Accutest Mountain States
Project: CORCCOGJ: 009-0082_201_201004, Grand Junction, CO

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP12639/GN34184	0.40	0.0	mg/kg	12	10.7	89.2	80-120%
Chromium, Hexavalent	GP12639/GN34184			mg/kg	1060	1070	100.9	80-120%

Associated Samples:

Batch GP12639: D21012-1, D21012-2, D21012-3

(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D21012
Account: ALMS - Accutest Mountain States
Project: CORCCOGJ: 009-0082_201_201004, Grand Junction, CO

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP12639/GN34184	D21155-1	mg/kg	0.0	0.0	0.0	0-20%
Redox Potential Vs H2	GN34144	D21004-10	mv	178	173	2.8	0-20%

Associated Samples:

Batch GN34144: D21012-1, D21012-2, D21012-3

Batch GP12639: D21012-1, D21012-2, D21012-3

(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D21012
Account: ALMS - Accutest Mountain States
Project: CORCCOGJ: 009-0082_201_201004, Grand Junction, CO

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP12639/GN34184	D21155-1	mg/kg	0.0	15.9	13.9	87.4	75-125%
Chromium, Hexavalent	GP12639/GN34184	D21155-1	mg/kg	0.0	1730	1770	102.2	75-125%

Associated Samples:

Batch GP12639: D21012-1, D21012-2, D21012-3

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits



05/24/11

Technical Report for

Olsson Associates

009-0082_201_201004, Grand Junction, CO

AC McLaughlin Spill

Accutest Job Number: D23360

Sampling Date: 05/04/11

Report to:

Olsson Associates
826 21 1/2 Road
Grand Junction, CO 81505
tdobransky@oaconsulting.com

ATTN: Tim Dobransky

Total number of pages in report: **87**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read 'J. Hamilton'.

John Hamilton
Laboratory Director

Client Service contact: Amanda Kissell 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Sample Results	8
3.1: D23360-1: ACMCL-26-DG	9
3.2: D23360-1A: ACMCL-26-DG	15
3.3: D23360-2: ACMCL-26-SS2	17
3.4: D23360-3: ACMCL-26-SS3	20
3.5: D23360-3A: ACMCL-26-SS3	26
3.6: D23360-4: ACMCL-26-SS1	28
3.7: D23360-5: ACMCL-26-BG2	31
3.8: D23360-6: ACMCL-26-BG3	32
Section 4: Misc. Forms	33
4.1: Chain of Custody	34
Section 5: GC/MS Volatiles - QC Data Summaries	36
5.1: Method Blank Summary	37
5.2: Blank Spike Summary	38
5.3: Matrix Spike/Matrix Spike Duplicate Summary	39
Section 6: GC/MS Semi-volatiles - QC Data Summaries	40
6.1: Method Blank Summary	41
6.2: Blank Spike Summary	42
6.3: Matrix Spike/Matrix Spike Duplicate Summary	43
Section 7: GC Volatiles - QC Data Summaries	44
7.1: Method Blank Summary	45
7.2: Blank Spike Summary	46
7.3: Matrix Spike/Matrix Spike Duplicate Summary	47
Section 8: GC Semi-volatiles - QC Data Summaries	48
8.1: Method Blank Summary	49
8.2: Blank Spike Summary	50
8.3: Matrix Spike/Matrix Spike Duplicate Summary	51
Section 9: Metals Analysis - QC Data Summaries	52
9.1: Prep QC MP4695: Ba,Cd,Cr,Cu,Pb,Ni,Se,Ag,Zn	53
9.2: Prep QC MP4696: As	63
9.3: Prep QC MP4715: Hg	68
9.4: Prep QC MP4738: Ca,Mg,Na,Sodium Adsorption Ratio	72
Section 10: General Chemistry - QC Data Summaries	80
10.1: Method Blank and Spike Results Summary	81
10.2: Duplicate Results Summary	82
Section 11: General Chemistry - QC Data (Accutest Labs of New England, Inc.)	83
11.1: Method Blank and Spike Results Summary	84
11.2: Blank Spike Duplicate Results Summary	85
11.3: Duplicate Results Summary	86
11.4: Matrix Spike Results Summary	87

Sample Summary

Olsson Associates

Job No: D23360

009-0082_201_201004, Grand Junction, CO

Project No: AC McLaughlin Spill

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D23360-1	05/04/11	15:00 TPD	05/11/11	SO	Soil	ACMCL-26-DG
D23360-1A	05/04/11	15:00 TPD	05/11/11	SO	Soil	ACMCL-26-DG
D23360-2	05/04/11	15:20 TPD	05/11/11	SO	Soil	ACMCL-26-SS2
D23360-3	05/04/11	15:30 TPD	05/11/11	SO	Soil	ACMCL-26-SS3
D23360-3A	05/04/11	15:30 TPD	05/11/11	SO	Soil	ACMCL-26-SS3
D23360-4	05/04/11	15:50 TPD	05/11/11	SO	Soil	ACMCL-26-SS1
D23360-5	05/04/11	16:00 TPD	05/11/11	SO	Soil	ACMCL-26-BG2
D23360-6	05/04/11	16:10 TPD	05/11/11	SO	Soil	ACMCL-26-BG3

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Olsson Associates

Job No D23360

Site: 009-0082_201_201004, Grand Junction, CO

Report Dat 5/24/2011 10:54:25 AM

On 05/11/2011, six (6) samples, 0 Trip Blanks, and 0 Field Blanks were received at Accutest Mountain States (AMS) at a temperature of 5.1°C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D23360 was assigned to the project. The lab sample IDs, client sample IDs, and dates of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix SO

Batch ID: V3V634

- All samples were analyzed within the recommended method holding time.
- Samples D23238-1MS and D23238-1MSD were used as the QC samples indicated.
- The method blank for this batch meets method specific criteria.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix SO

Batch ID: OP3666

- All samples were extracted and analyzed within the recommended method holding time.
- Samples D23438-1MS and D23438-1MSD were used as the QC samples indicated.
- The method blank for this batch meets method specific criteria.

Volatiles by GC By Method SW846 8015B

Matrix SO

Batch ID: GGA632

- All samples were analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D23311-1MS and D23311-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO

Batch ID: OP3656

- All samples were extracted and analyzed within the recommended method holding time.
- Samples D23433-1MS and D23433-1MSD were used as the QC samples indicated.
- The method blank for this batch meets method specific criteria.

Metals By Method SW846 6010B

Matrix AQ

Batch ID: MP4738

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D23360-4MS and D23360-4MSD were used as the QC samples for the metals analysis.
- The matrix spike (MS) recovery of Sodium are outside control limits. The spike amount is low relative to the sample amount. Refer to the lab control or spike blank for recovery information.

Matrix SO

Batch ID: MP4695

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D23329-1MS, D23329-1MSD, and D23329-1SDL were used as the QC samples for the metals analysis.
- The matrix spike and matrix spike duplicate (MS/MSD) recoveries of Nickel and Zinc and the MS recovery of Chromium are outside control limits. Probable cause due to matrix interference. Refer to the lab control or spike blank for recovery information.
- The matrix spike (MS) recovery of Barium are outside control limits. The spike amount is low relative to the sample amount. Refer to the lab control or spike blank for recovery information.
- The serial dilution RPDs for are outside control limits for sample MP4695-SD1. The percent difference is acceptable for Cadmium due to low initial sample concentration (< 50 times IDL).
- MP4695-SD1 for Chromium, Lead, Nickel, and Zinc: Serial dilution indicates possible matrix interference.

Metals By Method SW846 6020

Matrix SO

Batch ID: MP4696

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D23329-1MS, D23329-1MSD, and D23329-1SDL were used as the QC samples for the metals analysis.

Metals By Method SW846 7471A

Matrix SO

Batch ID: MP4715

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D23438-1MS and D23438-1MSD were used as the QC samples for the Mercury analysis.

Wet Chemistry By Method ASTM D1498-76M

Matrix SO

Batch ID: GN9524

- Sample D23357-1DUP was used as the QC samples for the Redox Potential Vs H2 analysis.

Wet Chemistry By Method SM19 2540B M

Matrix SO

Batch ID: GN9554

- The data for SM19 2540B M meets quality control requirements.

Wet Chemistry By Method SW846 3060/7196A M

Matrix SO

Batch ID: R7565

- The data for SW846 3060/7196A M meets quality control requirements.
- Trivalent Chromium: Calculated as: (Chromium) - (Hexavalent Chromium)

Wet Chemistry By Method SW846 3060A/7196A**Matrix** SO**Batch ID:** M:GP12985

- The data for SW846 3060A/7196A meets quality control requirements.
- Hexavalent Chromium: Analysis performed at Accutest Laboratories, Marlborough, MA.

Wet Chemistry By Method SW846 9045C**Matrix** SO**Batch ID:** GN9502

- The following samples were run outside of holding time for method SW846 9045C: D23360-1 and D23360-3

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Accutest Mountain States

Job No D23360

Site: CORCCOGJ: 009-0082_201_201004, Grand Junction, CO

Report Date 5/24/2011 10:57:46 AM

2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 05/04/2011 and were received at Accutest on 05/11/2011 properly preserved, at XXXXNO TEMPERATURE FOUNDXXXX Deg. C and intact. These Samples received an Accutest job number of D23360. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Wet Chemistry By Method SW846 3060A/7196A

Matrix	Batch ID:
SO	GP12985

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D23438-1MS, D23438-1DUP were used as the QC samples for Chromium, Hexavalent.
- RPD(s) for Duplicate for Chromium, Hexavalent are outside control limits for sample GP12985-D1. RPD acceptable due to low duplicate and sample concentrations.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(D23360).

