

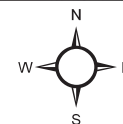


Legend

- Point of Origin
- Sample Points



SESE S29 T2N R102W



PROJECT NO:	009-0082	FEE 2AX SPILL RESPONSE CHEVRON USA, INC RIO BLANCO COUNTY, COLORADO		826 21-1/2 ROAD GRAND JUNCTION, CO 81505 TEL 970.263.7800 FAX 970.263.7456	FIGURE
DRAWN BY:	KJG				1
DATE:	02/15/2012				

Table 1
FEE 2AX Spill Response
Soil Data Summary

SAMPLE SUMMARY									
Location Description	FEE 2AX Spill								
Sample Type	Soil								

LABORATORY DATA SUMMARY									
Sample ID	FEE 2AX-SS1	FEE 2AX-SS1	FEE 2AX-SS2	FEE 2AX-SS2	FEE 2AX-BG1	FEE 2AX-BG2	FEE 2AX-BG3	ALLOWABLE LIMITS	UNITS
Depth	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"		
Sample Date	1/24/2012	4/4/2012	1/24/2012	4/4/2012	1/24/2012	1/24/2012	1/24/2012		
Analytical Parameters									
TPH									
TPH Gasoline Range Organics	<6.6	NT	<6.8	NT	<5.5	NT	NT	500	mg/kg
TPH Diesel Range Organics	65.9	NT	<10	NT	<9.4	NT	NT		
BTEX									
Benzene	<0.029	NT	<0.03	NT	<0.024	NT	NT	0.17	mg/kg
Toluene	<0.066	NT	<0.068	NT	<0.055	NT	NT	85	mg/kg
Ethylbenzene	<0.033	NT	<0.034	NT	<0.028	NT	NT	100	mg/kg
Total Xylene	<0.13	NT	<0.14	NT	<0.11	NT	NT	175	mg/kg
Metals									
Arsenic	6.7	NT	6.3	NT	6.7	7.1	3.6	0.39	mg/kg
Barium	154	NT	117	NT	256	NT	NT	15,000	mg/kg
Cadmium	<1.1	NT	<1.2	NT	<1.1	NT	NT	70	mg/kg
Chromium	9.8	NT	10.8	NT	10.2	NT	NT	NA	mg/kg
Copper	13.3	NT	17.5	NT	12.3	NT	NT	3,100	mg/kg
Lead	12.8	NT	18.2	NT	13.2	NT	NT	400	mg/kg
Mercury	<0.11	NT	<0.12	NT	<0.10	NT	NT	23	mg/kg
Nickel	14.9	NT	16.9	NT	13.7	NT	NT	1,600	mg/kg
Selenium	<5.7	NT	<6.0	NT	<5.5	NT	NT	390	mg/kg
Silver	<3.4	NT	<3.6	NT	<3.3	NT	NT	390	mg/kg
Zinc	61.5	NT	74.9	NT	56.4	NT	NT	23,000	mg/kg
SAR Metals Analysis									
Calcium	594	1.21	992	1.27	47.7	NT	NT	NA	mg/L
Magnesium	66.6	0.01	202	0.01	13.6	NT	NT	NA	mg/L
Sodium	2950	1.18	3580	1.38	14.3	NT	NT	NA	mg/L
Sodium Adsorption Ratio	30.6	1.51	27.1	1.73	0.47	NT	NT	<12	ratio
Polynuclear Aromatic Hydrocarbons									
Acenaphthene	<0.0064	NT	<0.0063	NT	<0.0058	NT	NT	1,000	mg/kg
Anthracene	<0.0072	NT	<0.0071	NT	<0.0065	NT	NT	1,000	mg/kg
Benzo(a)anthracene	<0.01	NT	<0.01	NT	<0.0094	NT	NT	0.22	mg/kg
Benzo(a)pyrene	<0.014	NT	<0.014	NT	<0.013	NT	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.015	NT	<0.015	NT	<0.013	NT	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.0088	NT	<0.0086	NT	<0.0079	NT	NT	2.2	mg/kg
Chrysene	0.009J	NT	<0.0086	NT	<0.0079	NT	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.015	NT	<0.015	NT	<0.013	NT	NT	0.022	mg/kg
Fluoranthene	<0.008	NT	<0.0079	NT	<0.0072	NT	NT	1,000	mg/kg
Fluorene	<0.0068	NT	<0.0067	NT	<0.0061	NT	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.022	NT	<0.022	NT	<0.02	NT	NT	0.22	mg/kg
Napthalene	0.0284	NT	0.0606	NT	0.0102	NT	NT	23	mg/kg
Pyrene	<0.0076	NT	<0.0075	NT	<0.0069	NT	NT	1,000	mg/kg
General Chemistry									
Chromium, Hexavalent	<0.48	NT	0.47	NT	0.57	NT	NT	23	mg/kg
Chromium, Trivalent	9.4	NT	10.3	NT	9.6	NT	NT	120,000	mg/kg
Redox Potential Vs H2	454	NT	445	NT	436	NT	NT	NA	mv
Solids, Percent	83.2	NT	84.8	NT	92	91.6	94.2	NA	%
Specific Conductivity	15.8	1.24	20.7	0.86	0.31	NT	NT	<4 or 2 x the background	mmhos/cm
pH	9.27	8.10	8.75	8.20	9.33	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 - millivolts
su - standard units
NA - not applicable
NT - parameter was not tested

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



02/07/12

Technical Report for

Olsson Associates

FEE 2AX Spill (9.0082.202.202004)

Accutest Job Number: D31336

Sampling Date: 01/24/12

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: 93



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.


Brad Madadian
Laboratory Director

Client Service contact: 303-425-6021

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

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Test results relate only to samples analyzed.

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Sample Summary

Olsson Associates

Job No: D31336

FEE 2AX Spill (9.0082.202.202004)

Sample Number	Collected			Received	Matrix		Client Sample ID
	Date	Time	By		Code	Type	
D31336-1	01/24/12	11:20	TPD	01/26/12	SO	Soil	FEE 2AX-BG1
D31336-1A	01/24/12	11:20	TPD	01/26/12	SO	Soil	FEE 2AX-BG1
D31336-2	01/24/12	11:25	TPD	01/26/12	SO	Soil	FEE 2AX-BG2
D31336-3	01/24/12	11:40	TPD	01/26/12	SO	Soil	FEE 2AX-SS1
D31336-3A	01/24/12	11:40	TPD	01/26/12	SO	Soil	FEE 2AX-SS1
D31336-4	01/24/12	11:45	TPD	01/26/12	SO	Soil	FEE 2AX-SS2
D31336-4A	01/24/12	11:45	TPD	01/26/12	SO	Soil	FEE 2AX-SS2
D31336-5	01/24/12	11:50	TPD	01/26/12	SO	Soil	FEE 2AX-BG3

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Olsson Associates

Job No D31336

Site: FEE 2AX Spill (9.0082.202.202004)

Report Date 2/7/2012 8:38:48 AM

On 01/26/2012, 5 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.8 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D31336 was assigned to the project. The lab sample IDs, client sample IDs, 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.

