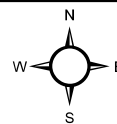
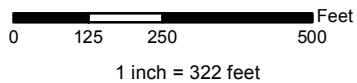




Legend

- Spill Origin — Spill Path
- Soil Sample Location



PROJECT NO: 013-0082

DRAWN BY: SBS

DATE: 06/16/2014

WEST END WATER TREATMENT PLANT
SPILL RESPONSE
CHEVRON USA, INC
RIO BLANCO COUNTY, COLORADO
SNE AND NWSE S23 T2N R103W

OLSSON
ASSOCIATES

760 HORIZON DRIVE, SUITE 102
GRAND JUNCTION, CO 81506
TEL 970.263.7800
FAX 970.263.7456

FIGURE

1

Spills 2216448 & 2216491
Received 7/2/2014
Document 2314264

Table 1
West End Water Plant Spill Response
Soil Data Summary

SAMPLE SUMMARY	
Location Description	West End Water Plant Spill
Sample Type	Soil

LABORATORY DATA SUMMARY																	
Sample ID	WEWP-SS1	WEWP-SS1	WEWP-SS1	WEWP-SS2	WEWP-SS2	WEWP-SS3	WEWP-SS4	WEWP-UG	WEWP-DG	WEWP-DG	WEWP-DG	WEWP-BG1	WEWP-BG2	WEWP-BG3	COGCC TABLE 910-1 CONCENTRATION LEVELS	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	7/26/2011	4/18/2012	4/9/2014	7/26/2011	9/21/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	8/16/2011	9/21/2011	7/26/2011	7/26/2011	7/26/2011			
Analytical Parameters																	
TPH																	
TPH Gasoline Range Organics	<6.4	NT	NT	<6.8	NT	<6.7	<7.0	<5.4	<5.4	NT	NT	NT	NT	NT	500	mg/kg	
TPH Diesel Range Organics	196	NT	NT	553	199	91.5	119	<9.1	2800	3200	28.6	NT	NT	NT			
BTEX																	
Benzene	<0.028	NT	NT	<0.030	NT	<0.029	<0.031	<0.024	<0.024	NT	NT	NT	NT	NT	0.17	mg/kg	
Toluene	<0.064	NT	NT	<0.068	NT	<0.067	<0.070	<0.054	<0.054	NT	NT	NT	NT	NT	85	mg/kg	
Ethylbenzene	<0.032	NT	NT	<0.034	NT	<0.033	<0.035	<0.027	<0.027	NT	NT	NT	NT	NT	100	mg/kg	
Total Xylene	<0.13	NT	NT	<0.14	NT	<0.13	<0.14	<0.11	<0.11	NT	NT	NT	NT	NT	175	mg/kg	
Metals																	
Arsenic	6.3	NT	NT	6.0	NT	5.2	5.4	5.4	6.2	NT	NT	5.9	5.6	6.1	0.39	mg/kg	
Barium	131	NT	NT	150	NT	95	184	108	196	NT	NT	NT	NT	NT	15,000	mg/kg	
Cadmium	<1.1	NT	NT	<1.2	NT	<1.2	<1.1	<1.0	<1.0	NT	NT	NT	NT	NT	70	mg/kg	
Chromium	9.3	NT	NT	8.3	NT	9.5	7.8	8.8	9.9	NT	NT	NT	NT	NT	NA	mg/kg	
Copper	12.9	NT	NT	10.6	NT	11.8	10.2	13.0	11.8	NT	NT	NT	NT	NT	3,100	mg/kg	
Lead	13.2	NT	NT	13.6	NT	14.6	12.8	16.0	15.6	NT	NT	NT	NT	NT	400	mg/kg	
Mercury	<0.12	NT	NT	<0.10	NT	<0.11	<0.11	<0.10	<0.10	NT	NT	NT	NT	NT	23	mg/kg	
Nickel	13.4	NT	NT	12.2	NT	14.1	11.3	14.4	14.5	NT	NT	NT	NT	NT	1,600	mg/kg	
Selenium	<5.6	NT	NT	<5.8	NT	<5.8	<5.5	<5.1	<5.2	NT	NT	NT	NT	NT	390	mg/kg	
Silver	<3.4	NT	NT	<3.5	NT	<3.5	<3.3	<3.1	<3.1	NT	NT	NT	NT	NT	390	mg/kg	
Zinc	55.7	NT	NT	50.3	NT	57.7	48.4	58.7	58.4	NT	NT	NT	NT	NT	23,000	mg/kg	
SAR Metals Analysis																	
Calcium	537	203	NT	278	NT	21.4	143	75.4	52.9	NT	NT	NT	NT	NT	NA	mg/L	
Magnesium	67.3	30.0	NT	61.1	NT	5.33	35.4	8.66	8.5	NT	NT	NT	NT	NT	NA	mg/L	
Sodium	1260	172	NT	131	NT	158	506	12.8	16.7	NT	NT	NT	NT	NT	NA	mg/L	
Sodium Adsorption Ratio	13.6	2.98	NT	1.85	NT	7.91	9.81	33.1	0.562	NT	NT	NT	NT	NT	<12		
Polynuclear Aromatic Hydrocarbons																	
Acenaphthene	<0.15	NT	NT	<0.16	NT	<0.16	<0.16	<0.056	<0.28	NT	NT	NT	NT	NT	1,000	mg/kg	
Anthracene	<0.17	NT	NT	<0.18	NT	<0.18	<0.18	<0.063	<0.31	NT	NT	NT	NT	NT	1,000	mg/kg	
Benzo(a)anthracene	<0.25	NT	NT	<0.26	NT	<0.25	<0.26	<0.090	<0.45	NT	NT	NT	NT	NT	0.22	mg/kg	
Benzo(a)pyrene	<0.34	NT	NT	<0.36	NT	<0.35	<0.36	<0.13	<0.63	NT	NT	NT	NT	NT	0.022	mg/kg	
Benzo(b)fluoranthene	<0.35	NT	NT	<0.37	NT	<0.36	<0.37	<0.13	<0.64	NT	NT	NT	NT	NT	0.22	mg/kg	
Benzo(k)fluoranthene	<0.21	NT	NT	<0.22	NT	<0.21	<0.22	<0.077	<0.38	NT	NT	NT	NT	NT	2.2	mg/kg	
Chrysene	<0.21	NT	NT	<0.22	NT	<0.21	<0.22	<0.077	<0.38	NT	NT	NT	NT	NT	22	mg/kg	
Dibenzo(a,h)anthracene	<0.35	NT	NT	<0.37	NT	<0.36	<0.37	<0.13	<0.64	NT	NT	NT	NT	NT	0.022	mg/kg	
Fluoranthene	<0.19	NT	NT	<0.20	NT	<0.19	<0.20	<0.070	<0.35	NT	NT	NT	NT	NT	1,000	mg/kg	
Fluorene	<0.16	NT	NT	<0.17	NT	<0.17	<0.17	<0.059	<0.30	NT	NT	NT	NT	NT	1,000	mg/kg	
Indeno(1,2,3-cd)pyrene	<0.53	NT	NT	<0.54	NT	<0.54	<0.55	<0.19	<0.96	NT	NT	NT	NT	NT	0.22	mg/kg	
Napthalene	<0.18	NT	NT	<0.19	NT	<0.19	<0.19	<0.066	<0.33	NT	NT	NT	NT	NT	23	mg/kg	
Pyrene	<0.18	NT	NT	<0.19	NT	<0.19	<0.19	<0.066	<0.33	NT	NT	NT	NT	NT	1,000	mg/kg	
General Chemistry																	
Chromium, Hexavalent	0.52	NT	NT	0.49	NT	0.61	0.50	<0.41	0.44	NT	NT	NT	NT	NT	23	mg/kg	
Chromium, Trivalent	8.8	NT	NT	7.8	NT	8.9	7.3	8.4	9.5	NT	NT	NT	NT	NT	120,000	mg/kg	
Redox Potential Vs H2	474	NT	NT	335	NT	383	440	447	436	NT	NT	NT	NT	NT	NA	mv	
Solids, Percent	86.9	NT	NT	84.4	92.4	85.5	83.3	95.7	95.8	97.9	92.9	97.6	97.5	94	NA	%	
Specific Conductivity	7.75	5.14	1.20	1.97	NT	0.78	3.33	0.47	0.35	NT	NT	NT	NT	NT	<4 or 2 x the background	mmhos/cm	
pH	8.53	NT	NT	9.27	NT	9.46	8.68	9.22	9.11	NT	NT	NT	NT	NT	6-9	su	

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

Over COGCC Table 910-1 Concentration Levels but under BACKGROUND level
Over COGCC Table 910-1 Concentration Levels and not within BACKGROUND level
Over COGCC Table 910-1 Concentration Levels



08/12/11

Technical Report for

Olsson Associates

009-0082_201_201004, Grand Junction, CO

West End Water Plant Spill

Accutest Job Number: D25887

Sampling Date: 07/26/11

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: 121



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	4
Section 2: Case Narrative/Conformance Summary	6
Section 3: Sample Results	10
3.1: D25887-1: WEWP-DG	11
3.2: D25887-1A: WEWP-DG	17
3.3: D25887-2: WEWP-SS1	19
3.4: D25887-2A: WEWP-SS1	25
3.5: D25887-3: WEWP-SS2	27
3.6: D25887-3A: WEWP-SS2	33
3.7: D25887-4: WEWP-BG1	35
3.8: D25887-5: WEWP-SS3	36
3.9: D25887-5A: WEWP-SS3	42
3.10: D25887-6: WEWP-BG2	44
3.11: D25887-7: WEWP-SS4	45
3.12: D25887-7A: WEWP-SS4	51
3.13: D25887-8: WEWP-BG3	53
3.14: D25887-9: WEWP-DG	54
3.15: D25887-9A: WEWP-DG	60
Section 4: Misc. Forms	62
4.1: Chain of Custody	63
Section 5: GC/MS Volatiles - QC Data Summaries	65
5.1: Method Blank Summary	66
5.2: Blank Spike Summary	68
5.3: Matrix Spike/Matrix Spike Duplicate Summary	70
Section 6: GC/MS Semi-volatiles - QC Data Summaries	72
6.1: Method Blank Summary	73
6.2: Blank Spike Summary	74
6.3: Matrix Spike/Matrix Spike Duplicate Summary	75
Section 7: GC Volatiles - QC Data Summaries	76
7.1: Method Blank Summary	77
7.2: Blank Spike Summary	78
7.3: Matrix Spike/Matrix Spike Duplicate Summary	79
Section 8: GC Semi-volatiles - QC Data Summaries	80
8.1: Method Blank Summary	81
8.2: Blank Spike Summary	82
8.3: Matrix Spike/Matrix Spike Duplicate Summary	83
Section 9: Metals Analysis - QC Data Summaries	84
9.1: Prep QC MP5339: Hg	85
9.2: Prep QC MP5352: Ba,Cd,Cr,Cu,Pb,Ni,Se,Ag,Zn	89
9.3: Prep QC MP5353: As	99
9.4: Prep QC MP5356: Ca,Mg,Na,Sodium Adsorption Ratio	104
Section 10: General Chemistry - QC Data Summaries	112