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	ACMCL-26-DG		
Lab Sample ID:	D23360-1	Date Sampled:	05/04/11
Matrix:	SO - Soil	Date Received:	05/11/11
Method:	SW846 8260B	Percent Solids:	96.9
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V11333.D	1	05/11/11	DC	n/a	n/a	V3V634
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.03 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	53	23	ug/kg	
108-88-3	Toluene	ND	110	53	ug/kg	
100-41-4	Ethylbenzene	ND	110	26	ug/kg	
1330-20-7	Xylene (total)	ND	210	53	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	78%		70-130%
460-00-4	4-Bromofluorobenzene	85%		70-130%
17060-07-0	1,2-Dichloroethane-D4	89%		70-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ACMCL-26-DG		
Lab Sample ID:	D23360-1	Date Sampled:	05/04/11
Matrix:	SO - Soil	Date Received:	05/11/11
Method:	SW846 8270C BY SIM SW846 3546	Percent Solids:	96.9
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G04081.D	2	05/17/11	TMB	05/16/11	OP3666	E3G152
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

COGCC Table 910-1 PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	14	11	ug/kg	
120-12-7	Anthracene	ND	14	12	ug/kg	
56-55-3	Benzo(a)anthracene	ND	34	18	ug/kg	
50-32-8	Benzo(a)pyrene	ND	34	25	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	34	25	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	34	15	ug/kg	
218-01-9	Chrysene	ND	34	15	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	34	25	ug/kg	
206-44-0	Fluoranthene	ND	14	14	ug/kg	
86-73-7	Fluorene	ND	14	12	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	41	38	ug/kg	
91-20-3	Naphthalene	ND	14	13	ug/kg	
129-00-0	Pyrene	ND	14	13	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	76%		10-193%
321-60-8	2-Fluorobiphenyl	65%		20-138%
1718-51-0	Terphenyl-d14	78%		17-174%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ACMCL-26-DG	Date Sampled:	05/04/11
Lab Sample ID:	D23360-1	Date Received:	05/11/11
Matrix:	SO - Soil	Percent Solids:	96.9
Method:	SW846 8015B		
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA11540.D	1	05/12/11	BR	n/a	n/a	GGA632
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	5.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	86%		60-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ACMCL-26-DG		Date Sampled:	05/04/11
Lab Sample ID:	D23360-1		Date Received:	05/11/11
Matrix:	SO - Soil		Percent Solids:	96.9
Method:	SW846-8015B SW846 3546			
Project:	009-0082_201_201004, Grand Junction, CO			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI02087.D	1	05/17/11	JB	05/13/11	OP3656	GFI135
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	15.1	14	8.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	90%		61-142%		

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: ACMCL-26-DG

Lab Sample ID: D23360-1

Date Sampled: 05/04/11

Matrix: SO - Soil

Date Received: 05/11/11

Percent Solids: 96.9

Project: 009-0082_201_201004, Grand Junction, CO

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.5	0.39	mg/kg	5	05/12/11	05/12/11 JY	SW846 6020 ²	SW846 3050B ⁶
Barium	206	0.97	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Cadmium	< 0.97	0.97	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Chromium	8.9	0.97	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Copper	10.9	0.97	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Lead	13.7	4.9	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Mercury	< 0.096	0.096	mg/kg	1	05/16/11	05/16/11 JM	SW846 7471A ⁴	SW846 7471A ⁷
Nickel	12.0	2.9	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Selenium	< 4.9	4.9	mg/kg	1	05/12/11	05/13/11 GJ	SW846 6010B ³	SW846 3050B ⁵
Silver	< 2.9	2.9	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Zinc	55.9	2.9	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵

(1) Instrument QC Batch: MA1523

(2) Instrument QC Batch: MA1525

(3) Instrument QC Batch: MA1526

(4) Instrument QC Batch: MA1529

(5) Prep QC Batch: MP4695

(6) Prep QC Batch: MP4696

(7) Prep QC Batch: MP4715

RL = Reporting Limit

Report of Analysis

Client Sample ID: ACMCL-26-DG**Lab Sample ID:** D23360-1**Matrix:** SO - Soil**Date Sampled:** 05/04/11**Date Received:** 05/11/11**Percent Solids:** 96.9**Project:** 009-0082_201_201004, Grand Junction, CO

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent ^a	< 0.41	0.41	mg/kg	1	05/19/11 16:15	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	8.7	1.4	mg/kg	1	05/19/11 16:15	AMA	SW846 3060/7196A M
Redox Potential Vs H2	269		mv	1	05/12/11 13:30	JK	ASTM D1498-76M
Solids, Percent	96.9		%	1	05/16/11	SWT	SM19 2540B M
Specific Conductivity	172	1.0	umhos/cm	1	05/18/11	JD	DEPT.OF AG, BOOK N9
pH	8.98		su	1	05/11/11	CJ	SW846 9045C

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	ACMCL-26-DG	Date Sampled:	05/04/11
Lab Sample ID:	D23360-1A	Date Received:	05/11/11
Matrix:	SO - Soil	Percent Solids:	96.9
Project:	009-0082_201_201004, Grand Junction, CO		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Calcium	18.9	2.0	mg/l	1	05/18/11	05/18/11	JB	SW846 6010B ¹	EPA 200.7 ²
Magnesium	3.95	1.0	mg/l	1	05/18/11	05/18/11	JB	SW846 6010B ¹	EPA 200.7 ²
Sodium	12.6	2.0	mg/l	1	05/18/11	05/18/11	JB	SW846 6010B ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA1535
(2) Prep QC Batch: MP4738

RL = Reporting Limit

Report of Analysis

Client Sample ID:	ACMCL-26-DG		
Lab Sample ID:	D23360-1A	Date Sampled:	05/04/11
Matrix:	SO - Soil	Date Received:	05/11/11
		Percent Solids:	96.9
Project:	009-0082_201_201004, Grand Junction, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	0.688		ratio	1	05/18/11 16:34	JB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	ACMCL-26-SS2	Date Sampled:	05/04/11
Lab Sample ID:	D23360-2	Date Received:	05/11/11
Matrix:	SO - Soil	Percent Solids:	92.0
Method:	SW846 8260B		
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V11334.D	1	05/11/11	DC	n/a	n/a	V3V634
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.05 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	58	26	ug/kg	
108-88-3	Toluene	ND	120	58	ug/kg	
100-41-4	Ethylbenzene	ND	120	29	ug/kg	
1330-20-7	Xylene (total)	ND	230	58	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	80%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%
17060-07-0	1,2-Dichloroethane-D4	91%		70-130%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ACMCL-26-SS2	Date Sampled:	05/04/11
Lab Sample ID:	D23360-2	Date Received:	05/11/11
Matrix:	SO - Soil	Percent Solids:	92.0
Project:	009-0082_201_201004, Grand Junction, CO		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Calcium	12.8	2.0	mg/l	1	05/18/11	05/18/11	JB	SW846 6010B ¹	EPA 200.7 ²
Magnesium	6.31	1.0	mg/l	1	05/18/11	05/18/11	JB	SW846 6010B ¹	EPA 200.7 ²
Sodium	28.7	2.0	mg/l	1	05/18/11	05/18/11	JB	SW846 6010B ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA1535
(2) Prep QC Batch: MP4738

RL = Reporting Limit

Report of Analysis

Client Sample ID: ACMCL-26-SS2**Lab Sample ID:** D23360-2**Matrix:** SO - Soil**Date Sampled:** 05/04/11**Date Received:** 05/11/11**Percent Solids:** 92.0**Project:** 009-0082_201_201004, Grand Junction, CO

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	1.64		ratio	1	05/18/11 16:27	JB	USDA HANDBOOK 60
Solids, Percent	92		%	1	05/16/11	SWT	SM19 2540B M
Specific Conductivity	176	1.0	umhos/cm	1	05/18/11	JD	DEPT.OF AG, BOOK N9

(a) Calculated as: $(\text{Na meq/L}) / \sqrt{[(\text{Ca meq/L}) + (\text{Mg meq/L})/2]}$

RL = Reporting Limit

Report of Analysis

Client Sample ID:	ACMCL-26-SS3	Date Sampled:	05/04/11
Lab Sample ID:	D23360-3	Date Received:	05/11/11
Matrix:	SO - Soil	Percent Solids:	87.2
Method:	SW846 8260B		
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V11335.D	1	05/12/11	DC	n/a	n/a	V3V634
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.03 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	64	28	ug/kg	
108-88-3	Toluene	ND	130	64	ug/kg	
100-41-4	Ethylbenzene	ND	130	32	ug/kg	
1330-20-7	Xylene (total)	ND	260	64	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	78%		70-130%
460-00-4	4-Bromofluorobenzene	84%		70-130%
17060-07-0	1,2-Dichloroethane-D4	87%		70-130%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ACMCL-26-SS3		
Lab Sample ID:	D23360-3	Date Sampled:	05/04/11
Matrix:	SO - Soil	Date Received:	05/11/11
Method:	SW846 8270C BY SIM SW846 3546	Percent Solids:	87.2
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G04082.D	2	05/17/11	TMB	05/16/11	OP3666	E3G152
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

COGCC Table 910-1 PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	15	12	ug/kg	
120-12-7	Anthracene	ND	15	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	38	20	ug/kg	
50-32-8	Benzo(a)pyrene	ND	38	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	38	28	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	38	17	ug/kg	
218-01-9	Chrysene	46.1	38	17	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	38	28	ug/kg	
206-44-0	Fluoranthene	ND	15	15	ug/kg	
86-73-7	Fluorene	ND	15	13	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	46	42	ug/kg	
91-20-3	Naphthalene	ND	15	15	ug/kg	
129-00-0	Pyrene	27.2	15	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	60%		10-193%
321-60-8	2-Fluorobiphenyl	57%		20-138%
1718-51-0	Terphenyl-d14	87%		17-174%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ACMCL-26-SS3	Date Sampled:	05/04/11
Lab Sample ID:	D23360-3	Date Received:	05/11/11
Matrix:	SO - Soil	Percent Solids:	87.2
Method:	SW846 8015B		
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA11541.D	1	05/12/11	BR	n/a	n/a	GGA632
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	6.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	86%		60-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ACMCL-26-SS3		Date Sampled:	05/04/11
Lab Sample ID:	D23360-3		Date Received:	05/11/11
Matrix:	SO - Soil		Percent Solids:	87.2
Method:	SW846-8015B SW846 3546			
Project:	009-0082_201_201004, Grand Junction, CO			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI02088.D	1	05/17/11	JB	05/13/11	OP3656	GFI135
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	461	15	9.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	95%		61-142%		