Volatiles by GCMS By Method SW846 8260B

Matrix SO

Batch ID: V3V917

- All samples were analyzed within the recommended method holding time.
- Sample(s) D31196-9MS, D31196-9MSD 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: OP5236

- All samples were extracted and analyzed within the recommended method holding time.
- Sample(s) D31304-1MS, D31304-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method SW846 8015B

Matrix SO

Batch ID: GGB830

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D31316-1MS, D31316-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO

Batch ID: OP5237

- All samples were extracted and analyzed within the recommended method holding time.
- Sample(s) D31304-1MS, D31304-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix AQ

Batch ID: MP6754

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D31355-1AMS, D31355-1AMSD were used as the QC samples for the metals analysis.

Matrix SO

Batch ID: MP6738

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D31355-1MS, D31355-1MSD, D31355-1SDL were used as the QC samples for the metals analysis.
- The matrix spike (MS) recovery(s) of Chromium, Nickel, Zinc are outside control limits. Spike recovery indicates possible matrix interference.
- The matrix spike duplicate (MSD) recovery(s) of Chromium, Nickel, Zinc 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 serial dilution RPD(s) for Cadmium, Selenium, Silver, Nickel, Zinc are outside control limits for sample MP6738-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP6738-SD1 for Nickel and Zinc: Serial dilution indicates possible matrix interference.

Metals By Method SW846 6020A

Matrix SO

Batch ID: MP6739

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D31355-1MS, D31355-1MSD, D31355-1SDL were used as the QC samples for the metals analysis.
- The serial dilution RPD(s) for Arsenic are outside control limits for sample MP6739-SD1. Probable cause due to sample homogeneity.
- MP6739-SD1 for Arsenic: Serial dilution indicates possible matrix interference.

Metals By Method SW846 7471B

Matrix SO

Batch ID: MP6737

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D31298-1MS, D31298-1MSD were used as the QC samples for the metals analysis.

Wet Chemistry By Method ASTM D1498-76M

Matrix SO

Batch ID: GN13429

- Sample(s) D31304-1DUP were used as the QC samples for the Redox Potential Vs H2 analysis.

Wet Chemistry By Method DEPT.OF AG, BOOK N9

Matrix SO

Batch ID: GP6431

- All samples were prepared and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SM19 2540B M

Matrix SO

Batch ID: GN13432

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

Wet Chemistry By Method SW846 3060/7196A M

Matrix SO	Batch ID: R11656
------------------	-------------------------

- The data for SW846 3060/7196A M meets quality control requirements.
- D31336-1 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

Matrix SO	Batch ID: R11657
------------------	-------------------------

- The data for SW846 3060/7196A M meets quality control requirements.
- D31336-3 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

Matrix SO	Batch ID: R11658
------------------	-------------------------

- The data for SW846 3060/7196A M meets quality control requirements.
- D31336-4 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

Wet Chemistry By Method SW846 3060A/7196A

Matrix SO	Batch ID: M:GP14095
------------------	----------------------------

- The data for SW846 3060A/7196A meets quality control requirements.
- D31336-1, D31336-3, and D31336-4 for Chromium, Hexavalent: Analysis performed at Accutest Laboratories, Marlborough, MA.

Wet Chemistry By Method SW846 9045C

Matrix SO	Batch ID: GN13428
------------------	--------------------------

- The following samples were run outside of holding time for method SW846 9045C: D31336-1, D31336-3, D31336-4

Wet Chemistry By Method USDA HANDBOOK 60

Matrix SO	Batch ID: MP6754
------------------	-------------------------

- D31336-1A, D31336-3A, and D31336-4A for Sodium Adsorption Ratio: Calculated as: $(\text{Na meq/L}) / \sqrt{[(\text{Ca meq/L}) + (\text{Mg meq/L})/2]}$

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

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

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

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Accutest Mountain States

Job No D31336

Site: CORCCOGJ: FEE 2AX Spill (9.0082.202.202004)

Report Date 2/6/2012 10:41:47 AM

3 Sample(s) were collected on 01/24/2012 and were received at Accutest on 01/26/2012 properly preserved, at 1.8 Deg. C and intact. These Samples received an Accutest job number of D31336. 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: GP14095

- 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) D31355-1DUP, D31355-1MS were used as the QC samples for Chromium, Hexavalent.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(D31336).

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	FEE 2AX-BG1	Date Sampled:	01/24/12
Lab Sample ID:	D31336-1	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	92.0
Method:	SW846 8260B		
Project:	FEE 2AX Spill (9.0082.202.202004)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V15789.D	1	01/28/12	BR	n/a	n/a	V3V917
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.33 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	55	24	ug/kg	
108-88-3	Toluene	ND	110	55	ug/kg	
100-41-4	Ethylbenzene	ND	110	28	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	100%		61-130%
460-00-4	4-Bromofluorobenzene	114%		53-131%
17060-07-0	1,2-Dichloroethane-D4	91%		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:	FEE 2AX-BG1	Date Sampled:	01/24/12
Lab Sample ID:	D31336-1	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	92.0
Method:	SW846 8270C BY SIM SW846 3546		
Project:	FEE 2AX Spill (9.0082.202.202004)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G07722.D	1	01/27/12	DC	01/27/12	OP5236	E3G298
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 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	7.2	5.8	ug/kg	
120-12-7	Anthracene	ND	7.2	6.5	ug/kg	
56-55-3	Benzo(a)anthracene	ND	18	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	18	13	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	18	13	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	18	7.9	ug/kg	
218-01-9	Chrysene	ND	18	7.9	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	18	13	ug/kg	
206-44-0	Fluoranthene	ND	7.2	7.2	ug/kg	
86-73-7	Fluorene	ND	7.2	6.1	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	22	20	ug/kg	
91-20-3	Naphthalene	10.2	7.2	6.9	ug/kg	
129-00-0	Pyrene	ND	7.2	6.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	55%		10-145%
321-60-8	2-Fluorobiphenyl	67%		10-130%
1718-51-0	Terphenyl-d14	90%		22-130%

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:	FEE 2AX-BG1	Date Sampled:	01/24/12
Lab Sample ID:	D31336-1	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	92.0
Method:	SW846 8015B		
Project:	FEE 2AX Spill (9.0082.202.202004)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB14673.D	1	01/26/12	SK	n/a	n/a	GGB830
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.3 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	5.5	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	115%		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: FEE 2AX-BG1**Lab Sample ID:** D31336-1**Matrix:** SO - Soil**Method:** SW846-8015B SW846 3546**Project:** FEE 2AX Spill (9.0082.202.202004)**Date Sampled:** 01/24/12**Date Received:** 01/26/12**Percent Solids:** 92.0

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD13068.D	1	01/27/12	TR	01/26/12	OP5237	GFD683
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)	ND	14	9.4	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	79%		43-136%

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: FEE 2AX-BG1

Lab Sample ID: D31336-1

Matrix: SO - Soil

Date Sampled: 01/24/12

Date Received: 01/26/12

Percent Solids: 92.0

Project: FEE 2AX Spill (9.0082.202.202004)

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.7	0.44	mg/kg	5	01/27/12	01/27/12 GJ	SW846 6020A ³	SW846 3050B ⁶
Barium	256	1.1	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Cadmium	< 1.1	1.1	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Chromium	10.2	1.1	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Copper	12.3	1.1	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Lead	13.2	5.5	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Mercury	< 0.10	0.10	mg/kg	1	01/26/12	01/27/12 JB	SW846 7471B ¹	SW846 7471B ⁴
Nickel	13.7	3.3	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Selenium	< 5.5	5.5	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Silver	< 3.3	3.3	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Zinc	56.4	3.3	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵

(1) Instrument QC Batch: MA2143

(2) Instrument QC Batch: MA2145

(3) Instrument QC Batch: MA2146

(4) Prep QC Batch: MP6737

(5) Prep QC Batch: MP6738

(6) Prep QC Batch: MP6739

RL = Reporting Limit

Report of Analysis

Client Sample ID: FEE 2AX-BG1**Lab Sample ID:** D31336-1**Matrix:** SO - Soil**Project:** FEE 2AX Spill (9.0082.202.202004)**Date Sampled:** 01/24/12**Date Received:** 01/26/12**Percent Solids:** 92.0**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent ^a	0.57	0.43	mg/kg	1	01/30/12 14:48	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	9.6	1.5	mg/kg	1	01/30/12 14:48	AMA	SW846 3060/7196A M
Redox Potential Vs H2	436		mv	1	01/26/12 15:30	JK	ASTM D1498-76M
Solids, Percent	92		%	1	01/27/12	SWT	SM19 2540B M
Specific Conductivity	313	1.0	umhos/cm	1	02/02/12	JK	DEPT.OF AG, BOOK N9
pH	9.33		su	1	01/26/12 15:30	CT	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:	FEE 2AX-BG1	Date Sampled:	01/24/12
Lab Sample ID:	D31336-1A	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	92.0
Project:	FEE 2AX Spill (9.0082.202.202004)		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	47.7	2.0	mg/l	1	01/31/12	01/31/12 JB	SW846 6010C ¹	EPA 200.7 ²
Magnesium	13.6	1.0	mg/l	1	01/31/12	01/31/12 JB	SW846 6010C ¹	EPA 200.7 ²
Sodium	14.3	2.0	mg/l	1	01/31/12	01/31/12 JB	SW846 6010C ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA2152
(2) Prep QC Batch: MP6754

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FEE 2AX-BG1	Date Sampled:	01/24/12
Lab Sample ID:	D31336-1A	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	92.0
Project:	FEE 2AX Spill (9.0082.202.202004)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	0.470		ratio	1	01/31/12 14:30	JB	USDA HANDBOOK 60

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FEE 2AX-BG2	Date Sampled:	01/24/12
Lab Sample ID:	D31336-2	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	91.6
Project:	FEE 2AX Spill (9.0082.202.202004)		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	7.1	0.44	mg/kg	5	01/27/12	01/27/12 GJ	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2146
(2) Prep QC Batch: MP6739

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FEE 2AX-SS1	
Lab Sample ID:	D31336-3	Date Sampled: 01/24/12
Matrix:	SO - Soil	Date Received: 01/26/12
Method:	SW846 8260B	Percent Solids: 83.2
Project:	FEE 2AX Spill (9.0082.202.202004)	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V15790.D	1	01/28/12	BR	n/a	n/a	V3V917
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.39 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	66	29	ug/kg	
108-88-3	Toluene	ND	130	66	ug/kg	
100-41-4	Ethylbenzene	ND	130	33	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	97%		61-130%
460-00-4	4-Bromofluorobenzene	112%		53-131%
17060-07-0	1,2-Dichloroethane-D4	93%		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:	FEE 2AX-SS1	Date Sampled:	01/24/12
Lab Sample ID:	D31336-3	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	83.2
Method:	SW846 8270C BY SIM SW846 3546		
Project:	FEE 2AX Spill (9.0082.202.202004)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G07723.D	1	01/27/12	DC	01/27/12	OP5236	E3G298
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 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	8.0	6.4	ug/kg	
120-12-7	Anthracene	ND	8.0	7.2	ug/kg	
56-55-3	Benzo(a)anthracene	ND	20	10	ug/kg	
50-32-8	Benzo(a)pyrene	ND	20	14	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	20	15	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	20	8.8	ug/kg	
218-01-9	Chrysene	9.0	20	8.8	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	20	15	ug/kg	
206-44-0	Fluoranthene	ND	8.0	8.0	ug/kg	
86-73-7	Fluorene	ND	8.0	6.8	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	24	22	ug/kg	
91-20-3	Naphthalene	28.4	8.0	7.6	ug/kg	
129-00-0	Pyrene	ND	8.0	7.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	55%		10-145%
321-60-8	2-Fluorobiphenyl	62%		10-130%
1718-51-0	Terphenyl-d14	79%		22-130%

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

Page 1 of 1

Client Sample ID: FEE 2AX-SS1**Lab Sample ID:** D31336-3**Matrix:** SO - Soil**Method:** SW846 8015B**Project:** FEE 2AX Spill (9.0082.202.202004)**Date Sampled:** 01/24/12**Date Received:** 01/26/12**Percent Solids:** 83.2

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB14674.D	1	01/26/12	SK	n/a	n/a	GGB830
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.4 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	6.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	114%		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:	FEE 2AX-SS1		
Lab Sample ID:	D31336-3	Date Sampled:	01/24/12
Matrix:	SO - Soil	Date Received:	01/26/12
Method:	SW846-8015B SW846 3546	Percent Solids:	83.2
Project:	FEE 2AX Spill (9.0082.202.202004)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD13069.D	1	01/27/12	TR	01/26/12	OP5237	GFD683
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)	65.9	16	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	74%		43-136%		

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: FEE 2AX-SS1

Lab Sample ID: D31336-3

Matrix: SO - Soil

Date Sampled: 01/24/12

Date Received: 01/26/12

Percent Solids: 83.2

Project: FEE 2AX Spill (9.0082.202.202004)

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.7	0.46	mg/kg	5	01/27/12	01/27/12 GJ	SW846 6020A ³	SW846 3050B ⁶
Barium	154	1.1	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Cadmium	< 1.1	1.1	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Chromium	9.8	1.1	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Copper	13.3	1.1	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Lead	12.8	5.7	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Mercury	< 0.11	0.11	mg/kg	1	01/26/12	01/27/12 JB	SW846 7471B ¹	SW846 7471B ⁴
Nickel	14.9	3.4	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Selenium	< 5.7	5.7	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Silver	< 3.4	3.4	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Zinc	61.5	3.4	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵

(1) Instrument QC Batch: MA2143

(2) Instrument QC Batch: MA2145

(3) Instrument QC Batch: MA2146

(4) Prep QC Batch: MP6737

(5) Prep QC Batch: MP6738

(6) Prep QC Batch: MP6739

RL = Reporting Limit

Report of Analysis

Client Sample ID: FEE 2AX-SS1**Lab Sample ID:** D31336-3**Matrix:** SO - Soil**Project:** FEE 2AX Spill (9.0082.202.202004)**Date Sampled:** 01/24/12**Date Received:** 01/26/12**Percent Solids:** 83.2**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent ^a	< 0.48	0.48	mg/kg	1	01/30/12 14:48	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	9.4	1.6	mg/kg	1	01/30/12 14:48	AMA	SW846 3060/7196A M
Redox Potential Vs H2	454		mv	1	01/26/12 15:30	JK	ASTM D1498-76M
Solids, Percent	83.2		%	1	01/27/12	SWT	SM19 2540B M
Specific Conductivity	15800	1.0	umhos/cm	1	02/02/12	JK	DEPT.OF AG, BOOK N9
pH	9.27		su	1	01/26/12 15:30	CT	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:	FEE 2AX-SS1	Date Sampled:	01/24/12
Lab Sample ID:	D31336-3A	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	83.2
Project:	FEE 2AX Spill (9.0082.202.202004)		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	594	2.0	mg/l	1	01/31/12	01/31/12 JB	SW846 6010C ¹	EPA 200.7 ²
Magnesium	66.6	1.0	mg/l	1	01/31/12	01/31/12 JB	SW846 6010C ¹	EPA 200.7 ²
Sodium	2950	2.0	mg/l	1	01/31/12	01/31/12 JB	SW846 6010C ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA2152
(2) Prep QC Batch: MP6754