Table of Contents

-2-

10.1: Method Blank and Spike Results Summary 113

10.2: Duplicate Results Summary 114

Section 11: Misc. Forms (Accutest Labs of New England, Inc.) 115

11.1: Chain of Custody 116

Section 12: General Chemistry - QC Data (Accutest Labs of New England, Inc.) 118

12.1: Method Blank and Spike Results Summary 119

12.2: Duplicate Results Summary 120

12.3: Matrix Spike Results Summary 121

1
2
3
4
5
6
7
8
9
10
11
12

Sample Summary

Olsson Associates

Job No: D25887

009-0082_201_201004, Grand Junction, CO

Project No: West End Water Plant Spill

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D25887-1	07/26/11	08:10 TPD	07/27/11	SO	Soil	WEWP-DG
D25887-1A	07/26/11	08:10 TPD	07/27/11	SO	Soil	WEWP-DG
D25887-2	07/26/11	08:25 TPD	07/27/11	SO	Soil	WEWP-SS1
D25887-2A	07/26/11	08:25 TPD	07/27/11	SO	Soil	WEWP-SS1
D25887-3	07/26/11	08:45 TPD	07/27/11	SO	Soil	WEWP-SS2
D25887-3A	07/26/11	08:45 TPD	07/27/11	SO	Soil	WEWP-SS2
D25887-4	07/26/11	08:55 TPD	07/27/11	SO	Soil	WEWP-BG1
D25887-5	07/26/11	09:35 TPD	07/27/11	SO	Soil	WEWP-SS3
D25887-5A	07/26/11	09:35 TPD	07/27/11	SO	Soil	WEWP-SS3
D25887-6	07/26/11	09:45 TPD	07/27/11	SO	Soil	WEWP-BG2
D25887-7	07/26/11	10:00 TPD	07/27/11	SO	Soil	WEWP-SS4
D25887-7A	07/26/11	10:00 TPD	07/27/11	SO	Soil	WEWP-SS4
D25887-8	07/26/11	10:10 TPD	07/27/11	SO	Soil	WEWP-BG3

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



Sample Summary
(continued)

Olsson Associates

Job No: D25887

009-0082_201_201004, Grand Junction, CO
Project No: West End Water Plant Spill

Sample Number	Collected		Matrix Code	Type	Client Sample ID
	Date	Time By			
D25887-9	07/26/11	10:25 TPD	07/27/11	SO Soil	WEWP-DG
D25887-9A	07/26/11	10:25 TPD	07/27/11	SO Soil	WEWP-DG

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Olsson Associates

Job No D25887

Site: 009-0082_201_201004, Grand Junction, CO

Report Dat 8/12/2011 6:00:38 PM

On 07/27/2011, 9 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.4 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D25887 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: V3V769

- All samples were analyzed within the recommended method holding time.
- Sample(s) D26014-1MS, D26014-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix SO

Batch ID: V5V991

- All samples were analyzed within the recommended method holding time.
- Sample(s) D25909-3MS, D25909-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix SO

Batch ID: OP4160

- All samples were extracted 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) D25909-1MS, D25909-1MSD were used as the QC samples indicated.
- The matrix spike (MS) and matrix spike duplicate (MSD) recovery(s) of multiple analytes are outside control limits. Probable cause due to dilution.
- The matrix spike (MS) recovery(s) of Naphthalene are outside control limits. Probable cause due to the ratio of spike to sample concentration < 4.
- D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9, : Elevated RL due to matrix interference.

Volatiles by GC By Method SW846 8015B

Matrix SO

Batch ID: GGB691

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D25887-1MS, D25887-1MSD were used as the QC samples indicated.
- Sample(s) D25887-9 have surrogates outside control limits. Probable cause due to matrix interference.

Matrix SO

Batch ID: GGB692

- The data for SW846 8015B meets quality control requirements.
- D25887-9: Confirmation run.

Extractables by GC By Method SW846-8015B

Matrix SO

Batch ID: OP4211

- All samples were extracted 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) D26093-1MS, D26093-1MSD were used as the QC samples indicated.

Metals By Method SW846 6010B

Matrix AQ

Batch ID: MP5356

- All samples were digested 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) D25887-1AMS, D25887-1AMSD were used as the QC samples for the metals analysis.

Matrix SO

Batch ID: MP5352

- All samples were digested 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) D25965-1MS, D25965-1MSD, D25965-1SDL were used as the QC samples for the metals analysis.
- The matrix spike (MS) recovery(s) of Nickel are outside control limits. Spike recovery indicates possible matrix interference.
- The matrix spike duplicate (MSD) recovery(s) of Selenium are outside control limits. Probable cause due to matrix interference.
- The matrix spike (MS) recovery(s) of Barium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- The RPD(s) for the MS and MSD recoveries of Barium are outside control limits for sample MP5352-S2. High RPD due to possible sample nonhomogeneity.
- The serial dilution RPD(s) for Silver are outside control limits for sample MP5352-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- The serial dilution RPD(s) for Chromium, Nickel, Zinc are outside control limits for sample MP5352-SD1. Serial dilution indicates possible matrix interference.

Metals By Method SW846 6020

Matrix SO

Batch ID: MP5353

- All samples were digested 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) D25965-1MS, D25965-1MSD, D25965-1SDL were used as the QC samples for the metals analysis.

Metals By Method SW846 7471A

Matrix SO

Batch ID: MP5339

- All samples were digested 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) D25888-1MS, D25888-1MSD were used as the QC samples for the metals analysis.

Wet Chemistry By Method ASTM D1498-76M

Matrix SO

Batch ID: GN10738

- Sample(s) D25887-3DUP were used as the QC samples for the Redox Potential Vs H2 analysis.

Friday, August 12, 2011

Page 2 of 3

Wet Chemistry By Method SM19 2540B M

Matrix SO	Batch ID: GN10768
------------------	--------------------------

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

Wet Chemistry By Method SW846 3060/7196A M

Matrix SO	Batch ID: R8975
------------------	------------------------

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

Wet Chemistry By Method SW846 3060A/7196A

Matrix SO	Batch ID: M:GP13316
------------------	----------------------------

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

Wet Chemistry By Method USDA HANDBOOK 60

Matrix SO	Batch ID: MP5356
------------------	-------------------------

- Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(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 DELIVERY GROUP CASE NARRATIVE

Client: Accutest Mountain States

Job No D25887

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

Report Date 8/9/2011 10:02:07 AM

6 Sample(s) were collected on 07/26/2011 and were received at Accutest on 07/27/2011 properly preserved, at 1.1 Deg. C and intact. These Samples received an Accutest job number of D25887. 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 SO

Batch ID: GP13316

- 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) D25925-1MS, D25925-1DUP were used as the QC samples for Chromium, Hexavalent.
- RPD(s) for Duplicate for Chromium, Hexavalent are outside control limits for sample GP13316-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(D25887).

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	WEWP-DG		
Lab Sample ID:	D25887-1	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8260B	Percent Solids:	95.7
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V16766.D	1	07/28/11	DC	n/a	n/a	V5V991
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.07 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	54	24	ug/kg	
108-88-3	Toluene	ND	110	54	ug/kg	
100-41-4	Ethylbenzene	ND	110	27	ug/kg	
1330-20-7	Xylene (total)	ND	210	110	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		61-130%
460-00-4	4-Bromofluorobenzene	93%		53-131%
17060-07-0	1,2-Dichloroethane-D4	85%		62-130%

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:	WEWP-DG		
Lab Sample ID:	D25887-1	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8270C BY SIM SW846 3546	Percent Solids:	95.7
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3G05339.D	10	08/03/11	TMB	07/28/11	OP4160	E3G195
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	70	56	ug/kg	
120-12-7	Anthracene	ND	70	63	ug/kg	
56-55-3	Benzo(a)anthracene	ND	170	90	ug/kg	
50-32-8	Benzo(a)pyrene	ND	170	130	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	170	130	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	170	77	ug/kg	
218-01-9	Chrysene	ND	170	77	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	170	130	ug/kg	
206-44-0	Fluoranthene	ND	70	70	ug/kg	
86-73-7	Fluorene	ND	70	59	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	210	190	ug/kg	
91-20-3	Naphthalene	ND	70	66	ug/kg	
129-00-0	Pyrene	ND	70	66	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	75%		10-145%
321-60-8	2-Fluorobiphenyl	74%		10-130%
1718-51-0	Terphenyl-d14	95%		22-130%

(a) Elevated RL 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:	WEWP-DG		
Lab Sample ID:	D25887-1	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8015B	Percent Solids:	95.7
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB12031.D	1	07/27/11	SK	n/a	n/a	GGB691
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	5.4	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	80%		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:	WEWP-DG		Date Sampled:	07/26/11
Lab Sample ID:	D25887-1		Date Received:	07/27/11
Matrix:	SO - Soil		Percent Solids:	95.7
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	FD08501.D	1	08/07/11	KV	08/05/11	OP4211	GFD381
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)	ND	14	9.1	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	100%		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: WEWP-DG**Lab Sample ID:** D25887-1**Matrix:** SO - Soil**Date Sampled:** 07/26/11**Date Received:** 07/27/11**Percent Solids:** 95.7**Project:** 009-0082_201_201004, Grand Junction, CO

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.4	0.41	mg/kg	5	07/29/11	07/30/11 GJ	SW846 6020 ²	SW846 3050B ⁶
Barium	108	1.0	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Cadmium	< 1.0	1.0	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Chromium	8.8	1.0	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Copper	13.0	1.0	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Lead	16.0	5.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Mercury	< 0.10	0.10	mg/kg	1	07/28/11	07/28/11 JM	SW846 7471A ¹	SW846 7471A ⁴
Nickel	14.4	3.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Selenium	< 5.1	5.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Silver	< 3.1	3.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Zinc	58.7	3.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵

(1) Instrument QC Batch: MA1709

(2) Instrument QC Batch: MA1712

(3) Instrument QC Batch: MA1715

(4) Prep QC Batch: MP5339

(5) Prep QC Batch: MP5352

(6) Prep QC Batch: MP5353

RL = Reporting Limit

Report of Analysis

Client Sample ID: WEWP-DG**Lab Sample ID:** D25887-1**Matrix:** SO - Soil**Date Sampled:** 07/26/11**Date Received:** 07/27/11**Percent Solids:** 95.7**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	08/05/11 15:41	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	8.4	1.4	mg/kg	1	08/05/11 15:41	AMA	SW846 3060/7196A M
Redox Potential Vs H2	447		mv	1	07/27/11	JD	ASTM D1498-76M
Solids, Percent	95.7		%	1	07/29/11	SWT	SM19 2540B M
Specific Conductivity	470	1.0	umhos/cm	1	08/01/11	CJ	DEPT.OF AG, BOOK N9
pH	9.22		su	1	07/27/11 11:45	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:	WEWP-DG	
Lab Sample ID:	D25887-1A	Date Sampled: 07/26/11
Matrix:	SO - Soil	Date Received: 07/27/11
		Percent Solids: 95.7
Project:	009-0082_201_201004, Grand Junction, CO	