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: ACMCL-26-SS3

Lab Sample ID: D23360-3

Date Sampled: 05/04/11

Matrix: SO - Soil

Date Received: 05/11/11

Percent Solids: 87.2

Project: 009-0082_201_201004, Grand Junction, CO

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.4	0.45	mg/kg	5	05/12/11	05/12/11 JY	SW846 6020 ²	SW846 3050B ⁶
Barium	346	1.1	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Cadmium	< 1.1	1.1	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Chromium	9.8	1.1	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Copper	10	1.1	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Lead	14.9	5.6	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Mercury	< 0.10	0.10	mg/kg	1	05/16/11	05/16/11 JM	SW846 7471A ⁴	SW846 7471A ⁷
Nickel	12.4	3.4	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Selenium	< 5.6	5.6	mg/kg	1	05/12/11	05/13/11 GJ	SW846 6010B ³	SW846 3050B ⁵
Silver	< 3.4	3.4	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵
Zinc	57.2	3.4	mg/kg	1	05/12/11	05/12/11 GJ	SW846 6010B ¹	SW846 3050B ⁵

(1) Instrument QC Batch: MA1523

(2) Instrument QC Batch: MA1525

(3) Instrument QC Batch: MA1526

(4) Instrument QC Batch: MA1529

(5) Prep QC Batch: MP4695

(6) Prep QC Batch: MP4696

(7) Prep QC Batch: MP4715

RL = Reporting Limit

Report of Analysis

Client Sample ID: ACMCL-26-SS3**Lab Sample ID:** D23360-3**Matrix:** SO - Soil**Date Sampled:** 05/04/11**Date Received:** 05/11/11**Percent Solids:** 87.2**Project:** 009-0082_201_201004, Grand Junction, CO

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent ^a	< 0.46	0.46	mg/kg	1	05/19/11 16:15	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	9.8	1.6	mg/kg	1	05/19/11 16:15	AMA	SW846 3060/7196A M
Redox Potential Vs H2	252		mv	1	05/12/11 13:30	JK	ASTM D1498-76M
Solids, Percent	87.2		%	1	05/16/11	SWT	SM19 2540B M
Specific Conductivity	224	1.0	umhos/cm	1	05/18/11	JD	DEPT.OF AG, BOOK N9
pH	9.51		su	1	05/11/11	CJ	SW846 9045C

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	ACMCL-26-SS3	Date Sampled:	05/04/11
Lab Sample ID:	D23360-3A	Date Received:	05/11/11
Matrix:	SO - Soil	Percent Solids:	87.2
Project:	009-0082_201_201004, Grand Junction, CO		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Calcium	5.40	2.0	mg/l	1	05/18/11	05/18/11	JB	SW846 6010B ¹	EPA 200.7 ²
Magnesium	1.35	1.0	mg/l	1	05/18/11	05/18/11	JB	SW846 6010B ¹	EPA 200.7 ²
Sodium	42.3	2.0	mg/l	1	05/18/11	05/18/11	JB	SW846 6010B ¹	EPA 200.7 ²

- (1) Instrument QC Batch: MA1535
(2) Prep QC Batch: MP4738

RL = Reporting Limit

Report of Analysis

Client Sample ID:	ACMCL-26-SS3	Date Sampled:	05/04/11
Lab Sample ID:	D23360-3A	Date Received:	05/11/11
Matrix:	SO - Soil	Percent Solids:	87.2
Project:	009-0082_201_201004, Grand Junction, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	4.22		ratio	1	05/18/11 16:40	JB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	ACMCL-26-SS1	Date Sampled:	05/04/11
Lab Sample ID:	D23360-4	Date Received:	05/11/11
Matrix:	SO - Soil	Percent Solids:	88.4
Method:	SW846 8260B		
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V11336.D	1	05/12/11	DC	n/a	n/a	V3V634
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.06 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	62	27	ug/kg	
108-88-3	Toluene	ND	120	62	ug/kg	
100-41-4	Ethylbenzene	ND	120	31	ug/kg	
1330-20-7	Xylene (total)	ND	250	62	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	80%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%
17060-07-0	1,2-Dichloroethane-D4	91%		70-130%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ACMCL-26-SS1	Date Sampled:	05/04/11
Lab Sample ID:	D23360-4	Date Received:	05/11/11
Matrix:	SO - Soil	Percent Solids:	88.4
Project:	009-0082_201_201004, Grand Junction, CO		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Calcium	242	2.0	mg/l	1	05/18/11	05/18/11	JB	SW846 6010B ¹	EPA 200.7 ²
Magnesium	51.3	1.0	mg/l	1	05/18/11	05/18/11	JB	SW846 6010B ¹	EPA 200.7 ²
Sodium	1250	2.0	mg/l	1	05/18/11	05/18/11	JB	SW846 6010B ¹	EPA 200.7 ²

- (1) Instrument QC Batch: MA1535
(2) Prep QC Batch: MP4738

RL = Reporting Limit

Report of Analysis

Client Sample ID: ACMCL-26-SS1**Lab Sample ID:** D23360-4**Matrix:** SO - Soil**Date Sampled:** 05/04/11**Date Received:** 05/11/11**Percent Solids:** 88.4**Project:** 009-0082_201_201004, Grand Junction, CO

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	19.0		ratio	1	05/18/11 15:57	JB	USDA HANDBOOK 60
Solids, Percent	88.4		%	1	05/16/11	SWT	SM19 2540B M
Specific Conductivity	7800	1.0	umhos/cm	1	05/18/11	JD	DEPT.OF AG, BOOK N9

(a) Calculated as: $(\text{Na meq/L}) / \sqrt{[(\text{Ca meq/L}) + (\text{Mg meq/L})/2]}$

RL = Reporting Limit

Report of Analysis

Client Sample ID:	ACMCL-26-BG2				
Lab Sample ID:	D23360-5			Date Sampled:	05/04/11
Matrix:	SO - Soil			Date Received:	05/11/11
				Percent Solids:	91.6
Project:	009-0082_201_201004, Grand Junction, CO				

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.7	0.43	mg/kg	5	05/12/11	05/12/11 JY	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA1525
(2) Prep QC Batch: MP4696

RL = Reporting Limit

Report of Analysis

Client Sample ID:	ACMCL-26-BG3			
Lab Sample ID:	D23360-6			Date Sampled: 05/04/11
Matrix:	SO - Soil			Date Received: 05/11/11
				Percent Solids: 96.4
Project:	009-0082_201_201004, Grand Junction, CO			

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.9	0.38	mg/kg	5	05/12/11	05/12/11 JY	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA1525
(2) Prep QC Batch: MP4696

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



151

4.4.1

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D23360

Client: OLSSON ASS.

Immediate Client Services Action Required: No

Date / Time Received: 5/11/2011 8:30:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project: AC MCLAUGHLIN SPILL099-0082-201-2010

Airbill #'s: fedex

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:			Infrared gun
3. Cooler media:			Ice (bag)

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:			Intact

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume rec'd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: D23360
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V634-MB1	3V11317A.D 1		05/11/11	DC	n/a	n/a	V3V634

The QC reported here applies to the following samples:

Method: SW846 8260B

D23360-1, D23360-2, D23360-3, D23360-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	22	ug/kg	
100-41-4	Ethylbenzene	ND	100	25	ug/kg	
108-88-3	Toluene	ND	100	50	ug/kg	
1330-20-7	Xylene (total)	ND	200	50	ug/kg	

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	79% 70-130%
460-00-4	4-Bromofluorobenzene	77% 70-130%
17060-07-0	1,2-Dichloroethane-D4	92% 70-130%

Blank Spike Summary

Page 1 of 1

Job Number: D23360
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V634-BS1	3V11318A.D 1		05/11/11	DC	n/a	n/a	V3V634

The QC reported here applies to the following samples:

Method: SW846 8260B

D23360-1, D23360-2, D23360-3, D23360-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	45.8	92	68-130
100-41-4	Ethylbenzene	50	46.9	94	70-130
108-88-3	Toluene	50	45.2	90	70-130
1330-20-7	Xylene (total)	100	86.5	87	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	81%	70-130%
460-00-4	4-Bromofluorobenzene	85%	70-130%
17060-07-0	1,2-Dichloroethane-D4	88%	70-130%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D23360
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D23238-1MS	3V11325.D	1	05/11/11	DC	n/a	n/a	V3V634
D23238-1MSD	3V11326.D	1	05/11/11	DC	n/a	n/a	V3V634
D23238-1	3V11324.D	1	05/11/11	DC	n/a	n/a	V3V634

The QC reported here applies to the following samples:

Method: SW846 8260B

D23360-1, D23360-2, D23360-3, D23360-4

CAS No.	Compound	D23238-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		2900	2830	97	2990	103	5	55-140/30
100-41-4	Ethylbenzene	ND		2900	2940	101	3110	107	6	56-139/30
108-88-3	Toluene	ND		2900	2740	94	2900	100	6	57-144/30
1330-20-7	Xylene (total)	ND		5810	5380	93	5700	98	6	51-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D23238-1	Limits
2037-26-5	Toluene-D8	80%	80%	80%	70-130%
460-00-4	4-Bromofluorobenzene	91%	90%	85%	70-130%
17060-07-0	1,2-Dichloroethane-D4	89%	85%	90%	70-130%

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: D23360
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3666-MB	3G04042.D	1	05/16/11	TMB	05/16/11	OP3666	E3G151