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FEE 2AX-SS1	Date Sampled:	01/24/12
Lab Sample ID:	D31336-3A	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	83.2
Project:	FEE 2AX Spill (9.0082.202.202004)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	30.6		ratio	1	01/31/12 14:36	JB	USDA HANDBOOK 60

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FEE 2AX-SS2	Date Sampled:	01/24/12
Lab Sample ID:	D31336-4	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	84.8
Method:	SW846 8260B		
Project:	FEE 2AX Spill (9.0082.202.202004)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V15791.D	1	01/28/12	BR	n/a	n/a	V3V917
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	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	99%		61-130%
460-00-4	4-Bromofluorobenzene	111%		53-131%
17060-07-0	1,2-Dichloroethane-D4	91%		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:	FEE 2AX-SS2	Date Sampled:	01/24/12
Lab Sample ID:	D31336-4	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	84.8
Method:	SW846 8270C BY SIM SW846 3546		
Project:	FEE 2AX Spill (9.0082.202.202004)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G07724.D	1	01/27/12	DC	01/27/12	OP5236	E3G298
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	7.9	6.3	ug/kg	
120-12-7	Anthracene	ND	7.9	7.1	ug/kg	
56-55-3	Benzo(a)anthracene	ND	20	10	ug/kg	
50-32-8	Benzo(a)pyrene	ND	20	14	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	20	15	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	20	8.6	ug/kg	
218-01-9	Chrysene	ND	20	8.6	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	20	15	ug/kg	
206-44-0	Fluoranthene	ND	7.9	7.9	ug/kg	
86-73-7	Fluorene	ND	7.9	6.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	24	22	ug/kg	
91-20-3	Naphthalene	60.6	7.9	7.5	ug/kg	
129-00-0	Pyrene	ND	7.9	7.5	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	47%		10-145%
321-60-8	2-Fluorobiphenyl	62%		10-130%
1718-51-0	Terphenyl-d14	85%		22-130%

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:	FEE 2AX-SS2	
Lab Sample ID:	D31336-4	Date Sampled: 01/24/12
Matrix:	SO - Soil	Date Received: 01/26/12
Method:	SW846 8015B	Percent Solids: 84.8
Project:	FEE 2AX Spill (9.0082.202.202004)	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB14675.D	1	01/27/12	SK	n/a	n/a	GGB830
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	114%		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: FEE 2AX-SS2

Lab Sample ID: D31336-4

Matrix: SO - Soil

Method: SW846-8015B SW846 3546

Project: FEE 2AX Spill (9.0082.202.202004)

Date Sampled: 01/24/12

Date Received: 01/26/12

Percent Solids: 84.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD13070.D	1	01/27/12	TR	01/26/12	OP5237	GFD683
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	16	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	79%		43-136%		

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: FEE 2AX-SS2

Lab Sample ID: D31336-4

Matrix: SO - Soil

Date Sampled: 01/24/12

Date Received: 01/26/12

Percent Solids: 84.8

Project: FEE 2AX Spill (9.0082.202.202004)

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.3	0.48	mg/kg	5	01/27/12	01/27/12 GJ	SW846 6020A ³	SW846 3050B ⁶
Barium	117	1.2	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Cadmium	< 1.2	1.2	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Chromium	10.8	1.2	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Copper	17.5	1.2	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Lead	18.2	6.0	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Mercury	< 0.12	0.12	mg/kg	1	01/26/12	01/27/12 JB	SW846 7471B ¹	SW846 7471B ⁴
Nickel	16.9	3.6	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Selenium	< 6.0	6.0	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Silver	< 3.6	3.6	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵
Zinc	74.9	3.6	mg/kg	1	01/27/12	01/27/12 JB	SW846 6010C ²	SW846 3050B ⁵

(1) Instrument QC Batch: MA2143

(2) Instrument QC Batch: MA2145

(3) Instrument QC Batch: MA2146

(4) Prep QC Batch: MP6737

(5) Prep QC Batch: MP6738

(6) Prep QC Batch: MP6739

RL = Reporting Limit

Report of Analysis

Client Sample ID: FEE 2AX-SS2**Lab Sample ID:** D31336-4**Matrix:** SO - Soil**Project:** FEE 2AX Spill (9.0082.202.202004)**Date Sampled:** 01/24/12**Date Received:** 01/26/12**Percent Solids:** 84.8**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent ^a	0.47	0.46	mg/kg	1	01/30/12 14:48	AMA	SW846 3060A/7196A
Chromium, Trivalent ^b	10.3	1.7	mg/kg	1	01/30/12 14:48	AMA	SW846 3060/7196A M
Redox Potential Vs H2	445		mv	1	01/26/12 15:30	JK	ASTM D1498-76M
Solids, Percent	84.8		%	1	01/27/12	SWT	SM19 2540B M
Specific Conductivity	20700	1.0	umhos/cm	1	02/02/12	JK	DEPT.OF AG, BOOK N9
pH	8.75		su	1	01/26/12 15:30	CT	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:	FEE 2AX-SS2	Date Sampled:	01/24/12
Lab Sample ID:	D31336-4A	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	84.8
Project:	FEE 2AX Spill (9.0082.202.202004)		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	992	2.0	mg/l	1	01/31/12	01/31/12 JB	SW846 6010C ¹	EPA 200.7 ²
Magnesium	202	1.0	mg/l	1	01/31/12	01/31/12 JB	SW846 6010C ¹	EPA 200.7 ²
Sodium	3580	2.0	mg/l	1	01/31/12	01/31/12 JB	SW846 6010C ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA2152
(2) Prep QC Batch: MP6754

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FEE 2AX-SS2	Date Sampled:	01/24/12
Lab Sample ID:	D31336-4A	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	84.8
Project:	FEE 2AX Spill (9.0082.202.202004)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	27.1		ratio	1	01/31/12 14:46	JB	USDA HANDBOOK 60

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

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FEE 2AX-BG3	Date Sampled:	01/24/12
Lab Sample ID:	D31336-5	Date Received:	01/26/12
Matrix:	SO - Soil	Percent Solids:	94.2
Project:	FEE 2AX Spill (9.0082.202.202004)		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.6	0.42	mg/kg	5	01/27/12	01/27/12 GJ	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2146
(2) Prep QC Batch: MP6739

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

[illegible]

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D31336

Client: OLSSON ASS.