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	75.4	2.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²
Magnesium	8.66	1.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²
Sodium	12.8	2.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA1715
(2) Prep QC Batch: MP5356

RL = Reporting Limit

Report of Analysis

Client Sample ID:	WEWP-DG		
Lab Sample ID:	D25887-1A	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
		Percent Solids:	95.7
Project:	009-0082_201_201004, Grand Junction, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	0.372		ratio	1	07/29/11 19:48	JM	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:	WEWP-SS1		
Lab Sample ID:	D25887-2	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8260B	Percent Solids:	86.9
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V13517.D	1	07/30/11	DC	n/a	n/a	V3V769
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.07 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	130	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	85%		61-130%
460-00-4	4-Bromofluorobenzene	90%		53-131%
17060-07-0	1,2-Dichloroethane-D4	77%		62-130%

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:	WEWP-SS1		
Lab Sample ID:	D25887-2	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8270C BY SIM SW846 3546	Percent Solids:	86.9
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3G05340.D	25	08/03/11	TMB	07/28/11	OP4160	E3G195
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	190	150	ug/kg	
120-12-7	Anthracene	ND	190	170	ug/kg	
56-55-3	Benzo(a)anthracene	ND	480	250	ug/kg	
50-32-8	Benzo(a)pyrene	ND	480	340	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	480	350	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	480	210	ug/kg	
218-01-9	Chrysene	ND	480	210	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	480	350	ug/kg	
206-44-0	Fluoranthene	ND	190	190	ug/kg	
86-73-7	Fluorene	ND	190	160	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	570	530	ug/kg	
91-20-3	Naphthalene	ND	190	180	ug/kg	
129-00-0	Pyrene	ND	190	180	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	60%		10-145%
321-60-8	2-Fluorobiphenyl	62%		10-130%
1718-51-0	Terphenyl-d14	79%		22-130%

(a) Elevated RL 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:	WEWP-SS1		
Lab Sample ID:	D25887-2	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8015B	Percent Solids:	86.9
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB12034.D	1	07/27/11	SK	n/a	n/a	GGB691
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.1 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	84%		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:	WEWP-SS1		
Lab Sample ID:	D25887-2	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846-8015B SW846 3546	Percent Solids:	86.9
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD08502.D	1	08/07/11	KV	08/05/11	OP4211	GFD381
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)	196	15	9.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	84%		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: WEWP-SS1

Lab Sample ID: D25887-2

Matrix: SO - Soil

Date Sampled: 07/26/11

Date Received: 07/27/11

Percent Solids: 86.9

Project: 009-0082_201_201004, Grand Junction, CO

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.3	0.45	mg/kg	5	07/29/11	07/30/11 GJ	SW846 6020 ²	SW846 3050B ⁶
Barium	131	1.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Cadmium	< 1.1	1.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Chromium	9.3	1.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Copper	12.9	1.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Lead	13.2	5.6	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Mercury	< 0.12	0.12	mg/kg	1	07/28/11	07/28/11 JM	SW846 7471A ¹	SW846 7471A ⁴
Nickel	13.4	3.4	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Selenium	< 5.6	5.6	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Silver	< 3.4	3.4	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Zinc	55.7	3.4	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵

(1) Instrument QC Batch: MA1709

(2) Instrument QC Batch: MA1712

(3) Instrument QC Batch: MA1715

(4) Prep QC Batch: MP5339

(5) Prep QC Batch: MP5352

(6) Prep QC Batch: MP5353

RL = Reporting Limit

Report of Analysis

Client Sample ID: WEWP-SS1**Lab Sample ID:** D25887-2**Matrix:** SO - Soil**Date Sampled:** 07/26/11**Date Received:** 07/27/11**Percent Solids:** 86.9**Project:** 009-0082_201_201004, Grand Junction, CO

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent ^a	0.52	0.45	mg/kg	1	08/05/11 15:41	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	8.8	1.6	mg/kg	1	08/05/11 15:41	AMA	SW846 3060/7196A M
Redox Potential Vs H2	474		mv	1	07/27/11	JD	ASTM D1498-76M
Solids, Percent	86.9		%	1	07/29/11	SWT	SM19 2540B M
Specific Conductivity	7750	1.0	umhos/cm	1	08/01/11	CJ	DEPT.OF AG, BOOK N9
pH	8.53		su	1	07/27/11 11:45	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:	WEWP-SS1		
Lab Sample ID:	D25887-2A	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
		Percent Solids:	86.9
Project:	009-0082_201_201004, Grand Junction, CO		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	537	2.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²
Magnesium	67.3	1.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²
Sodium	1260	2.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²

- (1) Instrument QC Batch: MA1715
(2) Prep QC Batch: MP5356

RL = Reporting Limit

Report of Analysis

Client Sample ID:	WEWP-SS1		
Lab Sample ID:	D25887-2A	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
		Percent Solids:	86.9
Project:	009-0082_201_201004, Grand Junction, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	13.6		ratio	1	07/29/11 20:06	JM	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:	WEWP-SS2		
Lab Sample ID:	D25887-3	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8260B	Percent Solids:	84.4
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V13518.D	1	07/30/11	DC	n/a	n/a	V3V769
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.04 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	68	30	ug/kg	
108-88-3	Toluene	ND	140	68	ug/kg	
100-41-4	Ethylbenzene	ND	140	34	ug/kg	
1330-20-7	Xylene (total)	ND	270	140	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	80%		61-130%
460-00-4	4-Bromofluorobenzene	81%		53-131%
17060-07-0	1,2-Dichloroethane-D4	70%		62-130%

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:	WEWP-SS2		
Lab Sample ID:	D25887-3	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8270C BY SIM SW846 3546	Percent Solids:	84.4
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3G05341.D	25	08/03/11	TMB	07/28/11	OP4160	E3G195
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	200	160	ug/kg	
120-12-7	Anthracene	ND	200	180	ug/kg	
56-55-3	Benzo(a)anthracene	ND	490	260	ug/kg	
50-32-8	Benzo(a)pyrene	ND	490	360	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	490	370	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	490	220	ug/kg	
218-01-9	Chrysene	ND	490	220	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	490	370	ug/kg	
206-44-0	Fluoranthene	ND	200	200	ug/kg	
86-73-7	Fluorene	ND	200	170	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	590	540	ug/kg	
91-20-3	Naphthalene	ND	200	190	ug/kg	
129-00-0	Pyrene	ND	200	190	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	85%		10-145%
321-60-8	2-Fluorobiphenyl	94%		10-130%
1718-51-0	Terphenyl-d14	105%		22-130%

(a) Elevated RL 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:	WEWP-SS2		Date Sampled:	07/26/11	
Lab Sample ID:	D25887-3		Date Received:	07/27/11	
Matrix:	SO - Soil		Percent Solids:	84.4	
Method:	SW846 8015B				
Project:	009-0082_201_201004, Grand Junction, CO				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB12035.D	1	07/27/11	SK	n/a	n/a	GGB691
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	14	6.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	78%		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:	WEWP-SS2		Date Sampled:	07/26/11
Lab Sample ID:	D25887-3		Date Received:	07/27/11
Matrix:	SO - Soil		Percent Solids:	84.4
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	FD08503.D	1	08/07/11	KV	08/05/11	OP4211	GFD381
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)	553	16	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	91%		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: WEWP-SS2

Lab Sample ID: D25887-3

Matrix: SO - Soil

Date Sampled: 07/26/11

Date Received: 07/27/11

Percent Solids: 84.4

Project: 009-0082_201_201004, Grand Junction, CO

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.0	0.46	mg/kg	5	07/29/11	07/30/11 GJ	SW846 6020 ²	SW846 3050B ⁶
Barium	150	1.2	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Cadmium	< 1.2	1.2	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Chromium	8.3	1.2	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Copper	10.6	1.2	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Lead	13.6	5.8	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Mercury	< 0.10	0.10	mg/kg	1	07/28/11	07/28/11 JM	SW846 7471A ¹	SW846 7471A ⁴
Nickel	12.2	3.5	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Selenium	< 5.8	5.8	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Silver	< 3.5	3.5	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵
Zinc	50.3	3.5	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁵

(1) Instrument QC Batch: MA1709

(2) Instrument QC Batch: MA1712

(3) Instrument QC Batch: MA1715

(4) Prep QC Batch: MP5339

(5) Prep QC Batch: MP5352

(6) Prep QC Batch: MP5353

RL = Reporting Limit

Report of Analysis

Client Sample ID: WEWP-SS2**Lab Sample ID:** D25887-3**Matrix:** SO - Soil**Date Sampled:** 07/26/11**Date Received:** 07/27/11**Percent Solids:** 84.4**Project:** 009-0082_201_201004, Grand Junction, CO

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent ^a	0.49	0.46	mg/kg	1	08/05/11 15:41	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	7.8	1.7	mg/kg	1	08/05/11 15:41	AMA	SW846 3060/7196A M
Redox Potential Vs H2	335		mv	1	07/27/11	JD	ASTM D1498-76M
Solids, Percent	84.4		%	1	07/29/11	SWT	SM19 2540B M
Specific Conductivity	1970	1.0	umhos/cm	1	08/01/11	CJ	DEPT.OF AG, BOOK N9
pH	9.27		su	1	07/27/11 11:45	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:	WEWP-SS2		
Lab Sample ID:	D25887-3A	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
		Percent Solids:	84.4
Project:	009-0082_201_201004, Grand Junction, CO		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	278	2.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²
Magnesium	61.1	1.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²
Sodium	131	2.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA1715
(2) Prep QC Batch: MP5356

RL = Reporting Limit

Report of Analysis

Client Sample ID:	WEWP-SS2	Date Sampled:	07/26/11
Lab Sample ID:	D25887-3A	Date Received:	07/27/11
Matrix:	SO - Soil	Percent Solids:	84.4
Project:	009-0082_201_201004, Grand Junction, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	1.85		ratio	1	07/29/11 20:16	JM	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:	WEWP-BG1	
Lab Sample ID:	D25887-4	Date Sampled: 07/26/11
Matrix:	SO - Soil	Date Received: 07/27/11
		Percent Solids: 97.6
Project:	009-0082_201_201004, Grand Junction, CO	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.9	0.38	mg/kg	5	07/29/11	07/30/11 GJ	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA1712
(2) Prep QC Batch: MP5353

RL = Reporting Limit

Report of Analysis

Client Sample ID:	WEWP-SS3		
Lab Sample ID:	D25887-5	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8260B	Percent Solids:	85.5
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V13519.D	1	07/30/11	DC	n/a	n/a	V3V769
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.02 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	67	29	ug/kg	
108-88-3	Toluene	ND	130	67	ug/kg	
100-41-4	Ethylbenzene	ND	130	33	ug/kg	
1330-20-7	Xylene (total)	ND	270	130	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	83%		61-130%
460-00-4	4-Bromofluorobenzene	85%		53-131%
17060-07-0	1,2-Dichloroethane-D4	76%		62-130%