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D23360-1, D23360-3

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	6.7	5.3	ug/kg	
120-12-7	Anthracene	ND	6.7	6.0	ug/kg	
56-55-3	Benzo(a)anthracene	ND	17	8.7	ug/kg	
50-32-8	Benzo(a)pyrene	ND	17	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	17	12	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	17	7.3	ug/kg	
218-01-9	Chrysene	ND	17	7.3	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	17	12	ug/kg	
206-44-0	Fluoranthene	ND	6.7	6.7	ug/kg	
86-73-7	Fluorene	ND	6.7	5.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	20	18	ug/kg	
91-20-3	Naphthalene	ND	6.7	6.3	ug/kg	
129-00-0	Pyrene	ND	6.7	6.3	ug/kg	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	106%
321-60-8	2-Fluorobiphenyl	88%
1718-51-0	Terphenyl-d14	121%

Blank Spike Summary

Page 1 of 1

Job Number: D23360
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3666-BS	3G04043.D	1	05/16/11	TMB	05/16/11	OP3666	E3G151

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D23360-1, D23360-3

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	83.3	53.9	65	40-136
120-12-7	Anthracene	83.3	68.9	83	40-141
56-55-3	Benzo(a)anthracene	83.3	84.8	102	38-143
50-32-8	Benzo(a)pyrene	83.3	88.5	106	39-145
205-99-2	Benzo(b)fluoranthene	83.3	94.7	114	38-151
207-08-9	Benzo(k)fluoranthene	83.3	97.1	117	38-147
218-01-9	Chrysene	83.3	85.8	103	39-137
53-70-3	Dibenzo(a,h)anthracene	83.3	91.8	110	35-139
206-44-0	Fluoranthene	83.3	74.7	90	34-132
86-73-7	Fluorene	83.3	57.8	69	41-136
193-39-5	Indeno(1,2,3-cd)pyrene	83.3	91.9	110	31-144
91-20-3	Naphthalene	83.3	56.3	68	36-130
129-00-0	Pyrene	83.3	83.1	100	29-157

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	75%	10-193%
321-60-8	2-Fluorobiphenyl	64%	20-138%
1718-51-0	Terphenyl-d14	114%	17-174%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D23360
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3666-MS	3G04048.D	1	05/16/11	TMB	05/16/11	OP3666	E3G151
OP3666-MSD	3G04049.D	1	05/16/11	TMB	05/16/11	OP3666	E3G151
D23438-1	3G04047.D	1	05/16/11	TMB	05/16/11	OP3666	E3G151

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D23360-1, D23360-3

CAS No.	Compound	D23438-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		87.4	53.5	61	48.7	56	9	20-151/30
120-12-7	Anthracene	ND		87.4	66.9	77	65.8	75	2	25-149/30
56-55-3	Benzo(a)anthracene	ND		87.4	84.0	96	92.9	106	10	22-157/30
50-32-8	Benzo(a)pyrene	ND		87.4	88.4	101	105	120	17	23-153/30
205-99-2	Benzo(b)fluoranthene	ND		87.4	92.8	106	103	118	10	22-161/30
207-08-9	Benzo(k)fluoranthene	ND		87.4	90.2	103	101	115	11	17-161/30
218-01-9	Chrysene	ND		87.4	81.4	93	90.1	103	10	16-159/30
53-70-3	Dibenzo(a,h)anthracene	ND		87.4	90.0	103	101	115	12	21-154/30
206-44-0	Fluoranthene	ND		87.4	78.9	90	76.5	87	3	16-140/30
86-73-7	Fluorene	ND		87.4	57.9	66	52.0	59	11	15-153/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		87.4	96.2	110	93.7	107	3	21-159/30
91-20-3	Naphthalene	ND		87.4	58.6	67	52.5	60	11	10-176/30
129-00-0	Pyrene	ND		87.4	72.2	83	80.8	92	11	10-200/30

CAS No.	Surrogate Recoveries	MS	MSD	D23438-1	Limits
4165-60-0	Nitrobenzene-d5	73%	61%	89%	10-193%
321-60-8	2-Fluorobiphenyl	63%	54%	74%	20-138%
1718-51-0	Terphenyl-d14	92%	103%	103%	17-174%

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: D23360
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA632-MB	GA11532.D	1	05/12/11	BR	n/a	n/a	GGA632

The QC reported here applies to the following samples:

Method: SW846 8015B

D23360-1, D23360-3

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	95% 60-140%

Blank Spike Summary

Page 1 of 1

Job Number: D23360
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA632-BS	GA11533.D	1	05/12/11	BR	n/a	n/a	GGA632

The QC reported here applies to the following samples:

Method: SW846 8015B

D23360-1, D23360-3

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	98.2	89	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	98%	60-140%

7.2.1

7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D23360
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D23311-1MS	GA11535.D	1	05/12/11	BR	n/a	n/a	GGA632
D23311-1MSD	GA11536.D	1	05/12/11	BR	n/a	n/a	GGA632
D23311-1	GA11534.D	1	05/12/11	BR	n/a	n/a	GGA632

The QC reported here applies to the following samples: Method: SW846 8015B

D23360-1, D23360-3

CAS No.	Compound	D23311-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	122		126	243	96	243	96	0	62-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D23311-1	Limits
120-82-1	1,2,4-Trichlorobenzene	107%	101%	104%	60-140%

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: D23360
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3656-MB	FI02072.D	1	05/16/11	JB	05/13/11	OP3656	GFI135

The QC reported here applies to the following samples:

Method: SW846-8015B

D23360-1, D23360-3

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	13	8.7	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	96% 61-142%

8.1.1

8

Blank Spike Summary

Job Number: D23360
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3656-BS	FI02073.D	1	05/16/11	JB	05/13/11	OP3656	GFI135

The QC reported here applies to the following samples: Method: SW846-8015B

D23360-1, D23360-3

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	578	87	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	99%	61-142%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D23360
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3656-MS	FI02074.D	1	05/16/11	JB	05/13/11	OP3656	GFI135
OP3656-MSD	FI02075.D	1	05/16/11	JB	05/13/11	OP3656	GFI135
D23433-1	FI02076.D	1	05/16/11	JB	05/13/11	OP3656	GFI135

The QC reported here applies to the following samples: Method: SW846-8015B

D23360-1, D23360-3

CAS No.	Compound	D23433-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	614		749	1570	128	1500	119	5	24-157/35

CAS No.	Surrogate Recoveries	MS	MSD	D23433-1	Limits
84-15-1	o-Terphenyl	87%	95%	89%	61-142%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4695
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 05/12/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.59	.59		
Antimony	3.0	.31	.31		
Arsenic	2.5	.59	.59		
Barium	1.0	.11	.11	0.020	<1.0
Beryllium	1.0	.044	.1		
Boron	5.0	.48	.48		
Cadmium	1.0	.027	.27	0.030	<1.0
Calcium	40	.96	1.1		
Chromium	1.0	.018	.031	0.020	<1.0
Cobalt	0.50	.035	.035		
Copper	1.0	.085	.16	0.13	<1.0
Iron	7.0	.34	2		
Lead	5.0	.16	.21	-0.17	<5.0
Lithium	0.20	.028	.031		
Magnesium	20	.58	1.4		
Manganese	0.50	.0053	.012		
Molybdenum	1.0	.045	.054		
Nickel	3.0	.043	.099	-0.040	<3.0
Phosphorus	10	1.1	1.2		
Potassium	200	5.5	9.2		
Selenium	5.0	.38	.5	0.080	<5.0
Silicon	5.0	.38	.51		
Silver	3.0	.018	.051	0.010	<3.0
Sodium	40	11	11		
Strontium	5.0		.017		
Thallium	1.0	.29	.34		
Tin	5.0	.55	1.3		
Titanium	1.0	.011	.1		
Uranium	5.0	.15	.2		
Vanadium	1.0	.016	.025		
Zinc	3.0	.028	.06	0.68	<3.0

Associated samples MP4695: D23360-1, D23360-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4695
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D23360
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4695
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/12/11

Metal	D23329-1 Original MS	Spikelot MPICPALL % Rec	QC Limits
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	2200	2520	222 144.2(a) 75-125
Beryllium	anr		
Boron			
Cadmium	0.26	44.6	55.5 79.9 75-125
Calcium			
Chromium	19.8	59.8	55.5 72.1N(b) 75-125
Cobalt			
Copper	13.5	59.7	55.5 83.3 75-125
Iron	anr		
Lead	11.7	96.1	111 76.0 75-125
Lithium			
Magnesium	anr		
Manganese	anr		
Molybdenum	anr		
Nickel	13.1	51.9	55.5 69.9N(b) 75-125
Phosphorus	anr		
Potassium			
Selenium	2.3	97.1	111 85.4 75-125
Silicon			
Silver	0.0	18.5	22.2 83.3 75-125
Sodium			
Strontium			
Thallium	anr		
Tin			
Titanium			
Uranium	anr		
Vanadium			
Zinc	30.9	63.6	55.5 58.9N(c) 75-125

Associated samples MP4695: D23360-1, D23360-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4695
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- (b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- (c) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D23360
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4695
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/12/11

	D23329-1		Spikelot		MSD	QC
Metal	Original	MSD	MPICPAL	% Rec	RPD	Limit
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	2200	2280	209	38.2 (a)	10.0	20
Beryllium	anr					
Boron						
Cadmium	0.26	42.6	52.4	80.9	4.6	20
Calcium						
Chromium	19.8	60.4	52.4	77.6	1.0	20
Cobalt						
Copper	13.5	57.8	52.4	84.6	3.2	20
Iron	anr					
Lead	11.7	93.5	105	78.1	2.7	20
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum	anr					
Nickel	13.1	50.4	52.4	71.2N(b)	2.9	20
Phosphorus	anr					
Potassium						
Selenium	2.3	91.2	105	84.9	6.3	20
Silicon						
Silver	0.0	17.5	20.9	83.6	5.6	20
Sodium						
Strontium						
Thallium	anr					
Tin						
Titanium						
Uranium	anr					
Vanadium						
Zinc	30.9	65.0	52.4	65.1N(c)	2.2	20