Immediate Client Services Action Required: No

Date / Time Received: 1/26/2012 8:40:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project: FEE 2AX SPILL 9.0082.202.202004

Airbill #'s: Fedex

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

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

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

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

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

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

Comments

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D31336
Account: CORCCOGJ Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V917-MB	3V15780.D	1	01/27/12	BR	n/a	n/a	V3V917

The QC reported here applies to the following samples:

Method: SW846 8260B

D31336-1, D31336-3, D31336-4

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

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	100% 61-130%
460-00-4	4-Bromofluorobenzene	110% 53-131%
17060-07-0	1,2-Dichloroethane-D4	92% 62-130%

Blank Spike Summary

Page 1 of 1

Job Number: D31336
Account: CORCCOGJ Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V917-BS	3V15781.D	1	01/27/12	BR	n/a	n/a	V3V917

The QC reported here applies to the following samples:

Method: SW846 8260B

D31336-1, D31336-3, D31336-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	54.2	108	70-130
100-41-4	Ethylbenzene	50	56.2	112	70-130
108-88-3	Toluene	50	52.6	105	70-130
1330-20-7	Xylene (total)	150	173	115	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	102%	61-130%
460-00-4	4-Bromofluorobenzene	112%	53-131%
17060-07-0	1,2-Dichloroethane-D4	98%	62-130%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D31336
Account: CORCCOGJ Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D31196-9MS	3V15783.D	1	01/27/12	BR	n/a	n/a	V3V917
D31196-9MSD	3V15784.D	1	01/27/12	BR	n/a	n/a	V3V917
D31196-9	3V15782.D	1	01/27/12	BR	n/a	n/a	V3V917

The QC reported here applies to the following samples:

Method: SW846 8260B

D31336-1, D31336-3, D31336-4

CAS No.	Compound	D31196-9 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		3550	3810	107	3630	102	5	70-134/30
100-41-4	Ethylbenzene	ND		3550	3960	112	3790	107	4	70-137/30
108-88-3	Toluene	ND		3550	3680	104	3430	97	7	70-130/30
1330-20-7	Xylene (total)	ND		10600	12200	115	11600	109	5	61-131/30

CAS No.	Surrogate Recoveries	MS	MSD	D31196-9	Limits
2037-26-5	Toluene-D8	99%	94%	102%	61-130%
460-00-4	4-Bromofluorobenzene	120%	115%	109%	53-131%
17060-07-0	1,2-Dichloroethane-D4	93%	92%	91%	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: D31336
Account: CORCCOGJ Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5236-MB	3G07717.D	1	01/27/12	DC	01/27/12	OP5236	E3G298

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D31336-1, D31336-3, D31336-4

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	70% 10-145%
321-60-8	2-Fluorobiphenyl	88% 10-130%
1718-51-0	Terphenyl-d14	92% 22-130%

Blank Spike Summary

Page 1 of 1

Job Number: D31336
Account: CORCCOGJ Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5236-BS	3G07718.D	1	01/27/12	DC	01/27/12	OP5236	E3G298

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D31336-1, D31336-3, D31336-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	83.3	69.4	83	34-130
120-12-7	Anthracene	83.3	73.1	88	35-130
56-55-3	Benzo(a)anthracene	83.3	61.6	74	36-130
50-32-8	Benzo(a)pyrene	83.3	61.3	74	36-130
205-99-2	Benzo(b)fluoranthene	83.3	54.7	66	35-130
207-08-9	Benzo(k)fluoranthene	83.3	87.1	105	37-130
218-01-9	Chrysene	83.3	77.6	93	40-130
53-70-3	Dibenzo(a,h)anthracene	83.3	51.6	62	32-130
206-44-0	Fluoranthene	83.3	65.2	78	38-130
86-73-7	Fluorene	83.3	67.4	81	35-130
193-39-5	Indeno(1,2,3-cd)pyrene	83.3	38.2	46	28-130
91-20-3	Naphthalene	83.3	73.4	88	35-130
129-00-0	Pyrene	83.3	69.6	84	37-130

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	66%	10-145%
321-60-8	2-Fluorobiphenyl	78%	10-130%
1718-51-0	Terphenyl-d14	79%	22-130%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D31336
Account: CORCCOGJ Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5236-MS	3G07720.D	1	01/27/12	DC	01/27/12	OP5236	E3G298
OP5236-MSD	3G07721.D	1	01/27/12	DC	01/27/12	OP5236	E3G298
D31304-1	3G07719.D	1	01/27/12	DC	01/27/12	OP5236	E3G298

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D31336-1, D31336-3, D31336-4

CAS No.	Compound	D31304-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		197	148	75	160	81	8	10-155/30
120-12-7	Anthracene	ND		197	162	82	172	87	6	10-155/30
56-55-3	Benzo(a)anthracene	ND		197	154	78	165	83	7	10-175/30
50-32-8	Benzo(a)pyrene	ND		197	161	82	171	86	6	10-164/30
205-99-2	Benzo(b)fluoranthene	ND		197	133	67	144	73	8	10-165/30
207-08-9	Benzo(k)fluoranthene	ND		197	183	93	185	93	1	10-178/30
218-01-9	Chrysene	ND		197	163	83	173	87	6	10-147/30
53-70-3	Dibenzo(a,h)anthracene	ND		197	150	76	169	85	12	10-144/30
206-44-0	Fluoranthene	ND		197	154	78	166	84	8	10-207/30
86-73-7	Fluorene	ND		197	153	78	167	84	9	10-163/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		197	130	66	157	79	19	10-180/30
91-20-3	Naphthalene	15.1	J	197	154	70	173	80	12	10-198/30
129-00-0	Pyrene	ND		197	178	90	188	95	5	10-189/30

CAS No.	Surrogate Recoveries	MS	MSD	D31304-1	Limits
4165-60-0	Nitrobenzene-d5	57%	61%	57%	10-145%
321-60-8	2-Fluorobiphenyl	69%	71%	68%	10-130%
1718-51-0	Terphenyl-d14	80%	80%	82%	22-130%

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: D31336
Account: CORCCOGJ Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB830-MB	GB14662.D	1	01/26/12	SK	n/a	n/a	GGB830

The QC reported here applies to the following samples:

Method: SW846 8015B

D31336-1, D31336-3, D31336-4

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	119% 60-140%

Blank Spike Summary

Job Number: D31336
Account: CORCCOGJ Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB830-BS	GB14663.D	1	01/26/12	SK	n/a	n/a	GGB830

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

D31336-1, D31336-3, D31336-4

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	106	96	70-130

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

7.2.1
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Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D31336
Account: CORCCOGJ Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D31316-1MS	GB14665.D	1	01/26/12	SK	n/a	n/a	GGB830
D31316-1MSD	GB14666.D	1	01/26/12	SK	n/a	n/a	GGB830
D31316-1	GB14664.D	1	01/26/12	SK	n/a	n/a	GGB830

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

D31336-1, D31336-3, D31336-4

CAS No.	Compound	D31316-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	7.63	J	136	130	90	130	90	0	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D31316-1	Limits
120-82-1	1,2,4-Trichlorobenzene	113%	110%	107%	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: D31336
Account: CORCCOGJ Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5237-MB	FD13062.D	1	01/27/12	TR	01/26/12	OP5237	GFD683

The QC reported here applies to the following samples:

Method: SW846-8015B

D31336-1, D31336-3, D31336-4

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	92% 43-136%

8.1.1

8

Blank Spike Summary

Job Number: D31336
Account: CORCCOGJ Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5237-BS	FD13063.D	1	01/27/12	TR	01/26/12	OP5237	GFD683

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

D31336-1, D31336-3, D31336-4

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	504	76	58-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	91%	43-136%