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:	WEWP-SS3		
Lab Sample ID:	D25887-5	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8270C BY SIM SW846 3546	Percent Solids:	85.5
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3G05342.D	25	08/03/11	TMB	07/28/11	OP4160	E3G195
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	190	160	ug/kg	
120-12-7	Anthracene	ND	190	180	ug/kg	
56-55-3	Benzo(a)anthracene	ND	490	250	ug/kg	
50-32-8	Benzo(a)pyrene	ND	490	350	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	490	360	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	490	210	ug/kg	
218-01-9	Chrysene	ND	490	210	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	490	360	ug/kg	
206-44-0	Fluoranthene	ND	190	190	ug/kg	
86-73-7	Fluorene	ND	190	170	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	580	540	ug/kg	
91-20-3	Naphthalene	ND	190	190	ug/kg	
129-00-0	Pyrene	ND	190	190	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	97%		10-145%
321-60-8	2-Fluorobiphenyl	93%		10-130%
1718-51-0	Terphenyl-d14	120%		22-130%

(a) Elevated RL 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:	WEWP-SS3		
Lab Sample ID:	D25887-5	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8015B	Percent Solids:	85.5
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB12036.D	1	07/27/11	SK	n/a	n/a	GGB691
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	6.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	79%		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:	WEWP-SS3		
Lab Sample ID:	D25887-5	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846-8015B SW846 3546	Percent Solids:	85.5
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD08504.D	1	08/07/11	KV	08/05/11	OP4211	GFD381
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)	91.5	16	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	84%		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: WEWP-SS3**Lab Sample ID:** D25887-5**Matrix:** SO - Soil**Date Sampled:** 07/26/11**Date Received:** 07/27/11**Percent Solids:** 85.5**Project:** 009-0082_201_201004, Grand Junction, CO

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analized By	Method	Prep Method
Arsenic	5.2	0.47	mg/kg	5	07/29/11	07/30/11 GJ	SW846 6020 ²	SW846 3050B ⁷
Barium	95.0	1.2	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Cadmium	< 1.2	1.2	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Chromium	9.5	1.2	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Copper	11.8	1.2	mg/kg	1	07/29/11	08/01/11 JM	SW846 6010B ⁴	SW846 3050B ⁶
Lead	14.6	5.8	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Mercury	< 0.11	0.11	mg/kg	1	07/28/11	07/28/11 JM	SW846 7471A ¹	SW846 7471A ⁵
Nickel	14.1	3.5	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Selenium	< 5.8	5.8	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Silver	< 3.5	3.5	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Zinc	57.7	3.5	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶

(1) Instrument QC Batch: MA1709

(2) Instrument QC Batch: MA1712

(3) Instrument QC Batch: MA1715

(4) Instrument QC Batch: MA1718

(5) Prep QC Batch: MP5339

(6) Prep QC Batch: MP5352

(7) Prep QC Batch: MP5353

RL = Reporting Limit

Report of Analysis

Client Sample ID: WEWP-SS3**Lab Sample ID:** D25887-5**Matrix:** SO - Soil**Date Sampled:** 07/26/11**Date Received:** 07/27/11**Percent Solids:** 85.5**Project:** 009-0082_201_201004, Grand Junction, CO

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent ^a	0.61	0.46	mg/kg	1	08/05/11 16:04	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	8.9	1.7	mg/kg	1	08/05/11 16:04	AMA	SW846 3060/7196A M
Redox Potential Vs H2	383		mv	1	07/27/11	JD	ASTM D1498-76M
Solids, Percent	85.5		%	1	07/29/11	SWT	SM19 2540B M
Specific Conductivity	775	1.0	umhos/cm	1	08/01/11	CJ	DEPT.OF AG, BOOK N9
pH	9.46		su	1	07/27/11 11:45	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:	WEWP-SS3		
Lab Sample ID:	D25887-5A	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
		Percent Solids:	85.5
Project:	009-0082_201_201004, Grand Junction, CO		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	21.4	2.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²
Magnesium	5.33	1.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²
Sodium	158	2.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA1715
(2) Prep QC Batch: MP5356

RL = Reporting Limit

Report of Analysis

Client Sample ID:	WEWP-SS3	Date Sampled:	07/26/11
Lab Sample ID:	D25887-5A	Date Received:	07/27/11
Matrix:	SO - Soil	Percent Solids:	85.5
Project:	009-0082_201_201004, Grand Junction, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	7.91		ratio	1	07/29/11 20:23	JM	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:	WEWP-BG2	
Lab Sample ID:	D25887-6	Date Sampled: 07/26/11
Matrix:	SO - Soil	Date Received: 07/27/11
		Percent Solids: 97.5
Project:	009-0082_201_201004, Grand Junction, CO	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.6	0.41	mg/kg	5	07/29/11	07/30/11 GJ	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA1712
(2) Prep QC Batch: MP5353

RL = Reporting Limit

Report of Analysis

Client Sample ID:	WEWP-SS4		
Lab Sample ID:	D25887-7	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8260B	Percent Solids:	83.3
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V13520.D	1	07/31/11	DC	n/a	n/a	V3V769
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.04 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	70	31	ug/kg	
108-88-3	Toluene	ND	140	70	ug/kg	
100-41-4	Ethylbenzene	ND	140	35	ug/kg	
1330-20-7	Xylene (total)	ND	280	140	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	82%		61-130%
460-00-4	4-Bromofluorobenzene	84%		53-131%
17060-07-0	1,2-Dichloroethane-D4	75%		62-130%

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:	WEWP-SS4		
Lab Sample ID:	D25887-7	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8270C BY SIM SW846 3546	Percent Solids:	83.3
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3G05343.D	25	08/03/11	TMB	07/28/11	OP4160	E3G195
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	200	160	ug/kg	
120-12-7	Anthracene	ND	200	180	ug/kg	
56-55-3	Benzo(a)anthracene	ND	500	260	ug/kg	
50-32-8	Benzo(a)pyrene	ND	500	360	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	500	370	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	500	220	ug/kg	
218-01-9	Chrysene	ND	500	220	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	500	370	ug/kg	
206-44-0	Fluoranthene	ND	200	200	ug/kg	
86-73-7	Fluorene	ND	200	170	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	600	550	ug/kg	
91-20-3	Naphthalene	ND	200	190	ug/kg	
129-00-0	Pyrene	ND	200	190	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		10-145%
321-60-8	2-Fluorobiphenyl	70%		10-130%
1718-51-0	Terphenyl-d14	85%		22-130%

(a) Elevated RL 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:	WEWP-SS4			
Lab Sample ID:	D25887-7		Date Sampled:	07/26/11
Matrix:	SO - Soil		Date Received:	07/27/11
Method:	SW846 8015B		Percent Solids:	83.3
Project:	009-0082_201_201004, Grand Junction, CO			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB12037.D	1	07/27/11	SK	n/a	n/a	GGB691
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	14	7.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	77%		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:	WEWP-SS4			
Lab Sample ID:	D25887-7		Date Sampled:	07/26/11
Matrix:	SO - Soil		Date Received:	07/27/11
Method:	SW846-8015B SW846 3546		Percent Solids:	83.3
Project:	009-0082_201_201004, Grand Junction, CO			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD08505.D	1	08/07/11	KV	08/05/11	OP4211	GFD381
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)	119	16	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	93%		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: WEWP-SS4**Lab Sample ID:** D25887-7**Date Sampled:** 07/26/11**Matrix:** SO - Soil**Date Received:** 07/27/11**Percent Solids:** 83.3**Project:** 009-0082_201_201004, Grand Junction, CO**Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.4	0.44	mg/kg	5	07/29/11	07/30/11 GJ	SW846 6020 ²	SW846 3050B ⁷
Barium	184	1.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Cadmium	< 1.1	1.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Chromium	7.8	1.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Copper	10.2	1.1	mg/kg	1	07/29/11	08/01/11 JM	SW846 6010B ⁴	SW846 3050B ⁶
Lead	12.8	5.5	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Mercury	< 0.11	0.11	mg/kg	1	07/28/11	07/28/11 JM	SW846 7471A ¹	SW846 7471A ⁵
Nickel	11.3	3.3	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Selenium	< 5.5	5.5	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Silver	< 3.3	3.3	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Zinc	48.4	3.3	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶

(1) Instrument QC Batch: MA1709

(2) Instrument QC Batch: MA1712

(3) Instrument QC Batch: MA1715

(4) Instrument QC Batch: MA1718

(5) Prep QC Batch: MP5339

(6) Prep QC Batch: MP5352

(7) Prep QC Batch: MP5353

RL = Reporting Limit

Report of Analysis

Client Sample ID: WEWP-SS4**Lab Sample ID:** D25887-7**Matrix:** SO - Soil**Date Sampled:** 07/26/11**Date Received:** 07/27/11**Percent Solids:** 83.3**Project:** 009-0082_201_201004, Grand Junction, CO

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent ^a	0.50	0.47	mg/kg	1	08/05/11 16:04	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	7.3	1.6	mg/kg	1	08/05/11 16:04	AMA	SW846 3060/7196A M
Redox Potential Vs H2	440		mv	1	07/27/11	JD	ASTM D1498-76M
Solids, Percent	83.3		%	1	07/29/11	SWT	SM19 2540B M
Specific Conductivity	3330	1.0	umhos/cm	1	08/01/11	CJ	DEPT.OF AG, BOOK N9
pH	8.68		su	1	07/27/11 11:45	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: WEWP-SS4**Lab Sample ID:** D25887-7A**Matrix:** SO - Soil**Date Sampled:** 07/26/11**Date Received:** 07/27/11**Percent Solids:** 83.3**Project:** 009-0082_201_201004, Grand Junction, CO

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	143	2.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²
Magnesium	35.4	1.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²
Sodium	506	2.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA1715

(2) Prep QC Batch: MP5356

RL = Reporting Limit

Report of Analysis

Client Sample ID:	WEWP-SS4	Date Sampled:	07/26/11
Lab Sample ID:	D25887-7A	Date Received:	07/27/11
Matrix:	SO - Soil	Percent Solids:	83.3
Project:	009-0082_201_201004, Grand Junction, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	9.81		ratio	1	07/29/11 20:29	JM	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:	WEWP-BG3	
Lab Sample ID:	D25887-8	Date Sampled: 07/26/11
Matrix:	SO - Soil	Date Received: 07/27/11
		Percent Solids: 94.0
Project:	009-0082_201_201004, Grand Junction, CO	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.1	0.42	mg/kg	5	07/29/11	07/30/11 GJ	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA1712
(2) Prep QC Batch: MP5353

RL = Reporting Limit

Report of Analysis

Client Sample ID:	WEWP-DG		
Lab Sample ID:	D25887-9	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8260B	Percent Solids:	95.8
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V13521.D	1	07/31/11	DC	n/a	n/a	V3V769
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	54	24	ug/kg	
108-88-3	Toluene	ND	110	54	ug/kg	
100-41-4	Ethylbenzene	ND	110	27	ug/kg	
1330-20-7	Xylene (total)	ND	220	110	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	82%		61-130%
460-00-4	4-Bromofluorobenzene	83%		53-131%
17060-07-0	1,2-Dichloroethane-D4	75%		62-130%

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:	WEWP-DG		
Lab Sample ID:	D25887-9	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8270C BY SIM SW846 3546	Percent Solids:	95.8
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3G05365.D	50	08/04/11	TMB	07/28/11	OP4160	E3G196
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	350	280	ug/kg	
120-12-7	Anthracene	ND	350	310	ug/kg	
56-55-3	Benzo(a)anthracene	ND	870	450	ug/kg	
50-32-8	Benzo(a)pyrene	ND	870	630	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	870	640	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	870	380	ug/kg	
218-01-9	Chrysene	ND	870	380	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	870	640	ug/kg	
206-44-0	Fluoranthene	ND	350	350	ug/kg	
86-73-7	Fluorene	ND	350	300	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1000	960	ug/kg	
91-20-3	Naphthalene	ND	350	330	ug/kg	
129-00-0	Pyrene	ND	350	330	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	67%		10-145%
321-60-8	2-Fluorobiphenyl	72%		10-130%
1718-51-0	Terphenyl-d14	85%		22-130%

(a) Elevated RL 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:	WEWP-DG		
Lab Sample ID:	D25887-9	Date Sampled:	07/26/11
Matrix:	SO - Soil	Date Received:	07/27/11
Method:	SW846 8015B	Percent Solids:	95.8
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB12038.D	1	07/27/11	SK	n/a	n/a	GGB691
Run #2 ^a	GB12054.D	1	07/28/11	SK	n/a	n/a	GGB692

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	5.4	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	59%	52%	60-140%

(a) Confirmation run.