Associated samples MP4695: D23360-1, D23360-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4695
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- (b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- (c) Spike recovery indicates possible matrix interference.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D23360
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4695
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/12/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	169	200	84.5	80-120
Beryllium	anr			
Boron				
Cadmium	42.5	50	85.0	80-120
Calcium				
Chromium	44.7	50	89.4	80-120
Cobalt				
Copper	42.8	50	85.6	80-120
Iron	anr			
Lead	89.1	100	89.1	80-120
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	43.4	50	86.8	80-120
Phosphorus	anr			
Potassium				
Selenium	90.2	100	90.2	80-120
Silicon				
Silver	17.4	20	87.0	80-120
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Uranium	anr			
Vanadium				
Zinc	40.9	50	81.8	80-120

Associated samples MP4695: D23360-1, D23360-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4695
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D23360
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4695
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: ug/l

Prep Date: 05/12/11

Metal	D23329-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	21000	22600	7.7	0-10
Beryllium	anr			
Boron				
Cadmium	2.50	1.50	40.0 (a)	0-10
Calcium				
Chromium	190	212	11.6*(b)	0-10
Cobalt				
Copper	129	132	1.9	0-10
Iron	anr			
Lead	112	131	16.7*(b)	0-10
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	125	144	15.1*(b)	0-10
Phosphorus	anr			
Potassium				
Selenium	13.6	23.0	6.0	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Uranium	anr			
Vanadium				
Zinc	295	360	22.1*(b)	0-10

Associated samples MP4695: D23360-1, D23360-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4695
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

- (anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

9.1.4

9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4696
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 05/12/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.14	1.2		
Antimony	0.20	.001	.0095		
Arsenic	0.40	.049	.22	0.049	<0.40
Barium	1.0	.0035	.1		
Beryllium	0.10	.0075	.014		
Boron	20	.97	1		
Cadmium	0.050	.023	.048		
Calcium	200	1.8	8.2		
Chromium	1.0	.021	.24		
Cobalt	0.10	.0033	.003		
Copper	1.0	.011	.063		
Iron	20	.81	3.7		
Lead	0.25	.0012	.015		
Magnesium	50	.067	2.6		
Manganese	0.50	.007	.029		
Molybdenum	0.50	.0044	.023		
Nickel	1.0	.0029	.031		
Phosphorus	30	1.8	3.5		
Potassium	100	2	3.2		
Selenium	0.20	.075	.19		
Silver	0.050	.0008	.002		
Sodium	250	.8	4.4		
Strontium	10	.004	.04		
Thallium	0.10	.015	.02		
Tin	5.0	.006	.028		
Titanium	1.0	.035	.062		
Uranium	0.25	.00038	.0009		
Vanadium	2.0	.052	.29		
Zinc	5.0	.039	.12		

Associated samples MP4696: D23360-1, D23360-3, D23360-5, D23360-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D23360
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4696
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 05/12/11

Metal	D23329-1 Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic	21.3	112	111	81.7	60-119
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP4696: D23360-1, D23360-3, D23360-5, D23360-6

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D23360
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4696
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 05/12/11

Metal	D23329-1 Original	MSD	Spikelot MPICPAL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	21.3	117	105	91.4	4.4	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP4696: D23360-1, D23360-3, D23360-5, D23360-6

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D23360
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4696
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 05/12/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	102	100	102.0	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP4696: D23360-1, D23360-3, D23360-5, D23360-6

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D23360
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4696
 Matrix Type: SOLID

Methods: SW846 6020
 Units: ug/l

Prep Date: 05/12/11

Metal	D23329-1			QC	
	Original	SDL	5:25 %DIF	Limits	
Aluminum					
Antimony					
Arsenic	203	221	8.6	0-10	
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP4696: D23360-1, D23360-3, D23360-5, D23360-6

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4715
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/16/11

Metal	RL	IDL	MDL	MB raw	final
-------	----	-----	-----	-----------	-------

Mercury	0.10	.0011	.013	-0.0017	<0.10
---------	------	-------	------	---------	-------

Associated samples MP4715: D23360-1, D23360-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D23360
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4715
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 05/16/11

Metal	D23438-1 Original MS	Spikelot HGWSR1	% Rec	QC Limits
-------	-------------------------	--------------------	-------	--------------

Mercury 0.0 0.45 0.404 111.3 85-115

Associated samples MP4715: D23360-1, D23360-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D23360
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4715
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 05/16/11

Metal	D23438-1 Original	MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.0	0.45	0.404	111.3	0.0	20

Associated samples MP4715: D23360-1, D23360-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4715
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/16/11

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.45	0.4	112.5	80-120

Associated samples MP4715: D23360-1, D23360-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4738
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 05/19/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	30	30		
Antimony	150	16	16		
Arsenic	130	30	30		
Barium	50	5.5	5.5		
Beryllium	50	2.2	2.5		
Boron	250	24	24		
Cadmium	50	1.4	1.4		
Calcium	2000	48	75	-13	<2000
Chromium	50	.9	4		
Cobalt	25	1.8	1.8		
Copper	50	4.3	14		
Iron	350	17	65		
Lead	250	8	11		
Lithium	10	1.4	6		
Magnesium	1000	29	50	7.5	<1000
Manganese	25	.27	1.6		
Molybdenum	50	2.3	4.4		
Nickel	150	2.2	5		
Phosphorus	500	55	100		
Potassium	5000	280	280		
Selenium	250	19	19		
Silicon	250	19	19		
Silver	150	.9	1.6		
Sodium	2000	570	570	1480	<2000
Strontium	25		1.3		
Thallium	50	15	15		
Tin	250	28	50		
Titanium	50	.55	1.6		
Uranium	250	7.5	18		
Vanadium	50	.8	1.1		
Zinc	150	1.4	9		

Associated samples MP4738: D23360-2, D23360-4, D23360-1A, D23360-3A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4738
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D23360
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4738
 Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
 Units: ug/l

Prep Date: 05/18/11

Metal	D23360-4 Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	242000	389000	125000	117.6	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	51300	179000	125000	102.2	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	1250000	1470000	125000	176.0(a)	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP4738: D23360-2, D23360-4, D23360-1A, D23360-3A

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4738
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D23360
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4738
 Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
 Units: ug/l

Prep Date: 05/18/11

Metal	D23360-4 Original	MSD	Spikelot MPICPAL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	242000	384000	125000	113.6	1.3	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	51300	179000	125000	102.2	0.0	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	1250000	1450000	125000	160.0(a)	1.4	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP4738: D23360-2, D23360-4, D23360-1A, D23360-3A

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4738
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D23360
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4738
 Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
 Units: ug/l

Prep Date: 05/19/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	130000	125000	104.0	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	124000	125000	99.2	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	126000	125000	100.8	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP4738: D23360-2, D23360-4, D23360-1A, D23360-3A

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP4738
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP4466/GN9585			umhos/cm	9961	10500	105.2	90-110%
pH	GN9502			su	8.00	7.96	99.5	99.3-100.7%

Associated Samples:
Batch GN9502: D23360-1, D23360-3
Batch GP4466: D23360-1, D23360-2, D23360-3, D23360-4
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D23360
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Redox Potential Vs H2	GN9524	D23357-1	mv	366	356	2.8	0-20%

Associated Samples:

Batch GN9524: D23360-1, D23360-3
(*) Outside of QC limits

General Chemistry

QC Data Summaries

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D23360
Account: ALMS - Accutest Mountain States
Project: CORCCOGJ: 009-0082_201_201004, Grand Junction, CO

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP12985/GN34946	0.40	0.0	mg/kg	12	11.1	92.5	80-120%
Chromium, Hexavalent	GP12985/GN34946			mg/kg	979	1030	105.2	80-120%

Associated Samples:
Batch GP12985: D23360-1, D23360-3
(*) Outside of QC limits

11.1
11

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D23360
Account: ALMS - Accutest Mountain States
Project: CORCCOGJ: 009-0082_201_201004, Grand Junction, CO

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Chromium, Hexavalent	GP12985/GN34946	mg/kg	12	12.4	11.0	

Associated Samples:

Batch GP12985: D23360-1, D23360-3

(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D23360
Account: ALMS - Accutest Mountain States
Project: CORCCOGJ: 009-0082_201_201004, Grand Junction, CO

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP12985/GN34946	D23438-1	mg/kg	0.0	0.17	200.0(a)	0-20%

Associated Samples:

Batch GP12985: D23360-1, D23360-3

(*) Outside of QC limits

(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D23360
Account: ALMS - Accutest Mountain States
Project: CORCCOGJ: 009-0082_201_201004, Grand Junction, CO

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP12985/GN34946	D23438-1	mg/kg	0.0	12.5	12.3	98.3	75-125%
Chromium, Hexavalent	GP12985/GN34946	D23438-1	mg/kg	0.0	1230	1350	109.7	75-125%

Associated Samples:

Batch GP12985: D23360-1, D23360-3

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits



07/09/11

Technical Report for

Olsson Associates

AC McLaughlin Spill(009-0082_201_201004)

Accutest Job Number: D24848

Sampling Date: 06/20/11

Report to:

Olsson Associates
826 21 1/2 Road
Grand Junction, CO 81505
tdobransky@oaconsulting.com

ATTN: Tim Dobransky

Total number of pages in report: **21**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read 'J. Hamilton'.