8.2.1
8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D31336
Account: CORCCOGJ Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5237-MS	FD13064.D	1	01/27/12	TR	01/26/12	OP5237	GFD683
OP5237-MSD	FD13065.D	1	01/27/12	TR	01/26/12	OP5237	GFD683
D31304-1	FD13066.D	1	01/27/12	TR	01/26/12	OP5237	GFD683

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

D31336-1, D31336-3, D31336-4

CAS No.	Compound	D31304-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND		1590	1150	72	1140	72	1	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D31304-1	Limits
84-15-1	o-Terphenyl	83%	81%	83%	43-136%

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: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6737
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 01/26/12

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.10	.0011	.013	0.0025	<0.10

Associated samples MP6737: D31336-1, D31336-3, D31336-4

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: D31336
 Account: CORCCOGJ - Olsson Associates
 Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6737
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 01/26/12

Metal	D31298-1		SpikeLot		QC
	Original	MS	HGWSR1	% Rec	Limits
Mercury	0.0034	0.32	0.387	81.8	75-125

Associated samples MP6737: D31336-1, D31336-3, D31336-4

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: D31336
 Account: CORCCOGJ - Olsson Associates
 Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6737
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 01/26/12

Metal	D31298-1		Spikelot		MSD	QC
	Original	MSD	HGWSR1	% Rec		
Mercury	0.0034	0.40	0.417	95.1	22.2	

Associated samples MP6737: D31336-1, D31336-3, D31336-4

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: D31336
 Account: CORCCOGJ - Olsson Associates
 Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6737
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 01/26/12

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.42	0.4	105.0	80-120

Associated samples MP6737: D31336-1, D31336-3, D31336-4

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: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6738
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 01/27/12

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	0.11	<1.0
Beryllium	1.0	.044	.1		
Boron	5.0	.48	.48		
Cadmium	1.0	.027	.27	0.020	<1.0
Calcium	40	.96	1.1		
Chromium	1.0	.018	.031	0.040	<1.0
Cobalt	0.50	.035	.035		
Copper	1.0	.085	.16	-0.040	<1.0
Iron	7.0	.34	2		
Lead	5.0	.16	.21	-0.070	<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	-0.070	<3.0
Phosphorus	10	1.1	1.2		
Potassium	200	5.5	9.2		
Selenium	5.0	.38	.5	-0.13	<5.0
Silicon	5.0	.38	.51		
Silver	3.0	.018	.051	0.0	<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	0.28	<3.0

Associated samples MP6738: D31336-1, D31336-3, D31336-4

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6738
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D31336
 Account: CORCCOGJ - Olsson Associates
 Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6738
 Matrix Type: SOLID

Methods: SW846 6010C
 Units: mg/kg

Prep Date: 01/27/12

Metal	D31355-1 Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic					
Barium	1180	1240	220	27.3 (a)	75-125
Beryllium					
Boron					
Cadmium	0.10	43.5	55	78.9	75-125
Calcium					
Chromium	53.3	81.5	55	51.3N(b)	75-125
Cobalt					
Copper	11.7	57.9	55	84.0	75-125
Iron					
Lead	10.8	94.9	110	76.5	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	21.9	54.2	55	58.8N(b)	75-125
Phosphorus					
Potassium					
Selenium	0.90	89.7	110	80.8	75-125
Silicon					
Silver	0.16	19.0	22	85.7	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	38.2	75.1	55	67.1N(b)	75-125

Associated samples MP6738: D31336-1, D31336-3, D31336-4

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6738
Matrix Type: SOLID

Methods: SW846 6010C
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: D31336
 Account: CORCCOGJ - Olsson Associates
 Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6738
 Matrix Type: SOLID

Methods: SW846 6010C
 Units: mg/kg

Prep Date: 01/27/12

Metal	D31355-1 Original	MSD	Spikelot MPICPAL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium	1180	1280	222	45.0 (a)	3.2	20
Beryllium						
Boron						
Cadmium	0.10	44.5	55.5	80.0	2.3	20
Calcium						
Chromium	53.3	84.9	55.5	56.9N(b)	4.1	20
Cobalt						
Copper	11.7	58.4	55.5	84.1	0.9	20
Iron						
Lead	10.8	95.9	111	76.6	1.0	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	21.9	56.3	55.5	62.0N(b)	3.8	20
Phosphorus						
Potassium						
Selenium	0.90	90.7	111	80.9	1.1	20
Silicon						
Silver	0.16	19.2	22.2	85.7	1.0	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	38.2	75.1	55.5	66.5N(b)	0.0	20

Associated samples MP6738: D31336-1, D31336-3, D31336-4

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6738
Matrix Type: SOLID

Methods: SW846 6010C
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.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6738
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 01/27/12

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	198	200	99.0	80-120
Beryllium				
Boron				
Cadmium	45.6	50	91.2	80-120
Calcium				
Chromium	48.0	50	96.0	80-120
Cobalt				
Copper	46.9	50	93.8	80-120
Iron				
Lead	94.5	100	94.5	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	45.4	50	90.8	80-120
Phosphorus				
Potassium				
Selenium	93.0	100	93.0	80-120
Silicon				
Silver	19.8	20	99.0	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	45.4	50	90.8	80-120

Associated samples MP6738: D31336-1, D31336-3, D31336-4

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6738
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D31336
 Account: CORCCOGJ - Olsson Associates
 Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6738
 Matrix Type: SOLID

Methods: SW846 6010C
 Units: ug/l

Prep Date: 01/27/12

Metal	D31355-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	11700	11300	8.8	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC (a)	0-10
Calcium				
Chromium	511	506	8.6	0-10
Cobalt				
Copper	103	98.5	3.3	0-10
Iron				
Lead	99.5	88.5	6.1	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	218	216	12.7*(b)	0-10
Phosphorus				
Potassium				
Selenium	0.00	0.00	NC (a)	0-10
Silicon				
Silver	4.50	5.50	292.9(a)	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	388	388	16.3*(b)	0-10

Associated samples MP6738: D31336-1, D31336-3, D31336-4

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6738
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6739
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 01/27/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.14	1.3		
Antimony	0.20	.001	.012		
Arsenic	0.40	.049	.1	-0.063	<0.40
Barium	1.0	.0035	.025		
Beryllium	0.10	.0075	.055		
Boron	20	.97	.6		
Cadmium	0.050	.023	.034		
Calcium	200	1.8	9.5		
Chromium	1.0	.021	.041		
Cobalt	0.10	.0033	.0085		
Copper	1.0	.011	.055		
Iron	20	.81	18		
Lead	0.25	.0012	.023		
Magnesium	50	.067	.6		
Manganese	0.50	.007	.039		
Molybdenum	0.50	.0044	.025		
Nickel	1.0	.0029	.031		
Phosphorus	30	1.8	3.5		
Potassium	100	2	6		
Selenium	0.20	.075	.19		
Silver	0.050	.0008	.022		
Sodium	250	.8	3		
Strontium	10	.004	.024		
Thallium	0.10	.015	.013		
Tin	5.0	.006	.15		
Titanium	1.0	.035	.12		
Uranium	0.25	.00038	.008		
Vanadium	2.0	.052	.19		
Zinc	5.0	.039	.23		

Associated samples MP6739: D31336-1, D31336-2, D31336-3, D31336-4, D31336-5

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: D31336
 Account: CORCCOGJ - Olsson Associates
 Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6739
 Matrix Type: SOLID