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:	WEWP-DG		Date Sampled:	07/26/11
Lab Sample ID:	D25887-9		Date Received:	07/27/11
Matrix:	SO - Soil		Percent Solids:	95.8
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	FD08509.D	2	08/07/11	KV	08/05/11	OP4211	GFD381
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)	2800	28	18	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	75%		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: WEWP-DG**Lab Sample ID:** D25887-9**Date Sampled:** 07/26/11**Matrix:** SO - Soil**Date Received:** 07/27/11**Percent Solids:** 95.8**Project:** 009-0082_201_201004, Grand Junction, CO**Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.2	0.41	mg/kg	5	07/29/11	07/30/11 GJ	SW846 6020 ²	SW846 3050B ⁷
Barium	196	1.0	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Cadmium	< 1.0	1.0	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Chromium	9.9	1.0	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Copper	11.8	1.0	mg/kg	1	07/29/11	08/01/11 JM	SW846 6010B ⁴	SW846 3050B ⁶
Lead	15.6	5.2	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Mercury	< 0.10	0.10	mg/kg	1	07/28/11	07/28/11 JM	SW846 7471A ¹	SW846 7471A ⁵
Nickel	14.5	3.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Selenium	< 5.2	5.2	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Silver	< 3.1	3.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶
Zinc	58.4	3.1	mg/kg	1	07/29/11	07/29/11 JM	SW846 6010B ³	SW846 3050B ⁶

(1) Instrument QC Batch: MA1709

(2) Instrument QC Batch: MA1712

(3) Instrument QC Batch: MA1715

(4) Instrument QC Batch: MA1718

(5) Prep QC Batch: MP5339

(6) Prep QC Batch: MP5352

(7) Prep QC Batch: MP5353

RL = Reporting Limit

Report of Analysis

Client Sample ID: WEWP-DG**Lab Sample ID:** D25887-9**Date Sampled:** 07/26/11**Matrix:** SO - Soil**Date Received:** 07/27/11**Percent Solids:** 95.8**Project:** 009-0082_201_201004, Grand Junction, CO**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent ^a	0.44	0.41	mg/kg	1	08/05/11 16:04	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	9.5	1.4	mg/kg	1	08/05/11 16:04	AMA	SW846 3060/7196A M
Redox Potential Vs H2	436		mv	1	07/27/11	JD	ASTM D1498-76M
Solids, Percent	95.8		%	1	07/29/11	SWT	SM19 2540B M
Specific Conductivity	346	1.0	umhos/cm	1	08/01/11	CJ	DEPT.OF AG, BOOK N9
pH	9.11		su	1	07/27/11 11:45	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: WEWP-DG**Lab Sample ID:** D25887-9A**Matrix:** SO - Soil**Date Sampled:** 07/26/11**Date Received:** 07/27/11**Percent Solids:** 95.8**Project:** 009-0082_201_201004, Grand Junction, CO

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	52.9	2.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²
Magnesium	8.50	1.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²
Sodium	16.7	2.0	mg/l	1	07/29/11	07/29/11 JM	SW846 6010B ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA1715

(2) Prep QC Batch: MP5356

RL = Reporting Limit

Report of Analysis

Client Sample ID:	WEWP-DG	
Lab Sample ID:	D25887-9A	Date Sampled: 07/26/11
Matrix:	SO - Soil	Date Received: 07/27/11
		Percent Solids: 95.8
Project:	009-0082_201_201004, Grand Junction, CO	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	0.562		ratio	1	07/29/11 20:55	JM	USDA HANDBOOK 60

(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



Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D25887

Client: OLSSON

Immediate Client Services Action Required: No

Date / Time Received: 7/27/2011 8:45:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project: WEST END WATER PLANT SPILL

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

D25887: Chain of Custody
Page 2 of 2

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: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V991-MB	5V16749.D	1	07/27/11	DC	n/a	n/a	V5V991

The QC reported here applies to the following samples:

Method: SW846 8260B

D25887-1

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	100	ug/kg	

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	93% 61-130%
460-00-4	4-Bromofluorobenzene	85% 53-131%
17060-07-0	1,2-Dichloroethane-D4	82% 62-130%

Method Blank Summary

Page 1 of 1

Job Number: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V769-MB	3V13506.D	1	07/30/11	DC	n/a	n/a	V3V769

The QC reported here applies to the following samples:

Method: SW846 8260B

D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

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	100	ug/kg	

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	86% 61-130%
460-00-4	4-Bromofluorobenzene	80% 53-131%
17060-07-0	1,2-Dichloroethane-D4	86% 62-130%

Blank Spike Summary

Page 1 of 1

Job Number: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V991-BS	5V16750.D	1	07/27/11	DC	n/a	n/a	V5V991

The QC reported here applies to the following samples:

Method: SW846 8260B

D25887-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	40.2	80	70-130
100-41-4	Ethylbenzene	50	42.7	85	70-130
108-88-3	Toluene	50	40.7	81	70-130
1330-20-7	Xylene (total)	100	81.5	82	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	93%	61-130%
460-00-4	4-Bromofluorobenzene	94%	53-131%
17060-07-0	1,2-Dichloroethane-D4	86%	62-130%

Blank Spike Summary

Page 1 of 1

Job Number: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V769-BS	3V13507.D	1	07/30/11	DC	n/a	n/a	V3V769

The QC reported here applies to the following samples:

Method: SW846 8260B

D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	54.5	109	70-130
100-41-4	Ethylbenzene	50	55.1	110	70-130
108-88-3	Toluene	50	53.9	108	70-130
1330-20-7	Xylene (total)	100	103	103	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	86%	61-130%
460-00-4	4-Bromofluorobenzene	85%	53-131%
17060-07-0	1,2-Dichloroethane-D4	87%	62-130%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D25909-3MS	5V16759.D	1	07/28/11	DC	n/a	n/a	V5V991
D25909-3MSD	5V16760.D	1	07/28/11	DC	n/a	n/a	V5V991
D25909-3	5V16758.D	1	07/28/11	DC	n/a	n/a	V5V991

The QC reported here applies to the following samples:

Method: SW846 8260B

D25887-1

CAS No.	Compound	D25909-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		3460	2880	83	3070	89	6	70-134/30
100-41-4	Ethylbenzene	ND		3460	3010	87	3210	93	6	70-137/30
108-88-3	Toluene	ND		3460	2810	81	2950	85	5	70-130/30
1330-20-7	Xylene (total)	ND		6920	5860	85	6220	90	6	61-131/30

CAS No.	Surrogate Recoveries	MS	MSD	D25909-3	Limits
2037-26-5	Toluene-D8	90%	89%	89%	61-130%
460-00-4	4-Bromofluorobenzene	101%	100%	91%	53-131%
17060-07-0	1,2-Dichloroethane-D4	87%	84%	87%	62-130%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D26014-1MS	3V13509.D	1	07/30/11	DC	n/a	n/a	V3V769
D26014-1MSD	3V13510.D	1	07/30/11	DC	n/a	n/a	V3V769
D26014-1	3V13508.D	1	07/30/11	DC	n/a	n/a	V3V769

The QC reported here applies to the following samples:

Method: SW846 8260B

D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

CAS No.	Compound	D26014-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		2800	2780	99	2960	106	6	70-134/30
100-41-4	Ethylbenzene	ND		2800	2820	101	2970	106	5	70-137/30
108-88-3	Toluene	ND		2800	2680	96	2910	104	8	70-130/30
1330-20-7	Xylene (total)	ND		5610	5260	94	5540	99	5	61-131/30

CAS No.	Surrogate Recoveries	MS	MSD	D26014-1	Limits
2037-26-5	Toluene-D8	85%	85%	83%	61-130%
460-00-4	4-Bromofluorobenzene	90%	89%	86%	53-131%
17060-07-0	1,2-Dichloroethane-D4	86%	83%	82%	62-130%

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: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4160-MB	3G05301.D	1	08/02/11	TMB	07/28/11	OP4160	E3G195

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

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	89% 10-145%
321-60-8	2-Fluorobiphenyl	84% 10-130%
1718-51-0	Terphenyl-d14	99% 22-130%

Blank Spike Summary

Page 1 of 1

Job Number: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4160-BS	3G05302.D	1	08/02/11	TMB	07/28/11	OP4160	E3G195

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	83.3	69.1	83	34-130
120-12-7	Anthracene	83.3	73.5	88	35-130
56-55-3	Benzo(a)anthracene	83.3	78.3	94	36-130
50-32-8	Benzo(a)pyrene	83.3	75.0	90	36-130
205-99-2	Benzo(b)fluoranthene	83.3	79.2	95	35-130
207-08-9	Benzo(k)fluoranthene	83.3	73.8	89	37-130
218-01-9	Chrysene	83.3	71.8	86	40-130
53-70-3	Dibenzo(a,h)anthracene	83.3	78.0	94	32-130
206-44-0	Fluoranthene	83.3	78.8	95	38-130
86-73-7	Fluorene	83.3	76.4	92	35-130
193-39-5	Indeno(1,2,3-cd)pyrene	83.3	84.9	102	28-130
91-20-3	Naphthalene	83.3	72.4	87	35-130
129-00-0	Pyrene	83.3	77.8	93	37-130

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	94%	10-145%
321-60-8	2-Fluorobiphenyl	85%	10-130%
1718-51-0	Terphenyl-d14	96%	22-130%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4160-MS ^a	3G05308.D	25	08/02/11	TMB	07/28/11	OP4160	E3G195
OP4160-MSD ^b	3G05309.D	25	08/02/11	TMB	07/28/11	OP4160	E3G195
D25909-1 ^c	3G05307.D	25	08/02/11	TMB	07/28/11	OP4160	E3G195