John Hamilton
Laboratory Director

Client Service contact: 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary 3

Section 2: Case Narrative/Conformance Summary 4

Section 3: Sample Results 5

3.1: D24848-1: ACMCL-26-SS1 6

Section 4: Misc. Forms 8

4.1: Chain of Custody 9

Section 5: Metals Analysis - QC Data Summaries 11

5.1: Prep QC MP5070: Ca,Mg,Na,Sodium Adsorption Ratio 12

Section 6: General Chemistry - QC Data Summaries 20

6.1: Method Blank and Spike Results Summary 21



Sample Summary

Olsson Associates

Job No: D24848

AC McLaughlin Spill(009-0082_201_201004)

Sample Number	Collected		Matrix Code	Type	Client Sample ID
	Date	Time By			
D24848-1	06/20/11	14:30 TPD	06/25/11	SO Soil	ACMCL-26-SS1

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Olsson Associates**Job No** D24848**Site:** AC McLaughlin Spill(009-0082_201_201004)**Report Date** 7/9/2011 2:02:19 PM

On 06/25/2011, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.9 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D24848 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Metals By Method SW846 6010B

Matrix AQ**Batch ID:** MP5070

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D24849-1AMS, D24849-1AMSD were used as the QC samples for the metals analysis.

Wet Chemistry By Method USDA HANDBOOK 60

Matrix SO**Batch ID:** MP5070

- D24848-1 for Sodium Adsorption Ratio: Calculated as: $(\text{Na meq/L}) / \sqrt{[(\text{Ca meq/L}) + (\text{Mg meq/L})/2]}$

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: ACMCL-26-SS1**Lab Sample ID:** D24848-1**Date Sampled:** 06/20/11**Matrix:** SO - Soil**Date Received:** 06/25/11**Percent Solids:** n/a**Project:** AC McLaughlin Spill(009-0082_201_201004)

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	41.3	2.0	mg/l	1	06/28/11	06/28/11 JM	SW846 6010B ¹	EPA 200.7 ²
Magnesium	8.89	1.0	mg/l	1	06/28/11	06/28/11 JM	SW846 6010B ¹	EPA 200.7 ²
Sodium	6.83	2.0	mg/l	1	06/28/11	06/28/11 JM	SW846 6010B ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA1631

(2) Prep QC Batch: MP5070

RL = Reporting Limit

Report of Analysis

Client Sample ID:	ACMCL-26-SS1	Date Sampled:	06/20/11
Lab Sample ID:	D24848-1	Date Received:	06/25/11
Matrix:	SO - Soil	Percent Solids:	n/a
Project:	AC McLaughlin Spill(009-0082_201_201004)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	0.251		ratio	1	06/28/11 12:41	JM	USDA HANDBOOK 60
Specific Conductivity	254	1.0	umhos/cm	1	06/28/11	JD	DEPT.OF AG, BOOK N9

(a) Calculated as: $(\text{Na meq/L}) / \sqrt{[(\text{Ca meq/L}) + (\text{Mg meq/L})/2]}$

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

4036 Youngfield St., Wheat Ridge, CO 80033; 303-425-6021; 303-425-6854

[illegible]

D24848: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D24848

Client: OLSSON ASS.

Immediate Client Services Action Required: No

Date / Time Received: 6/25/2011 11:00:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project: AC MCLAUGHLIN SPILL 009-0082-201-20100

Airbill #'s: Fedex

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:			Infrared gun
3. Cooler media:			Ice (bag)

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:			Intact

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume rec'd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com

Metals Analysis

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D24848
Account: CORCCOGJ - Olsson Associates
Project: AC McLaughlin Spill(009-0082_201_201004)

QC Batch ID: MP5070
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 06/28/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	30	30		
Antimony	150	16	16		
Arsenic	130	30	30		
Barium	50	5.5	5.5		
Beryllium	50	2.2	2.5		
Boron	250	24	24		
Cadmium	50	1.4	1.4		
Calcium	2000	48	75	16.5	<2000
Chromium	50	.9	4		
Cobalt	25	1.8	1.8		
Copper	50	4.3	14		
Iron	350	17	65		
Lead	250	8	11		
Lithium	10	1.4	6		
Magnesium	1000	29	50	-22	<1000
Manganese	25	.27	1.6		
Molybdenum	50	2.3	4.4		
Nickel	150	2.2	5		
Phosphorus	500	55	100		
Potassium	5000	280	280		
Selenium	250	19	19		
Silicon	250	19	19		
Silver	150	.9	1.6		
Sodium	2000	570	570	-350	<2000
Strontium	25		1.3		
Thallium	50	15	15		
Tin	250	28	50		
Titanium	50	.55	1.6		
Uranium	250	7.5	18		
Vanadium	50	.8	1.1		
Zinc	150	1.4	9		

Associated samples MP5070: D24848-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D24848
Account: CORCCOGJ - Olsson Associates
Project: AC McLaughlin Spill(009-0082_201_201004)

QC Batch ID: MP5070
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

5.1.1

5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D24848
 Account: CORCCOGJ - Olsson Associates
 Project: AC McLaughlin Spill(009-0082_201_201004)

QC Batch ID: MP5070
 Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
 Units: ug/l

Prep Date: 06/28/11

Metal	D24849-1A Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	18000	157000	125000	111.2	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	2850	137000	125000	107.3	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	29400	167000	125000	110.1	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP5070: D24848-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D24848
Account: CORCCOGJ - Olsson Associates
Project: AC McLaughlin Spill(009-0082_201_201004)

QC Batch ID: MP5070
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

5.1.2

5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D24848
 Account: CORCCOGJ - Olsson Associates
 Project: AC McLaughlin Spill(009-0082_201_201004)

QC Batch ID: MP5070
 Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
 Units: ug/l

Prep Date: 06/28/11

Metal	D24849-1A Original	MSD	Spikelot MPICPAL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	18000	156000	125000	110.4	0.6	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	2850	137000	125000	107.3	0.0	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	29400	168000	125000	110.9	0.6	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP5070: D24848-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D24848
Account: CORCCOGJ - Olsson Associates
Project: AC McLaughlin Spill(009-0082_201_201004)

QC Batch ID: MP5070
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

5.1.2

5

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D24848
 Account: CORCCOGJ - Olsson Associates
 Project: AC McLaughlin Spill(009-0082_201_201004)

QC Batch ID: MP5070
 Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
 Units: ug/l

Prep Date: 06/28/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	137000	125000	109.6	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	132000	125000	105.6	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	135000	125000	108.0	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP5070: D24848-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D24848
Account: CORCCOGJ - Olsson Associates
Project: AC McLaughlin Spill(009-0082_201_201004)

QC Batch ID: MP5070
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

5.1.3

5

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D24848
Account: CORCCOGJ - Olsson Associates
Project: AC McLaughlin Spill(009-0082_201_201004)

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP4777/GN10272			umhos/cm	9961	9850	98.9	90-110%

Associated Samples:
Batch GP4777: D24848-1
(*) Outside of QC limits

6.1

6



31-Aug-2020

Tim Dobransky
Entrada Consulting Group
240 Mesa Ave.
Grand Junction, CO 81501

Re: **AC McLaughlin 26 Resampling**

Work Order: **20081907**

Dear Tim,

ALS Environmental received 4 samples on 24-Aug-2020 11:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 13.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Entrada Consulting Group
Project: AC McLaughlin 26 Resampling
Work Order: 20081907

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
20081907-01	ACMCL26-SS1	Soil		8/19/2020 09:00	8/24/2020 11:30	<input type="checkbox"/>
20081907-02	ACMCL26-SS2	Soil		8/19/2020 09:30	8/24/2020 11:30	<input type="checkbox"/>
20081907-03	ACMCL26-SS3	Soil		8/19/2020 09:50	8/24/2020 11:30	<input type="checkbox"/>
20081907-04	ACMCL26-DG	Soil		8/19/2020 10:10	8/24/2020 11:30	<input type="checkbox"/>

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
°C	Degrees Celcius
mg/Kg-dry	Milligrams per Kilogram Dry Weight
s.u.	Standard Units

ALS Group, USA

Date: 31-Aug-20

Client: Entrada Consulting Group
Project: AC McLaughlin 26 Resampling
Sample ID: ACMCL26-SS1
Collection Date: 8/19/2020 09:00 AM

Work Order: 20081907
Lab ID: 20081907-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)				Method: SW8270E	Prep: SW3546 / 8/27/20		Analyst: EEW
Acenaphthene	U		0.00093	0.0048	mg/Kg-dry	1	8/27/2020 20:28
Anthracene	U		0.0016	0.0048	mg/Kg-dry	1	8/27/2020 20:28
Benzo(a)anthracene	0.018		0.0020	0.0048	mg/Kg-dry	1	8/27/2020 20:28
Benzo(a)pyrene	U		0.0013	0.0048	mg/Kg-dry	1	8/27/2020 20:28
Benzo(b)fluoranthene	U		0.0012	0.0048	mg/Kg-dry	1	8/27/2020 20:28
Benzo(k)fluoranthene	U		0.0014	0.0048	mg/Kg-dry	1	8/27/2020 20:28
Chrysene	0.019		0.00099	0.0048	mg/Kg-dry	1	8/27/2020 20:28
Dibenzo(a,h)anthracene	0.0020	J	0.0011	0.0048	mg/Kg-dry	1	8/27/2020 20:28
Fluoranthene	U		0.00089	0.0048	mg/Kg-dry	1	8/27/2020 20:28
Fluorene	U		0.0016	0.0048	mg/Kg-dry	1	8/27/2020 20:28
Indeno(1,2,3-cd)pyrene	U		0.0017	0.0048	mg/Kg-dry	1	8/27/2020 20:28
Naphthalene	U		0.0021	0.0048	mg/Kg-dry	1	8/27/2020 20:28
Pyrene	0.0023	J	0.00080	0.0048	mg/Kg-dry	1	8/27/2020 20:28
Surr: 2-Fluorobiphenyl	68.4			20-140	%REC	1	8/27/2020 20:28
Surr: 4-Terphenyl-d14	69.5			22-172	%REC	1	8/27/2020 20:28
Surr: Nitrobenzene-d5	62.5			28-140	%REC	1	8/27/2020 20:28
MOISTURE				Method: SW3550C			Analyst: KTP
Moisture	14		0.10	0.10	% of sample	1	8/27/2020 16:37