Methods: SW846 6020A
 Units: mg/kg

Prep Date: 01/27/12

Metal	D31355-1 Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic	4.2	117	110	102.6	75-125
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 MP6739: D31336-1, D31336-2, D31336-3, D31336-4, D31336-5

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: D31336
 Account: CORCCOGJ - Olsson Associates
 Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6739
 Matrix Type: SOLID

Methods: SW846 6020A
 Units: mg/kg

Prep Date: 01/27/12

Metal	D31355-1 Original	MSD	Spikelot MPICPAL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	4.2	111	111	96.2	5.3	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 MP6739: D31336-1, D31336-2, D31336-3, D31336-4, D31336-5

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: D31336
 Account: CORCCOGJ - Olsson Associates
 Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6739
 Matrix Type: SOLID

Methods: SW846 6020A
 Units: mg/kg

Prep Date: 01/27/12

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	105	100	105.0	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP6739: D31336-1, D31336-2, D31336-3, D31336-4, D31336-5

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D31336
 Account: CORCCOGJ - Olsson Associates
 Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6739
 Matrix Type: SOLID

Methods: SW846 6020A
 Units: ug/l

Prep Date: 01/27/12

Metal	D31355-1 Original SDL 5:25 %DIF			QC Limits
Aluminum				
Antimony				
Arsenic	36.7	41.0	11.1*(a)	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 MP6739: D31336-1, D31336-2, D31336-3, D31336-4, D31336-5

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested
 (a) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6754
Matrix Type: AQUEOUS

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

Prep Date: 01/31/12

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	19.0	<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	6.0	<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	-130	<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 MP6754: D31336-1A, D31336-3A, D31336-4A

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6754
Matrix Type: AQUEOUS

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

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D31336
 Account: CORCCOGJ - Olsson Associates
 Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6754
 Matrix Type: AQUEOUS

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

Prep Date: 01/31/12

Metal	D31355-1A Original MS		Spikelot MPICPAL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	79400	211000	125000	105.3	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	20000	146000	125000	100.8	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	1230000	1380000	125000	120.0	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP6754: D31336-1A, D31336-3A, D31336-4A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6754
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
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: D31336
 Account: CORCCOGJ - Olsson Associates
 Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6754
 Matrix Type: AQUEOUS

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

Prep Date: 01/31/12

Metal	D31355-1A Original MSD	Spikelot MPICPAL % Rec	MSD RPD	QC Limit
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	79400	211000	125000	105.3
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	20000	145000	125000	100.0
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	1230000	1400000	125000	136.0(a)
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP6754: D31336-1A, D31336-3A, D31336-4A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6754
Matrix Type: AQUEOUS

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

Prep Date:

Metal

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D31336
 Account: CORCCOGJ - Olsson Associates
 Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6754
 Matrix Type: AQUEOUS

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

Prep Date: 01/31/12

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	128000	125000	102.4	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	126000	125000	100.8	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	130000	125000	104.0	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP6754: D31336-1A, D31336-3A, D31336-4A

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

QC Batch ID: MP6754
Matrix Type: AQUEOUS

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

Prep Date:

Metal

(anr) Analyte not requested

General Chemistry

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP6431/GN13524	1.0	<1.0	umhos/cm	9967	9960	99.9	90-110%
pH	GN13428			su	8.00	7.98	99.8	99.3-100.7%

Associated Samples:

Batch GN13428: D31336-1, D31336-3, D31336-4

Batch GP6431: D31336-1, D31336-3, D31336-4

(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D31336
Account: CORCCOGJ - Olsson Associates
Project: FEE 2AX Spill (9.0082.202.202004)

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Redox Potential Vs H2	GN13429	D31304-1	mv	386	407	5.3	0-20%

Associated Samples:

Batch GN13429: D31336-1, D31336-3, D31336-4

(*) 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: D31336

Client: AMS

Immediate Client Services Action Required: No

Date / Time Received: 1/27/2012

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: D31336
Account: ALMS - Accutest Mountain States
Project: CORCCOGJ: FEE 2AX Spill (9.0082.202.202004)

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP14095/GN37693	0.40	0.17	mg/kg	40	38.3	95.8	80-120%
Chromium, Hexavalent	GP14095/GN37693			mg/kg	1090	1110	101.8	80-120%

Associated Samples:

Batch GP14095: D31336-1, D31336-3, D31336-4

(*) Outside of QC limits

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D31336
Account: ALMS - Accutest Mountain States
Project: CORCCOGJ: FEE 2AX Spill (9.0082.202.202004)

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Chromium, Hexavalent	GP14095/GN37693	mg/kg	40	38.6	0.7	

Associated Samples:

Batch GP14095: D31336-1, D31336-3, D31336-4

(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D31336
Account: ALMS - Accutest Mountain States
Project: CORCCOGJ: FEE 2AX Spill (9.0082.202.202004)

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP14095/GN37693	D31355-1	mg/kg	0.75	0.69	8.3	0-20%

Associated Samples:

Batch GP14095: D31336-1, D31336-3, D31336-4
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D31336
Account: ALMS - Accutest Mountain States
Project: CORCCOGJ: FEE 2AX Spill (9.0082.202.202004)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP14095/GN37693	D31355-1	mg/kg	0.75	44.4	43.4	96.1	75-125%
Chromium, Hexavalent	GP14095/GN37693	D31355-1	mg/kg	0.75	872	936	107.3	75-125%

Associated Samples:

Batch GP14095: D31336-1, D31336-3, D31336-4

(*) Outside of QC limits

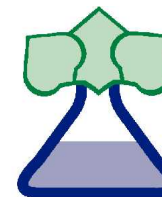
(N) Matrix Spike Rec. outside of QC limits

Olsen's Agricultural Laboratory, Inc.

210 East 1st / PO Box 370 / McCook, Nebraska 69001

Office: 308-345-3670 / FAX: 308-345-7880

www.olsenlab.com



95028

ALS LABORATORY GROUP

225 COMMERCE DRIVE

FT COLLINS CO 80524

NAME : FEE 2AX

DATE RECEIVED: 04/10/2012

DATE REPORTED: 04/13/2012

SOIL TEST RESULTS

LAB NUMBER	FIELD IDENTIFICATION	SAMPLE IDENTIFICATION	Depth Inches	pH		LIME REC T/A 60% ECCE		EL	SOLUBLE SALTS mod. SP mmhos/cm	OM LOI %	NITRATE-N (FIA)		PHOSPHORUS				
				1 : 1 Soil	Buffer Woodruff	Legume	Non Legume				ppm	lbs/A	P1 ppm	Bicarb ppm	P2 ppm	M2 ppm	M3 ppm
1034846	FEE 2AX SS1		0-8	8.1				H	1.24								
1034847	FEE 2AX SS2		0-8	8.2				H	0.86								

LAB NUMBER	SULFATE-S Ca-P ppm	NH4OAc (Exchangeable)				DTPA				BORON Sorbitol ppm	EST. CATION EXCHANGE CAPACITY (CEC) me/100g	% SATURATION					
		K ppm	Ca ppm	Mg ppm	Na ppm	Zn ppm	Fe ppm	Mn ppm	Cu ppm			BASE	H	Ca	Mg	K	Na
1034846										1.1							
1034847										0.8							

LAB NUMBER	SOLUBLE (SAT. EXT.)			SODIUM ADSORPTION RATIO (SAR)	EXCH. SODIUM PERCENT (ESP)	GYPSUM REQ T/A	PARTICLE SIZE ANALYSIS				CHLORIDE		EXCH. NH4-N		ALUMINUM ppm	TOTAL N %
	Ca me/L	Mg me/L	Na me/L				SAND %	SILT %	CLAY %	SOIL TEXTURE	ppm	lbs/A	ppm	lbs/A		
1034846	1.21	0.01	1.18	1.51	1	0.0										
1034847	1.27	0.01	1.38	1.73	1	0.0										

SUGGESTED FERTILIZER RECOMMENDATIONS

LAB NUMBER	FIELD IDENTIFICATION	SAMPLE IDENTIFICATION	CROP TO BE GROWN	YIELD GOAL	N lbs/A	P2O5 lbs/A	K2O lbs/A	S lbs/A	Zn lbs/A	MgO lbs/A	Fe lbs/A	Mn lbs/A	Cu lbs/A	B lbs/A	Cl lbs/A
1034846	FEE 2AX SS1														
1034847	FEE 2AX SS2														

Analysis By: Olsen's Ag. Lab

Recommendations By: Olsen's Ag. Lab



April 25, 2012

Mr. Tim Dobransky
Olsson Associates
826 21 ½ Road
Grand Junction, CO 81505

Re: ALS Workorder: 12-04-074
Project Name: 9.0082.202.202004
Project Number: FEE 2AX Spill Followup

Dear Mr. Dobransky:

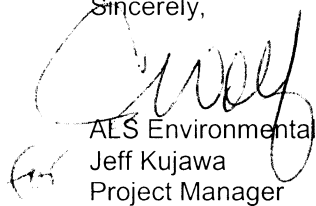
Two soil samples were received from Olsson Associates on April 6, 2012. The samples were subcontracted to Olsen's Agricultural Lab for the following analysis:

SAR, EC, pH

The results for this analysis are contained in the enclosed report.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,



ALS Environmental
Jeff Kujawa
Project Manager

JRK/arw
Enclosure (s): Report

ALS is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

Accreditation Body	License or Certification Number
Washington	C1280
Utah	CO00078
Arizona	AZ0742
Alaska	UST-086
Alaska	CO00078
Florida	E87914
Missouri	175
North Dakota	R-057
New Jersey	CO003
Nevada	CO000782008A
California	06251CA
Kansas	E-10381
Maryland	285
Pennsylvania	68-03116
Texas	T104704241-09-1
Colorado	CO00078
Connecticut	PH-0232
Idaho	CO00078
Tennessee	2976
Kentucky	90137
L-A-B (DoD ELAP/ISO 17025)	L2257

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1204074

Client Name: Olsson Associates

Client Project Name: 9.0082.202.202004

Client Project Number: FEE 2AX Spill Followup

Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
FEE 2AX-SS1	1204074-1		SOIL	04-Apr-12	13:40
FEE 2AX-SS2	1204074-2		SOIL	04-Apr-12	13:50



Environmental

Chain of Custody Form

Page 1 of 1

COC ID: 123456

- ☐ Cincinnati, OH
+1 513 733 5336
- ☐ Everett, WA
+1 425 356 2600
- ☐ Fort Collins, CO
+1 970 490 1511
- ☐ Holland, MI
+1 616 399 6070
- ☐ Houston, TX
+1 281 530 5656
- ☐ Middletown, PA
+1 717 944 5541
- ☐ Salt Lake City, UT
+1 801 266 7700
- ☐ Spring City, PA
+1 610 948 4903
- ☐ York, PA
+1 717 505 5280

Customer Information				ALS Project Manager:				Work Order #:									
Project Information				Parameter/Method Request for Analysis													
Purchase Order	Project Name			FEE 2AX Spill Followup			A TPH (GRO & DRO)										
Work Order	Project Number			9.0082.202.202004			B BTEX										
Company Name	Bill To Company			Olsson Associates			C PAH (See Attached List)										
Send Report To	Invoice Attn:			Tim Dobransky			D Electrical Conductivity										
Address	Address			826 21 1/2 Road			E Sodium Adsorption Ratio										
City/State/Zip	City/State/Zip			Grand Junction, CO			F pH										
Phone	Phone			970.263.7800			G Metals (See Attached List)										
Fax	Fax			970.263.7456			H Arsenic Only										
e-Mail Address	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	FEE 2AX-SS1	04/04/12	1340	Soil	NA	1				X	X						
2	FEE 2AX-SS2	04/04/12	1350	Soil	NA	1				X	X						
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				<input type="checkbox"/> Other					
Relinquished by:				Received by:				Notes:				Chevron Pricing Applies - Per Bruce Schlatter					
Relinquished by: <i>[Signature]</i>				Received by (Laboratory): <i>[Signature]</i>				Center Temp. <i>[Signature]</i>				QC Package: (Check Box Below)					
Logged by (Laboratory): <i>[Signature]</i>				Checked by (Laboratory): <i>[Signature]</i>				Level II: Standard QC									
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-H2O2 6-NaHSO4 7-Other 8-4 degrees C 9-5005								Level III: Std QC + Raw Data									
								Level IV: SW846 CLP-Like									
								Other:									

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

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CONDITION OF SAMPLE UPON RECEIPT FORM

Client: O/sson AssocWorkorder No: 1204074Project Manager: JKInitials: QAA Date: 4-6-R

1. Does this project require any special handling in addition to standard Paragon procedures?	YES	NO
2. Are custody seals on shipping containers intact?	NONE	YES
3. Are Custody seals on sample containers intact?	NONE	YES
4. Is there a COC (Chain-of-Custody) present or other representative documents?	YES	NO
5. Are the COC and bottle labels complete and legible?	YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)	YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	YES
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	YES
9. Are all aqueous non-preserved samples pH 4-9?	N/A	YES
10. Is there sufficient sample for the requested analyses?	YES	NO
11. Were all samples placed in the proper containers for the requested analyses?	YES	NO
12. Are all samples within holding times for the requested analyses?	YES	NO
13. Were all sample containers received intact ? (not broken or leaking, etc.)	YES	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ____ < green pea ____ > green pea	N/A	YES
15. Do perchlorate LCMS-MS samples have headspace? (at least 1/3 of container required)	N/A	YES
16. Were samples checked for and free from the presence of residual chlorine ? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	N/A	YES
17. Were the samples shipped on ice ?	YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: #2	#4
Cooler #:	1	
Temperature (°C):	5.5	
No. of custody seals on cooler:	1	
External µR/hr reading:	24	
Background µR/hr reading:	11	
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria?	YES	NO

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

should have been un 2910 -

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: JK 4-6-11

*IR Gun #2: Oakton, SN 29922500201-0066

*IR Gun #4: Oakton, SN 2372220101-0002

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

GRAND JUNCTION, CO 81505
UNITED STATES US

SHIP DATE: 05APR12
ACTWGT 40.0 LB MAN
CAD: 390382/CAFE2511

BILL SENDER

TO **SAMPLE RECEIVING**
ALS ENVIRONMENTAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524

(970) 490-1511

PO: 9.0082.202.202000



FedEx
Express



J11131106080125

TRK#
0201 9660 0452 3443

FRI - 06 APR A2
PRIORITY OVERNIGHT

72 FTCA

80524
CO-US DEN



906
3443
A