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

CAS No.	Compound	D25909-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		106	ND	0*	ND	0*	nc	10-155/30
120-12-7	Anthracene	ND		106	ND	0*	ND	0*	nc	10-155/30
56-55-3	Benzo(a)anthracene	ND		106	ND	0*	ND	0*	nc	10-175/30
50-32-8	Benzo(a)pyrene	ND		106	ND	0*	ND	0*	nc	10-164/30
205-99-2	Benzo(b)fluoranthene	ND		106	ND	0*	ND	0*	nc	10-165/30
207-08-9	Benzo(k)fluoranthene	ND		106	ND	0*	ND	0*	nc	10-178/30
218-01-9	Chrysene	ND		106	ND	0*	ND	0*	nc	10-147/30
53-70-3	Dibenzo(a,h)anthracene	ND		106	ND	0*	ND	0*	nc	10-144/30
206-44-0	Fluoranthene	ND		106	ND	0*	ND	0*	nc	10-207/30
86-73-7	Fluorene	ND		106	ND	0*	ND	0*	nc	10-163/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		106	ND	0*	ND	0*	nc	10-180/30
91-20-3	Naphthalene	602		106	759	695*	635	31	18	10-198/30
129-00-0	Pyrene	ND		106	ND	0*	ND	0*	nc	10-189/30

CAS No.	Surrogate Recoveries	MS	MSD	D25909-1	Limits
4165-60-0	Nitrobenzene-d5	108%	86%	100%	10-145%
321-60-8	2-Fluorobiphenyl	66%	61%	59%	10-130%
1718-51-0	Terphenyl-d14	77%	80%	80%	22-130%

- (a) MS recoveries are outside control limits due to dilution.
(b) MSD recoveries are outside control limits due to dilution.
(c) Elevated RL due to matrix interference.

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: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB691-MB	GB12029.D	1	07/27/11	SK	n/a	n/a	GGB691

The QC reported here applies to the following samples:

Method: SW846 8015B

D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

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	73% 60-140%

Blank Spike Summary

Page 1 of 1

Job Number: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB691-BS	GB12030.D	1	07/27/11	SK	n/a	n/a	GGB691

The QC reported here applies to the following samples:

Method: SW846 8015B

D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	111	101	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	91%	60-140%

7.2.1

7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D25887-1MS	GB12032.D	1	07/27/11	SK	n/a	n/a	GGB691
D25887-1MSD	GB12033.D	1	07/27/11	SK	n/a	n/a	GGB691
D25887-1	GB12031.D	1	07/27/11	SK	n/a	n/a	GGB691

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

D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

CAS No.	Compound	D25887-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		120	121	101	127	106	5	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D25887-1	Limits
120-82-1	1,2,4-Trichlorobenzene	88%	89%	80%	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: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4211-MB	FD08492.D	1	08/07/11	KV	08/05/11	OP4211	GFD381

The QC reported here applies to the following samples:

Method: SW846-8015B

D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

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	99% 61-142%

8.1.1

8

Blank Spike Summary

Job Number: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4211-BS	FD08493.D	1	08/07/11	KV	08/05/11	OP4211	GFD381

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

D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	562	84	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	100%	61-142%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D25887
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4211-MS	FD08494.D	1	08/07/11	KV	08/05/11	OP4211	GFD381
OP4211-MSD	FD08495.D	1	08/07/11	KV	08/05/11	OP4211	GFD381
D26093-1	FD08496.D	1	08/07/11	KV	08/05/11	OP4211	GFD381

The QC reported here applies to the following samples:

Method: SW846-8015B

D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

CAS No.	Compound	D26093-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	275		738	862	80	823	74	5	24-157/35

CAS No.	Surrogate Recoveries	MS	MSD	D26093-1	Limits
84-15-1	o-Terphenyl	96%	92%	95%	61-142%

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: D25887
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5339
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 07/28/11

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.10	.0011	.013	0.0035	<0.10

Associated samples MP5339: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

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: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5339
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 07/28/11

Metal	D25888-1 Original MS	Spikelot HGWSR1	% Rec	QC Limits
-------	-------------------------	--------------------	-------	--------------

Mercury 0.020 0.41 0.38 102.7 85-115

Associated samples MP5339: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

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: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5339
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 07/28/11

Metal	D25888-1 Original	MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.020	0.44	0.418	100.6	7.1	20

Associated samples MP5339: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

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: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5339
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 07/28/11

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
-------	---------------	--------------------	-------	--------------

Mercury	0.45	0.4	112.5	80-120
---------	------	-----	-------	--------

Associated samples MP5339: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

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: D25887
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5352
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 07/29/11

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	0.040	<1.0
Beryllium	1.0	.044	.1		
Boron	5.0	.48	.48		
Cadmium	1.0	.027	.27	0.0	<1.0
Calcium	40	.96	1.1		
Chromium	1.0	.018	.031	0.0	<1.0
Cobalt	0.50	.035	.035		
Copper	1.0	.085	.16	-0.27	<1.0
Iron	7.0	.34	2		
Lead	5.0	.16	.21	0.10	<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	-0.050	<3.0
Phosphorus	10	1.1	1.2		
Potassium	200	5.5	9.2		
Selenium	5.0	.38	.5	-0.25	<5.0
Silicon	5.0	.38	.51		
Silver	3.0	.018	.051	-0.040	<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	-0.010	<3.0

Associated samples MP5352: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D25887
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5352
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5352
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 07/29/11

Metal	D25965-1 Original MS		Spikelet MPICPAL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium	12700	8840	253	-1527.3a	75-125
Beryllium					
Boron	anr				
Cadmium	0.0	49.4	63.2	78.2	75-125
Calcium					
Chromium	19.0	67.7	63.2	77.1	75-125
Cobalt					
Copper	42.5	92.6	63.2	79.3	75-125
Iron					
Lead	24.4	124	126	78.8	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	14.8	61.1	63.2	73.3N(b)	75-125
Phosphorus	anr				
Potassium	anr				
Selenium	0.0	154	126	121.9	75-125
Silicon					
Silver	0.13	21.5	25.3	84.6	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	44.6	96.4	63.2	82.0	75-125

Associated samples MP5352: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D25887
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5352
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: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5352
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 07/29/11

Metal	D25965-1 Original	MSD	Spikelet MPICPAL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium	12700	6840	257	-2276.1a	25.5 (b)	20
Beryllium						
Boron	anr					
Cadmium	0.0	51.7	64.4	80.3	4.5	20
Calcium						
Chromium	19.0	72.7	64.4	83.4	7.1	20
Cobalt						
Copper	42.5	92.7	64.4	78.0	0.1	20
Iron						
Lead	24.4	129	129	81.3	4.0	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	14.8	64.9	64.4	77.8	6.0	20
Phosphorus	anr					
Potassium	anr					
Selenium	0.0	165	129	128.2N(c	6.9	20
Silicon						
Silver	0.13	22.3	25.7	86.1	3.7	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	44.6	99.1	64.4	84.7	2.8	20

Associated samples MP5352: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D25887
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5352
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) High RPD due to possible sample nonhomogeneity.
- (c) Spike recovery indicates possible matrix interference.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5352
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 07/29/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	180	200	90.0	80-120
Beryllium				
Boron	anr			
Cadmium	44.0	50	88.0	80-120
Calcium				
Chromium	44.7	50	89.4	80-120
Cobalt				
Copper	45.0	50	90.0	80-120
Iron				
Lead	90.9	100	90.9	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	43.2	50	86.4	80-120
Phosphorus	anr			
Potassium	anr			
Selenium	87.2	100	87.2	80-120
Silicon				
Silver	18.8	20	94.0	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	42.6	50	85.2	80-120

Associated samples MP5352: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D25887

Account: CORCCOGJ - Olsson Associates

Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5352

Methods: SW846 6010B

Matrix Type: SOLID

Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

9.2.3

9

SERIAL DILUTION RESULTS SUMMARY

Login Number: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5352
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: ug/l

Prep Date: 07/29/11

Metal	D25965-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	86800	97200	1.7	0-10
Beryllium				
Boron	anr			
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	143	161	12.0*(a)	0-10
Cobalt				
Copper	321	319	0.8	0-10
Iron				
Lead	184	202	9.7	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	112	132	17.3*(a)	0-10
Phosphorus	anr			
Potassium	anr			
Selenium	24.0	365		0-10
Silicon				
Silver	1.00	3.50	250.0(b)	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	337	412	22.3*(a)	0-10

Associated samples MP5352: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D25887
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5352
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).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D25887
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5353
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 07/29/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.14	1.2		
Antimony	0.20	.001	.0095		
Arsenic	0.40	.049	.22	0.11	<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 MP5353: D25887-1, D25887-2, D25887-3, D25887-4, D25887-5, D25887-6, D25887-7, D25887-8, D25887-9

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: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5353
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 07/29/11

Metal	D25965-1 Original MS	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	7.3	116	126	86.0 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 MP5353: D25887-1, D25887-2, D25887-3, D25887-4, D25887-5, D25887-6, D25887-7, D25887-8, D25887-9

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: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5353
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 07/29/11

Metal	D25965-1 Original	MSD	Spikelot MPICPAL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	7.3	112	129	81.3	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 MP5353: D25887-1, D25887-2, D25887-3, D25887-4, D25887-5, D25887-6, D25887-7, D25887-8, D25887-9

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: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5353
 Matrix Type: SOLID

Methods: SW846 6020
 Units: mg/kg

Prep Date: 07/29/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	92.8	100	92.8	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 MP5353: D25887-1, D25887-2, D25887-3, D25887-4, D25887-5, D25887-6, D25887-7, D25887-8, D25887-9

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5353
 Matrix Type: SOLID

Methods: SW846 6020
 Units: ug/l

Prep Date: 07/29/11

Metal	D25965-1			QC	
	Original	SDL 5:25	%DIF	Limits	
Aluminum					
Antimony					
Arsenic	54.6	58.5	5.9	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 MP5353: D25887-1, D25887-2, D25887-3, D25887-4, D25887-5, D25887-6, D25887-7, D25887-8, D25887-9

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: D25887
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5356
Matrix Type: AQUEOUS

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

Prep Date: 07/29/11

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	-1.0	<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	-15	<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	-600	<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 MP5356: D25887-1A, D25887-2A, D25887-3A, D25887-5A, D25887-7A, D25887-9A

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D25887
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5356
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: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5356
 Matrix Type: AQUEOUS

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

Prep Date: 07/29/11

Metal	D25887-1A Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	75400	206000	125000	104.5	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	8660	138000	125000	103.5	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	12800	149000	125000	109.0	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP5356: D25887-1A, D25887-2A, D25887-3A, D25887-5A, D25887-7A, D25887-9A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D25887