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 31-Aug-20

Client: Entrada Consulting Group
Project: AC McLaughlin 26 Resampling
Sample ID: ACMCL26-SS2
Collection Date: 8/19/2020 09:30 AM

Work Order: 20081907
Lab ID: 20081907-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS) Method: SW8270E Prep: SW3546 / 8/27/20 Analyst: EEW							
Acenaphthene	U		0.0011	0.0059	mg/Kg-dry	1	8/27/2020 20:43
Anthracene	U		0.0020	0.0059	mg/Kg-dry	1	8/27/2020 20:43
Benzo(a)anthracene	0.013		0.0024	0.0059	mg/Kg-dry	1	8/27/2020 20:43
Benzo(a)pyrene	U		0.0016	0.0059	mg/Kg-dry	1	8/27/2020 20:43
Benzo(b)fluoranthene	U		0.0014	0.0059	mg/Kg-dry	1	8/27/2020 20:43
Benzo(k)fluoranthene	U		0.0017	0.0059	mg/Kg-dry	1	8/27/2020 20:43
Chrysene	0.016		0.0012	0.0059	mg/Kg-dry	1	8/27/2020 20:43
Dibenzo(a,h)anthracene	U		0.0014	0.0059	mg/Kg-dry	1	8/27/2020 20:43
Fluoranthene	U		0.0011	0.0059	mg/Kg-dry	1	8/27/2020 20:43
Fluorene	U		0.0019	0.0059	mg/Kg-dry	1	8/27/2020 20:43
Indeno(1,2,3-cd)pyrene	U		0.0021	0.0059	mg/Kg-dry	1	8/27/2020 20:43
Naphthalene	U		0.0026	0.0059	mg/Kg-dry	1	8/27/2020 20:43
Pyrene	U		0.00097	0.0059	mg/Kg-dry	1	8/27/2020 20:43
Surr: 2-Fluorobiphenyl	66.4			20-140	%REC	1	8/27/2020 20:43
Surr: 4-Terphenyl-d14	46.5			22-172	%REC	1	8/27/2020 20:43
Surr: Nitrobenzene-d5	80.7			28-140	%REC	1	8/27/2020 20:43
MOISTURE Method: SW3550C Analyst: KTP							
Moisture	30		0.10	0.10	% of sample	1	8/27/2020 16:37

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 31-Aug-20

Client: Entrada Consulting Group
Project: AC McLaughlin 26 Resampling
Sample ID: ACMCL26-SS3
Collection Date: 8/19/2020 09:50 AM

Work Order: 20081907
Lab ID: 20081907-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS) Method: SW8270E Prep: SW3546 / 8/27/20 Analyst: EEW							
Acenaphthene	U		0.00099	0.0051	mg/Kg-dry	1	8/27/2020 20:59
Anthracene	0.0032	J	0.0017	0.0051	mg/Kg-dry	1	8/27/2020 20:59
Benzo(a)anthracene	0.026		0.0021	0.0051	mg/Kg-dry	1	8/27/2020 20:59
Benzo(a)pyrene	U		0.0014	0.0051	mg/Kg-dry	1	8/27/2020 20:59
Benzo(b)fluoranthene	0.0048	J	0.0012	0.0051	mg/Kg-dry	1	8/27/2020 20:59
Benzo(k)fluoranthene	0.0022	J	0.0015	0.0051	mg/Kg-dry	1	8/27/2020 20:59
Chrysene	0.026		0.0010	0.0051	mg/Kg-dry	1	8/27/2020 20:59
Dibenzo(a,h)anthracene	U		0.0012	0.0051	mg/Kg-dry	1	8/27/2020 20:59
Fluoranthene	0.0074		0.00094	0.0051	mg/Kg-dry	1	8/27/2020 20:59
Fluorene	0.0024	J	0.0017	0.0051	mg/Kg-dry	1	8/27/2020 20:59
Indeno(1,2,3-cd)pyrene	U		0.0018	0.0051	mg/Kg-dry	1	8/27/2020 20:59
Naphthalene	U		0.0022	0.0051	mg/Kg-dry	1	8/27/2020 20:59
Pyrene	0.0081		0.00084	0.0051	mg/Kg-dry	1	8/27/2020 20:59
Surr: 2-Fluorobiphenyl	83.4			20-140	%REC	1	8/27/2020 20:59
Surr: 4-Terphenyl-d14	86.4			22-172	%REC	1	8/27/2020 20:59
Surr: Nitrobenzene-d5	76.4			28-140	%REC	1	8/27/2020 20:59
MOISTURE Method: SW3550C Analyst: KTP							
Moisture	20		0.10	0.10	% of sample	1	8/27/2020 16:37
PH Method: SW9045D Prep: EXTRACT / 8/25/20 Analyst: QTN							
pH	7.15		0.10	0.100	s.u.	1	8/26/2020 11:48
Temperature	20.8		0.10	0.100	°C	1	8/26/2020 11:48

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 31-Aug-20

Client: Entrada Consulting Group
Project: AC McLaughlin 26 Resampling
Sample ID: ACMCL26-DG
Collection Date: 8/19/2020 10:10 AM

Work Order: 20081907
Lab ID: 20081907-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS) Method: SW8270E Prep: SW3546 / 8/27/20 Analyst: EEW							
Acenaphthene	U		0.0018	0.0091	mg/Kg-dry	1	8/27/2020 21:14
Anthracene	U		0.0031	0.0091	mg/Kg-dry	1	8/27/2020 21:14
Benzo(a)anthracene	U		0.0038	0.0091	mg/Kg-dry	1	8/27/2020 21:14
Benzo(a)pyrene	U		0.0025	0.0091	mg/Kg-dry	1	8/27/2020 21:14
Benzo(b)fluoranthene	U		0.0022	0.0091	mg/Kg-dry	1	8/27/2020 21:14
Benzo(k)fluoranthene	U		0.0027	0.0091	mg/Kg-dry	1	8/27/2020 21:14
Chrysene	U		0.0019	0.0091	mg/Kg-dry	1	8/27/2020 21:14
Dibenzo(a,h)anthracene	U		0.0021	0.0091	mg/Kg-dry	1	8/27/2020 21:14
Fluoranthene	U		0.0017	0.0091	mg/Kg-dry	1	8/27/2020 21:14
Fluorene	U		0.0030	0.0091	mg/Kg-dry	1	8/27/2020 21:14
Indeno(1,2,3-cd)pyrene	U		0.0033	0.0091	mg/Kg-dry	1	8/27/2020 21:14
Naphthalene	U		0.0040	0.0091	mg/Kg-dry	1	8/27/2020 21:14
Pyrene	U		0.0015	0.0091	mg/Kg-dry	1	8/27/2020 21:14
Surr: 2-Fluorobiphenyl	84.7			20-140	%REC	1	8/27/2020 21:14
Surr: 4-Terphenyl-d14	83.6			22-172	%REC	1	8/27/2020 21:14
Surr: Nitrobenzene-d5	83.7			28-140	%REC	1	8/27/2020 21:14
MOISTURE Method: SW3550C Analyst: KTP							
Moisture	29		0.10	0.10	% of sample	1	8/27/2020 16:37

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Entrada Consulting Group
Work Order: 20081907
Project: AC McLaughlin 26 Resampling

QC BATCH REPORT

Batch ID: **163286** Instrument ID **SVMS6** Method: **SW8270E**

MBLK				Sample ID: SBLKS1-163286-163286		Units: µg/Kg		Analysis Date: 8/27/2020 05:36 PM		
Client ID:		Run ID: SVMS6_200827A		SeqNo: 6667245		Prep Date: 8/27/2020		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	U	4.2								
Anthracene	U	4.2								
Benzo(a)anthracene	U	4.2								
Benzo(a)pyrene	U	4.2								
Benzo(b)fluoranthene	U	4.2								
Benzo(k)fluoranthene	U	4.2								
Chrysene	U	4.2								
Dibenzo(a,h)anthracene	U	4.2								
Fluoranthene	U	4.2								
Fluorene	U	4.2								
Indeno(1,2,3-cd)pyrene	U	4.2								
Naphthalene	U	4.2								
Pyrene	U	4.2								
Surr: 2-Fluorobiphenyl	2965	0	3333	0	89	20-140	0			
Surr: 4-Terphenyl-d14	3010	0	3333	0	90.3	22-172	0			
Surr: Nitrobenzene-d5	2434	0	3333	0	73	28-140	0			

LCS				Sample ID: SLCSS1-163286-163286		Units: µg/Kg		Analysis Date: 8/27/2020 05:52 PM		
Client ID:		Run ID: SVMS6_200827A		SeqNo: 6667246		Prep Date: 8/27/2020		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1190	4.2	1333	0	89.3	40-140	0			
Anthracene	1188	4.2	1333	0	89.1	40-140	0			
Benzo(a)anthracene	1334	4.2	1333	0	100	40-140	0			
Benzo(a)pyrene	1171	4.2	1333	0	87.8	40-140	0			
Benzo(b)fluoranthene	1339	4.2	1333	0	100	40-140	0			
Benzo(k)fluoranthene	1119	4.2	1333	0	84	40-140	0			
Chrysene	1228	4.2	1333	0	92.1	40-140	0			
Dibenzo(a,h)anthracene	1338	4.2	1333	0	100	40-140	0			
Fluoranthene	1259	4.2	1333	0	94.5	40-140	0			
Fluorene	1194	4.2	1333	0	89.6	40-140	0			
Indeno(1,2,3-cd)pyrene	1560	4.2	1333	0	117	40-140	0			
Naphthalene	1282	4.2	1333	0	96.2	40-140	0			
Pyrene	1224	4.2	1333	0	91.8	40-140	0			
Surr: 2-Fluorobiphenyl	2990	0	3333	0	89.7	20-140	0			
Surr: 4-Terphenyl-d14	3115	0	3333	0	93.5	22-172	0			
Surr: Nitrobenzene-d5	2407	0	3333	0	72.2	28-140	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Entrada Consulting Group
 Work Order: 20081907
 Project: AC McLaughlin 26 Resampling