Account: CORCCOGJ - Olsson Associates

Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5356

Methods: SW846 6010B, USDA HANDBOOK 60

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5356
 Matrix Type: AQUEOUS

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

Prep Date: 07/29/11

Metal	D25887-1A Original MSD	Spikelot MPICPAL % Rec	MSD RPD	QC Limit
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	75400	208000	125000	106.1
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	8660	139000	125000	104.3
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	12800	150000	125000	109.8
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP5356: D25887-1A, D25887-2A, D25887-3A, D25887-5A, D25887-7A, D25887-9A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D25887
Account: CORCCOGJ - Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5356
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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D25887
 Account: CORCCOGJ - Olsson Associates
 Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5356
 Matrix Type: AQUEOUS

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

Prep Date: 07/29/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	133000	125000	106.4	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	128000	125000	102.4	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	134000	125000	107.2	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP5356: D25887-1A, D25887-2A, D25887-3A, D25887-5A, D25887-7A, D25887-9A

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D25887

Account: CORCCOGJ - Olsson Associates

Project: 009-0082_201_201004, Grand Junction, CO

QC Batch ID: MP5356

Methods: SW846 6010B, USDA HANDBOOK 60

Matrix Type: AQUEOUS

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: D25887
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	GP5065/GN10796			umhos/cm	9986	10100	101.2	90-110%
Specific Conductivity	GP5066/GN10797			umhos/cm	9986	10100	100.8	90-110%
pH	GN10731			su	8.00	7.97	99.6	99.3-100.7%

Associated Samples:
Batch GN10731: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9
Batch GP5065: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7
Batch GP5066: D25887-9
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D25887
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	GN10738	D25887-3	mv	335	342	2.1	0-20%

Associated Samples:

Batch GN10738: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

(*) 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: D25887

Client: AMS

Immediate Client Services Action Required: No

Date / Time Received: 7/28/2011

Delivery Method:

Client Service Action Required at Login: No

Project:

No. Coolers: 1

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"/> |
| 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: D25887
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	GP13316/GN35702	0.40	0.19	mg/kg	40	42.2	105.5	80-120%
Chromium, Hexavalent	GP13316/GN35702			mg/kg	1130	1200	106.2	80-120%

Associated Samples:

Batch GP13316: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D25887
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	GP13316/GN35702	D25925-1	mg/kg	0.17	0.27	45.5(a)	0-20%

Associated Samples:

Batch GP13316: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

(*) Outside of QC limits

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

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D25887
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	GP13316/GN35702	D25925-1	mg/kg	0.17	41.4	43.9	105.6	75-125%
Chromium, Hexavalent	GP13316/GN35702	D25925-1	mg/kg	0.17	1010	1140	113.2	75-125%

Associated Samples:

Batch GP13316: D25887-1, D25887-2, D25887-3, D25887-5, D25887-7, D25887-9

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits



08/24/11

Technical Report for

Olsson Associates

009-0082_201_201004, Grand Junction, CO

CT Carney 15-35 Spill/West End Water Plant

Accutest Job Number: D26700A

Sampling Date: 08/16/11

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: **12**



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: D26700-10: WEWP-DG 6

Section 4: Misc. Forms 7

4.1: Chain of Custody 8

Section 5: GC Semi-volatiles - QC Data Summaries 9

5.1: Method Blank Summary 10

5.2: Blank Spike Summary 11

5.3: Matrix Spike/Matrix Spike Duplicate Summary 12



Sample Summary

Olsson Associates

Job No: D26700A

009-0082_201_201004, Grand Junction, CO
Project No: CT Carney 15-35 Spill/West End Water Plant

Sample Number	Collected		Matrix Code Type	Client	
	Date	Time By	Received	Sample ID	
D26700-10	08/16/11	18:15 TD	08/18/11	SO Soil	WEWP-DG

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Olsson Associates**Job No** D26700A**Site:** 009-0082_201_201004, Grand Junction, CO**Report Dat** 8/24/2011 12:59:31 PM

On 08/18/2011, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 4.3 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D26700A 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.

Extractables by GC By Method SW846-8015B

Matrix SO**Batch ID:** OP4307

- All samples were extracted 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) D26765-1MS, D26765-1MSD were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540B M

Matrix SO**Batch ID:** GN11131

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

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:	WEWP-DG		
Lab Sample ID:	D26700-10	Date Sampled:	08/16/11
Matrix:	SO - Soil	Date Received:	08/18/11
Method:	SW846-8015B SW846 3546	Percent Solids:	97.9
Project:	009-0082_201_201004, Grand Junction, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD09363.D	1	08/20/11	KV	08/19/11	OP4307	GFD403
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)	3200	14	8.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	103%		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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



D26780A-—

4.1

Page 1 of 1

GC Semi-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: D26700A
Account: CORCCOGJ Olsson Associates
Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4307-MB	FD09347.D	1	08/20/11	KV	08/19/11	OP4307	GFD403

The QC reported here applies to the following samples:

Method: SW846-8015B

D26700-10

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	89% 61-142%

Blank Spike Summary

Page 1 of 1

Job Number: D26700A

Account: CORCCOGJ Olsson Associates

Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4307-BS	FD09348.D	1	08/20/11	KV	08/19/11	OP4307	GFD403

The QC reported here applies to the following samples:

Method: SW846-8015B

D26700-10

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	607	91	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	109%	61-142%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D26700A

Account: CORCCOGJ Olsson Associates

Project: 009-0082_201_201004, Grand Junction, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4307-MS	FD09349.D	1	08/20/11	KV	08/19/11	OP4307	GFD403
OP4307-MSD	FD09350.D	1	08/20/11	KV	08/19/11	OP4307	GFD403
D26765-1	FD09351.D	1	08/20/11	KV	08/19/11	OP4307	GFD403

The QC reported here applies to the following samples:

Method: SW846-8015B

D26700-10

CAS No.	Compound	D26765-1 mg/kg	Spike Q	mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND	904	542	60	649	72	18	24-157/35	

CAS No.	Surrogate Recoveries	MS	MSD	D26765-1	Limits
84-15-1	o-Terphenyl	74%	86%	84%	61-142%



FF-May-2012

Tim Dobransky
Olsson Associates
826 21 1/2 Road
Grand Junction, Colorado 81505

Tel: (970) 263-7800
Fax: (970) 263-7456

Re: West End Water Plant Spill Followup

Work Order: **1204728**

Dear Tim,

ALS Environmental received 1 sample on 20-Apr-2012 08:40 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 12.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in cursive script that reads "Patricia L. Lynch".

Electronically approved by: Yvan K. Ty

Patricia L. Lynch
Project Manager



Certificate No: T104704231-09A-TX

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

DOV#T UR X S#K VD /#P R US##Sdu#r i#k h#D OV#Dderudwru| #T urxs##D #Fdp seha#Burkhu#Op l#hg#F rp sdq |

Environmental The ALS logo, a stylized blue triangle with a yellow flame.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Olsson Associates
Project: West End Water Plant Spill Followup
Work Order: 1204728

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>
1204728-01	WEWP-SS1	Soil		4/18/2012 12:45	4/20/2012 08:40	<input type="checkbox"/>

ALS Environmental

Date: 11-May-12

Client: Olsson Associates
Project: West End Water Plant Spill Followup
Work Order: 1204728

Case Narrative

No exceptions.

ALS Environmental

Date: 11-May-12

Client: Olsson Associates
Project: West End Water Plant Spill Followup
Sample ID: WEWP-SS1
Collection Date: 4/18/2012 12:45 PM

Work Order: 1204728
Lab ID: 1204728-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
LA29B SODIUM ADSORPTION RATIO							
Sodium Adsorption Ratio	2.98		LA29B SAR 0.0100	meq/meq	1	4/25/2012	Analyst: ALR 5/2/2012
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR							
Calcium	203		LA29B-6020 4.99	mg/L	10	4/25/2012	Analyst: SKS 5/1/2012 04:48 PM
Magnesium	30.0		4.99	mg/L	10	4/25/2012	5/1/2012 04:48 PM
Sodium	172		4.99	mg/L	10	4/25/2012	5/1/2012 04:48 PM
LA29B ELECTRICAL CONDUCTIVITY							
Electrical Conductivity @ saturation	5.14		LADNR-29B EC 0.0100	mmhos/cm @25	1		Analyst: TDW 4/28/2012 11:00 AM
Electrical Conductivity, 1:1 aqueous	2.13		0.0100	mmhos/cm @25	1		4/28/2012 11:00 AM
LA29B SATURATION POINT							
Saturation Point	0.414		LADNR-29B SP 0.100	% Saturation as	1		Analyst: TDW 4/28/2012 10:00 AM

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

ALS Environmental

Date: 33-May-12

Client: Olsson Associates

Work Order: 1204728

Project: West End Water Plant Spill Followup

QC BATCH REPORT

Batch ID: **60527**

Instrument ID **ICPMS05**

Method: **La29B-6020**

LCS	Sample ID: LCS-042412 SAR-60527				Units: mg/L		Analysis Date: 5/1/2012 04:35 PM			
Client ID:	Run ID: ICPMS05_120501A				SeqNo: 2766270		Prep Date: 4/25/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	9.601	0.50	10	0	96	80-120	0			
Magnesium	9.939	0.50	10	0	99.4	80-120	0			
Sodium	9.906	0.50	10	0	99.1	80-120	0			

DUP	Sample ID: 1204725-01EDUP				Units: mg/L		Analysis Date: 5/1/2012 04:41 PM			
Client ID:	Run ID: ICPMS05_120501A				SeqNo: 2766272		Prep Date: 4/25/2012		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	13.4	5.0	0	0	0		13.28	0.952	30	
Magnesium	U	5.0	0	0	0		1.073	0	30	
Sodium	396.9	5.0	0	0	0		383.9	3.33	30	

The following samples were analyzed in this batch:

1204728-01A

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

QC Page: 1 of 4

Client: Olsson Associates
Work Order: 1204728
Project: West End Water Plant Spill Followup

QC BATCH REPORT

Batch ID: **60527A** Instrument ID **MISC-Metals** Method: **La29B SAR**

DUP Sample ID: **1204725-01EDUP** Units: **meq/meq** Analysis Date: **5/2/2012**
Client ID: Run ID: **MISC-METALS_120502** SeqNo: **2767073** Prep Date: **4/25/2012** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	30	0.010	0	0	0		29	3.39	30	

The following samples were analyzed in this batch:

1204728-01A

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

Client: Olsson Associates
Work Order: 1204728
Project: West End Water Plant Spill Followup

QC BATCH REPORT

Batch ID: **R126934** Instrument ID **WetChem** Method: **LaDNR-29B EC**

MBLK Sample ID: **WBLKS1-120428-R126934** Units: **mmhos/cm @25°** Analysis Date: **4/28/2012 11:00 AM**

Client ID: Run ID: **WETCHEM_120428A** SeqNo: **2761812** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	U	0.010								
Electrical Conductivity, 1:1 aqueous	U	0.010								

LCS Sample ID: **WLCSS1-120428-R126934** Units: **mmhos/cm @25°** Analysis Date: **4/28/2012 11:00 AM**

Client ID: Run ID: **WETCHEM_120428A** SeqNo: **2761813** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity, 1:1 aqueous	1.49	0.010	1.412		0	106	90-110	0		

DUP Sample ID: **1204725-01EDUP** Units: **mmhos/cm @25°** Analysis Date: **4/28/2012 11:00 AM**

Client ID: Run ID: **WETCHEM_120428A** SeqNo: **2761814** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	7.103	0.010	0		0		7.108	0.0704	20	
Electrical Conductivity, 1:1 aqueous	2.36	0.010	0		0		2.38	0.844	20	

The following samples were analyzed in this batch:

1204728-01A

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

Client: Olsson Associates
Work Order: 1204728
Project: West End Water Plant Spill Followup

QC BATCH REPORT

Batch ID: **R126935** Instrument ID **Balance1** Method: **LaDNR-29B SP**

DUP Sample ID: **1204725-01EDUP** Units: **% Saturation as D** Analysis Date: **4/28/2012 10:00 AM**

Client ID: Run ID: **BALANCE1_120428A** SeqNo: **2761835** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Saturation Point	0.332	0.10	0	0	0		0.335	0.9	30	

The following samples were analyzed in this batch:

1204728-01A

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

Client: Olsson Associates
Project: West End Water Plant Spill Followup
WorkOrder: 1204728

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
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

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
aturation as Deci	
meq/meq	
mg/L	Milligrams per Liter
mmhos/cm @25°C	

Sample Receipt Checklist

Client Name: **OLSSON ASSOC - GRAND JUNC**

Date/Time Received: **20-Apr-12 08:40**

Work Order: **1204728**

Received by: **PMG**

Checklist completed by Parash M. Ciga 21-Apr-12
eSignature Date

Reviewed by: Patricia L. Lynch 11-May-12
eSignature Date

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.0</u> <u>002</u>		
Cooler(s)/Kit(s):	<u>LG R/w</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u>-</u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



Environmental

Chain of Custody Form

Page 1 of 1

- ☐ Cincinnati, OH
+1 513 733 5336
- ☐ Everett, WA
+1 425 356 2600
- ☐ Fort Collins, CO
+1 970 490 1511

COC ID: 123456

ALS Project Manager:

Customer Information		Project Information		Parameters/Menu Request (See Appendix)													
Purchase Order		Project Name	West End Water Plant Spill Followup	A	TPH (GRO & DRO)												
Work Order		Project Number	9.0082.202.202004	B	BTEX												
Company Name	Olsson Associates	Bill To Company	Olsson Associates	C	PAH (See Attached List)												
Send Report To	Tim Dobransky	Invoice Attn:	Tim Dobransky	D	Electrical Conductivity												
Address	826 21 1/2 Road	Address	826 21 1/2 Road	E	Sodium Adsorption Ratio												
City/State/Zip	Grand Junction, CO	City/State/Zip	Grand Junction, CO	F	pH												
Phone	970.263.7800	Phone	970.263.7800	G	Metals (See Attached List)												
Fax	970.263.7456	Fax	970.263.7456	H	Arsenic Only												
e-Mail Address	tdobransky@olssonassoc.com	e-Mail Address		I													
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WEWP-SS1	04/19/12	1245	Soil	NA	1				X	X						
2		4/18/12															
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign	Shipment Method:	Required Turnaround Time:	Results Due Date:
Tim Dobransky	FedEx	<input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour	
Relinquished by:	Date:	Time:	Received by:
	4/19/12	1700	
Relinquished by:	Date:	Time:	Received by (Laboratory):
			4-20-12 0840
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):
Preservative Key:	1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other	8-4 degrees C	9-5035

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:	

Notes: Chevron Pricing Applies - Per Bruce Schlatter

Copyright 2011 by ALS Group

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

CUSTODY SEAL



ENVIRONMENTAL SAMPLING SUPPLY

9601 San Leandro St. Oakland, CA 94625

Date: 4/19/12
Signature: [Signature]
4-2-12

CUSTODY SEAL



ENVIRONMENTAL SAMPLING SUPPLY

9601 San Leandro St.

Date: 4/19/12
Signature: [Signature]
4-2-12

CUSTODY SEAL



ENVIRONMENTAL SAMPLING SUPPLY

9601 San Leandro St. Oakland, CA 94625

Date: 4/19/12
Signature: [Signature]

ORIGIN ID: GJTA (970) 270-2986
TIM DOBRANSKY
OLSSON ASSOCIATES, INC.
826 21 ROAD

GRAND JUNCTION, CO 81505
UNITED STATES US

SHIP DATE: 19APR12
ACTWGT: 15.0 LB MAN
CAD: 390082/CAFE2511
DIMS: 16x14x12 IN

BILL SENDER

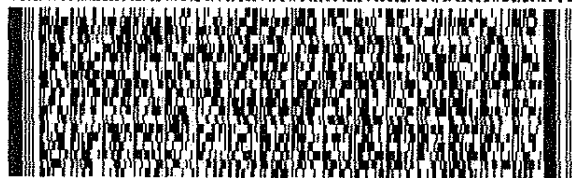
TO **BRUCE SCHLATTER**
ALS ENVIRONMENTAL
10450 STANCLIFF RD STE 210

HOUSTON TX 770994338

(281) 961-1258

PO: 009-0082_202_202004

1D 1111 31106560125



FedEx
Express

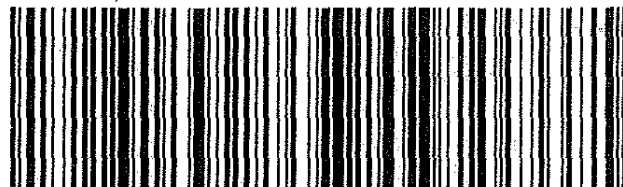


TRK# 9660 0452 3671
0201

FRI - 20 APR A2
PRIORITY OVERNIGHT

XH SGRA

77099
TX-US IAH





29-Apr-2014

Tim Dobransky
Olsson Associates
760 Horizon Drive
Suite 102
Grand Junction, CO 81506

Re: **Chevron West End Water Plant Spill 4.9.14**

Work Order: **1404834**

Dear Tim,

ALS Environmental received 1 sample on 16-Apr-2014 09:30 AM for the analyses presented in the following report.

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

Sample results are compliant with NELAP standard requirements and QC 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 8.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Olsson Associates
Project: Chevron West End Water Plant Spill 4.9.14
Work Order: 1404834

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>
1404834-01	WEWP-SS1	Soil		4/9/2014 13:30	4/16/2014 09:30	<input type="checkbox"/>

Client: Olsson Associates
Project: Chevron West End Water Plant Spill 4.9.14
WorkOrder: 1404834

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
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

<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>
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius

ALS Group USA, Corp

Date: 29-Apr-14

Client: Olsson Associates

Project: Chevron West End Water Plant Spill 4.9.14

Work Order: 1404834

Sample ID: WEWP-SS1

Lab ID: 1404834-01

Collection Date: 4/9/2014 01:30 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 4/28/14		
Electrical Conductivity @ Saturation	1.2		0.050	mmhos/cm @25	10	Analyst: JB 4/29/2014 03:40 PM

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

Client: Olsson Associates

QC BATCH REPORT

Work Order: 1404834

Project: Chevron West End Water Plant Spill 4.9.14

Batch ID: **57961**

Instrument ID **WETCHEM**

Method: **USDA H60 Method**

DUP		Sample ID: 14041168-01B DUP				Units: mmhos/cm @25°C		Analysis Date: 4/29/2014 03:40 PM		
Client ID:		Run ID: WETCHEM_140429M				SeqNo: 2736506		Prep Date: 4/28/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.423	0.050	0	0	0		0.465	9.46	50	

The following samples were analyzed in this batch:

1404834-01A



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			Project Information				Parameter/Method Request for Analysis												
Purchase Order		Project Name	Chevron West End Water Plant Spill				A TPH (GRO & DRO)												
Work Order		Project Number	1303287.100.100004				B BTEX												
Company Name	Olsson Associates	Bill To Company	Olsson Associates				C PAH (See Attached List) CO Table 910												
Send Report To	Tim Dobransky	Invoice Attn.	Tim Dobransky				D Electrical Conductivity												
Address	760 Horizon Drive, Ste. 102	Address	760 Horizon Drive, Ste. 102				E Sodium Adsorption Ratio												
City/State/Zip	Grand Junction, CO 81506	City/State/Zip	Grand Junction, CO 81506				F pH												
Phone	970.263.7800	Phone	970.263.7800				G Metals (See Attached List) CO Table 910												
Fax	970.263.7456	Fax	970.263.7456				H Arsenic Only												
e-Mail Address	tdobransky@olssonassociates.com	e-Mail Address					I												
							J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WEWP-SS1	04/09/14	1330	Soil	8	1				X							
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign Tim Dobransky		Shipment Method: FedEx		Required Turnaround Time: <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour		Results Due Date:	
Relinquished by: 		Date: 4/11/14	Time: 1616	Received by: FedEx		Notes: Chevron Pricing Applies - Per Bruce Schlatter	
Relinquished by: FedEx		Date: 4/16/14	Time: 0930	Received by (Laboratory): 		QC Package: (Check Box Below)	
Logged by (Laboratory): DPS		Date: 4/16/14	Time: 1530	Checked by (Laboratory): 		Cooler Temp. 5.6°C	
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035						Other:	

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: **OLSSON**

Date/Time Received: **16-Apr-14 09:30**

Work Order: **1404834**

Received by: **DS**

Checklist completed by Keith Wurenga 16-Apr-14
eSignature Date

Reviewed by: Ann Preston 17-Apr-14
eSignature Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>5.6 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>4/16/2014 3:30:33 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

ALS Environmental 3352 128th Avenue Holland, Michigan 49424 Tel. +1 616 399 6070 Fax. +1 616 399 6185	CUSTODY SEAL Date: <u>4/14/14</u> Time: <u>10:15</u> Name: <u>T. Dobransky</u> Company: <u>Oleson Associates</u>		Seal Broken By: _____ Date: _____
--	--	--	--------------------------------------

Print #158148-434 NRIT 06-07 ::

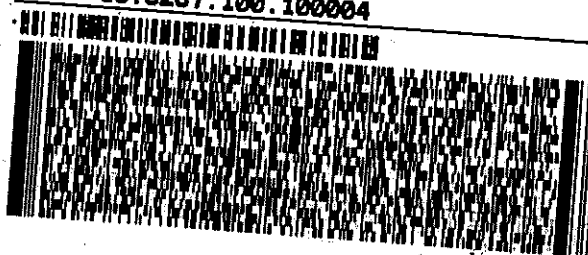
ORIGIN ID: GJTA (978) 270-2986
 TIM DOBRANSKY
 OLESON ASSOCIATES, INC.
 780 HORIZON DRIVE STE 102
 GRAND JUNCTION, CO 81506
 UNITED STATES US

SHIP DATE: 14APR14
 ACTWGT: 55.0 LB MAN
 CAD: 390082/CAFE2784

BILL SENDER

TO **SAMPLE RECEIVING**
ALS ENVIRONMENTAL
3352 128TH AVE

HOLLAND MI 49424
 (616) 399-6070
 PO: 13.3287.100.100004



TRK# 5632 6808 4698
 0281

TUE - 15 APR 10:30A
PRIORITY OVERNIGHT

XX GRRRA

49424
MI-US GRR