QC BATCH REPORT

Batch ID: 163286 Instrument ID SVMS6 Method: SW8270E

MS				Sample ID: 20081495-01A MS		Units: µg/Kg		Analysis Date: 8/27/2020 06:07 PM		
Client ID:		Run ID: SVMS6_200827A			SeqNo: 6667247		Prep Date: 8/27/2020		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	2847	10	3251	0	87.6	40-140	0			
Anthracene	2821	10	3251	18.53	86.2	40-140	0			
Benzo(a)anthracene	3069	10	3251	49.07	92.9	40-140	0			
Benzo(a)pyrene	2522	10	3251	47.63	76.1	40-140	0			
Benzo(b)fluoranthene	3048	10	3251	90.46	91	40-140	0			
Benzo(k)fluoranthene	2448	10	3251	32.22	74.3	40-140	0			
Chrysene	2828	10	3251	51.16	85.4	40-140	0			
Dibenzo(a,h)anthracene	3067	10	3251	10.52	94	40-140	0			
Fluoranthene	2988	10	3251	69.93	89.8	40-140	0			
Fluorene	2906	10	3251	0	89.4	40-140	0			
Indeno(1,2,3-cd)pyrene	3287	10	3251	51.77	99.5	40-140	0			
Naphthalene	2998	10	3251	0	92.2	40-140	0			
Pyrene	2940	10	3251	71.18	88.2	40-140	0			
Surr: 2-Fluorobiphenyl	6984	0	8129	0	85.9	20-140	0			
Surr: 4-Terphenyl-d14	6668	0	8129	0	82	22-172	0			
Surr: Nitrobenzene-d5	5854	0	8129	0	72	28-140	0			

MSD				Sample ID: 20081495-01A MSD		Units: µg/Kg		Analysis Date: 8/27/2020 06:23 PM		
Client ID:		Run ID: SVMS6_200827A			SeqNo: 6667248		Prep Date: 8/27/2020		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	2845	11	3366	0	84.5	40-140	2847	0.0517	30	
Anthracene	2794	11	3366	18.53	82.4	40-140	2821	0.983	30	
Benzo(a)anthracene	3045	11	3366	49.07	89	40-140	3069	0.78	30	
Benzo(a)pyrene	2532	11	3366	47.63	73.8	40-140	2522	0.404	30	
Benzo(b)fluoranthene	3106	11	3366	90.46	89.6	40-140	3048	1.89	30	
Benzo(k)fluoranthene	2452	11	3366	32.22	71.9	40-140	2448	0.135	30	
Chrysene	2800	11	3366	51.16	81.7	40-140	2828	1.01	30	
Dibenzo(a,h)anthracene	2816	11	3366	10.52	83.4	40-140	3067	8.5	30	
Fluoranthene	2966	11	3366	69.93	86	40-140	2988	0.742	30	
Fluorene	2865	11	3366	0	85.1	40-140	2906	1.44	30	
Indeno(1,2,3-cd)pyrene	3222	11	3366	51.77	94.2	40-140	3287	2.01	30	
Naphthalene	2988	11	3366	0	88.8	40-140	2998	0.323	30	
Pyrene	2916	11	3366	71.18	84.5	40-140	2940	0.807	30	
Surr: 2-Fluorobiphenyl	7419	0	8417	0	88.2	20-140	6984	6.04	30	
Surr: 4-Terphenyl-d14	7310	0	8417	0	86.9	22-172	6668	9.19	30	
Surr: Nitrobenzene-d5	6028	0	8417	0	71.6	28-140	5854	2.92	30	

The following samples were analyzed in this batch:

20081907-01A	20081907-02A	20081907-03A
20081907-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Entrada Consulting Group
Work Order: 20081907
Project: AC McLaughlin 26 Resampling

QC BATCH REPORT

Batch ID: **163164** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-163164-163164				Units: s.u.		Analysis Date: 8/26/2020 11:48 AM		
Client ID:		Run ID: WETCHEM_200826E				SeqNo: 6660572		Prep Date: 8/25/2020		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.97	0.10	4	0	99.2	90-110	0			

DUP		Sample ID: 20081942-01A DUP				Units: s.u.		Analysis Date: 8/26/2020 11:48 AM		
Client ID:		Run ID: WETCHEM_200826E				SeqNo: 6660576		Prep Date: 8/25/2020		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.9	0.10	0	0	0	0-0	7.96	0.757	20	
Temperature	20.9	0.10	0	0	0		21	0.477		

The following samples were analyzed in this batch:

20081907-03B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Entrada Consulting Group
 Work Order: 20081907
 Project: AC McLaughlin 26 Resampling

QC BATCH REPORT

Batch ID: **R296938** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R296938				Units: % of sample		Analysis Date: 8/27/2020 04:37 PM		
Client ID:		Run ID: MOIST_200827C				SeqNo: 6667113		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.10								

LCS		Sample ID: LCS-R296938				Units: % of sample		Analysis Date: 8/27/2020 04:37 PM		
Client ID:		Run ID: MOIST_200827C				SeqNo: 6667112		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.10	100	0	100	98-102	0			

DUP		Sample ID: 20081907-01A DUP				Units: % of sample		Analysis Date: 8/27/2020 04:37 PM		
Client ID: ACMCL26-SS1		Run ID: MOIST_200827C				SeqNo: 6667093		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	13.92	0.10	0	0	0	0-0	13.6	2.33	10	

DUP		Sample ID: 20081921-01B DUP				Units: % of sample		Analysis Date: 8/27/2020 04:37 PM		
Client ID:		Run ID: MOIST_200827C				SeqNo: 6667102		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	22.42	0.10	0	0	0	0-0	22.33	0.402	10	

The following samples were analyzed in this batch:

20081907-01A	20081907-02A	20081907-03A
20081907-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Environmental

Chain of Custody Form

Page 1 of 1

COC ID: 123456

☐ Cincinnati, OH
+1 513 733 5336

☐ Everett, WA
+1 425 356 2600

☐ Fort Collins, CO
+1 970 490 1511

☒ Holland, MI
+1 616 399 6070

☐ Houston, TX
+1 281 530 5656

☐ Middletown, PA
+1 717 944 5541

☐ Salt Lake City, UT
+1 801 266 7700

☐ Spring City, PA
+1 610 948 4903

☐ York, PA
+1 717 505 5280

Customer Information		ALS Project Manager:					Work Order #: <u>200 8907</u>												
Project Information		Parameter/Method Request for Analysis																	
Purchase Order		Project Name	AC McLaughlin 26 Resampling					A TPH (GRO & DRO)											
Work Order		Project Number	018-065					B BTEX											
Company Name	Entrada Consulting Group	Bill To Company	Entrada Consulting Group					C PAH (See Attached List) CO Table 910											
Sand Report To	Tim Dobransky	Invoice Attn.	Tim Dobransky					D Electrical Conductivity											
Address	330 Grand Avenue STE C	Address						E Sodium Adsorption Ratio											
City/State/Zip	Grand Junction, CO 81501	City/State/Zip						F pH											
Phone	970.549.1015	Phone						G Metals (See Attached List) CO Table 910											
Fax		Fax						H Arsenic Only											
e-Mail Address	tdobransky@entradainc.com	e-Mail Address	tdobransky@entradainc.com					I											
								J											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	ACMCL26-SS1	8/19/20	900	Soil	8	1			X										
2	ACMCL26-SS2	8/19/20	930	Soil	8	1			X										
3	ACMCL26-SS3	8/19/20	950	Soil	8	2			X			X							
4	ACMCL26-DG	8/19/20	1010	Soil	8	1			X										
5																			
6																			
7																			
8																			
9																			
10																			

Sampler(s): Please Print & Sign <u>Tim Dobransky</u>		Shipment Method: FedEx		Required Turnaround Time: <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour		Results Due Date:	
Relinquished by: <u>[Signature]</u>		Date: 8/20/20	Time: 1200	Received by: <u>[Signature]</u>		Notes: Chevron Pricing Applies - Per Bruce Schlatter	
Relinquished by: <u>[Signature]</u>		Date: 8-20-20	Time: 1830	Received by (Laboratory): <u>[Signature]</u> 8/24/20 1130		Cooler Temp. 12/ 5.6°C	
Logged by (Laboratory): <u>DFS</u>		Date: 8/24/20	Time: 1330	Checked by (Laboratory): <u>[Signature]</u>		QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Std QC + Raw Data <input type="checkbox"/> Level IV: SW846 CLP-Like Other: _____	
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035							

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

Copyright 2011 by ALS Group

Sample Receipt Checklist

Client Name: **ENTRADA**

Date/Time Received: **24-Aug-20 11:30**

Work Order: **20081907**

Received by: **DS**

Checklist completed by **Diane Shaw**

24-Aug-20

Reviewed by: **Chad Whelton**

31-Aug-20

eSignature

Date

eSignature

Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition? Yes ☒ No ☐ Not Present ☐

Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒

Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒

Chain of custody present? Yes ☒ No ☐

Chain of custody signed when relinquished and received? Yes ☒ No ☐

Chain of custody agrees with sample labels? Yes ☒ No ☐

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

Container/Temp Blank temperature in compliance? Yes ☒ No ☐

Sample(s) received on ice? Yes ☒ No ☐

Temperature(s)/Thermometer(s): **5.6/5.6 c** **IR1**

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: **8/24/2020 1:31:50 PM**

Water - VOA vials have zero headspace? Yes ☐ No ☐ No VOA vials submitted ☒

Water - pH acceptable upon receipt? Yes ☐ No ☐ N/A ☒

pH adjusted? Yes ☐ No ☐ N/A ☒

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: