

Technical Report for

Confluence Energy

Grizzly

Accutest Job Number: D71214

Sampling Date: 05/27/15

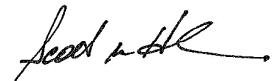
Report to:

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Total number of pages in report: 70



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



Scott Heideman
Laboratory Director

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Certifications: CO (CO00049), ID, NE (CO00049), ND (R-027), NJ (CO 0007), OK (D9942), UT (NELAP CO00049), LA (LA150028), TX (T104704511), WY

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Test results relate only to samples analyzed.

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Sample Summary

Confluence Energy

Job No: D71214

Grizzly

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D71214-1	05/27/15	16:00 MJM	05/29/15	SO	Soil	S. BERM GRIZZLY
D71214-1A	05/27/15	16:00 MJM	05/29/15	SO	Soil	S. BERM GRIZZLY

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Confluence Energy

Job No D71214

Site: Grizzly

Report Date 6/5/2015 4:01:58 PM

On 05/29/2015, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 20 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D71214 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.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO

Batch ID: C:VL1250

- The data for SW846 8260B meets quality control requirements.
- D71214-1: Dilution required due to nature of sample matrix. Analysis performed at Accutest Laboratories, San Jose, CA.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: SO

Batch ID: OP11831

- All samples were extracted and analyzed within the recommended method holding time.
- Sample(s) D71214-1MS, D71214-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- D71214-1: Dilution required due to matrix interference. Internal standard failure without dilution.

Volatiles by GC By Method SW846 8015B

Matrix: SO

Batch ID: GGB1637

- All samples were analyzed within the recommended method holding time.
- Sample(s) D71273-1MS, D71273-1MSD 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: MP16043

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D71033-11AMS, D71033-11AMSD, D71033-11ASDL were used as the QC samples for the metals analysis.

Matrix: SO

Batch ID: MP16044

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D71275-1MS, D71275-1MSD, D71275-1SDL were used as the QC samples for the metals analysis.
- The serial dilution RPD(s) for Cadmium, Lead, Nickel, Zinc are outside control limits for sample MP16044-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP16044-SD1 for Zinc, Nickel: Serial dilution indicates possible matrix interference.

Metals By Method SW846 6020A

Matrix: SO **Batch ID:** MP16045

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D71275-1MS, D71275-1MSD, D71275-1SDL were used as the QC samples for the metals analysis.

Metals By Method SW846 7471B

Matrix: SO **Batch ID:** MP16077

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D71033-1MS, D71033-1MSD were used as the QC samples for the metals analysis.

Wet Chemistry By Method ASTM D1498-76M

Matrix: SO **Batch ID:** GN30159

- Sample(s) D71275-1DUP were used as the QC samples for the Redox Potential Vs H2 analysis.

Wet Chemistry By Method SM2540G-2011 M

Matrix: SO **Batch ID:** GN30129

- The data for SM2540G-2011 M meets quality control requirements.

Wet Chemistry By Method SW846 3060A/7196A

Matrix: SO **Batch ID:** GP15450

- All samples were prepared and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D71276-1DUP, D71276-1MS, D71276-1MSD were used as the QC samples for the Chromium, Hexavalent analysis.

Wet Chemistry By Method SW846 3060A/7196A M

Matrix: SO **Batch ID:** R28244

- The data for SW846 3060A/7196A M meets quality control requirements.
- D71214-1 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

Wet Chemistry By Method SW846 9045D

Matrix: SO **Batch ID:** GN30131

- The following samples were run outside of holding time for method SW846 9045D: D71214-1

Wet Chemistry By Method USDA HANDBOOK 60

Matrix: SO **Batch ID:** MP16043

- D71214-1A 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 D71214

Site: CONECOK: Grizzly

Report Date 6/5/2015 2:20:19 AM

1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 05/27/2015 and were received at Accutest Northern California on 05/30/2015 properly preserved, at 2.9 Deg. C and intact. These Samples received an Accutest job number of D71214. 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.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO

Batch ID: VL1250

- Sample(s) D71250-9MS, D71250-9MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Xylene (total) are outside control limits. Probable cause due to matrix interference.
- D71214-1: Dilution required due to nature of sample matrix.

Accutest Laboratories Northern California (ALNCA) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALNCA and as stated on the COC. ALNCA certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALNCA Quality Manual except as noted above. This report is to be used in its entirety. ALNCA is not responsible for any assumptions of data quality if partial data packages are used.

Summary of Hits

Job Number: D71214
 Account: Confluence Energy
 Project: Grizzly
 Collected: 05/27/15



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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D71214-1 S. BERM GRIZZLY

Chrysene ^a	103	19	9.2	ug/kg	SW846 8270C BY SIM
Naphthalene ^a	31.4	19	11	ug/kg	SW846 8270C BY SIM
Pyrene ^a	84.7	19	9.2	ug/kg	SW846 8270C BY SIM
TPH-GRO (C6-C10)	14.4	12	5.8	mg/kg	SW846 8015B
Arsenic	4.0	0.11		mg/kg	SW846 6020A
Barium	3070	1.1		mg/kg	SW846 6010C
Chromium	15.8	1.1		mg/kg	SW846 6010C
Copper	12.4	1.1		mg/kg	SW846 6010C
Lead	30.8	5.3		mg/kg	SW846 6010C
Nickel	9.4	3.2		mg/kg	SW846 6010C
Zinc	41.0	3.2		mg/kg	SW846 6010C
Specific Conductivity	1230	1.0		umhos/cm	SM 2510B-2011 MOD
Chromium, Trivalent ^b	15.8	2.1		mg/kg	SW846 3060A/7196A M
Redox Potential Vs H2	365			mv	ASTM D1498-76M
pH	9.08			su	SW846 9045D

D71214-1A S. BERM GRIZZLY

Calcium	55.2	2.0		mg/l	SW846 6010C
Magnesium	12.1	1.0		mg/l	SW846 6010C
Sodium	203	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^c	6.44			ratio	USDA HANDBOOK 60

(a) Dilution required due to matrix interference. Internal standard failure without dilution.

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

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

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: S. BERM GRIZZLY Lab Sample ID: D71214-1 Matrix: SO - Soil Method: SW846 8260B Project: Grizzly	Date Sampled: 05/27/15 Date Received: 05/29/15 Percent Solids: 91.5
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	L41674.D	1	06/02/15	ANC	n/a	n/a	C:VL1250
Run #2							

Run #	Initial Weight
Run #1	1.27 g
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	22	2.2	ug/kg	
108-88-3	Toluene	ND	22	2.2	ug/kg	
100-41-4	Ethylbenzene	ND	22	2.2	ug/kg	
1330-20-7	Xylene (total)	ND	43	4.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	96%		70-130%

(a) Dilution required due to nature of sample matrix. Analysis performed at Accutest Laboratories, San Jose, CA.

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
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Report of Analysis

Client Sample ID:	S. BERM GRIZZLY	Date Sampled:	05/27/15
Lab Sample ID:	D71214-1	Date Received:	05/29/15
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8270C BY SIM SW846 3546		
Project:	Grizzly		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	3G23973.D	4	06/03/15	JJ	06/03/15	OP11831	E3G1200
Run #2							

Run #	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	19	9.2	ug/kg	
120-12-7	Anthracene	ND	19	9.2	ug/kg	
56-55-3	Benzo(a)anthracene	ND	19	9.2	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	19	9.2	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	19	9.2	ug/kg	
50-32-8	Benzo(a)pyrene	ND	19	9.2	ug/kg	
218-01-9	Chrysene	103	19	9.2	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	19	9.2	ug/kg	
206-44-0	Fluoranthene	ND	19	9.2	ug/kg	
86-73-7	Fluorene	ND	19	9.2	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	19	15	ug/kg	
91-20-3	Naphthalene	31.4	19	11	ug/kg	
129-00-0	Pyrene	84.7	19	9.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	76%		11-164%
321-60-8	2-Fluorobiphenyl	69%		14-138%
1718-51-0	Terphenyl-d14	97%		35-139%

(a) Dilution required due to matrix interference. Internal standard failure without dilution.

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: S. BERM GRIZZLY Lab Sample ID: D71214-1 Matrix: SO - Soil Method: SW846 8015B Project: Grizzly	Date Sampled: 05/27/15 Date Received: 05/29/15 Percent Solids: 91.5
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB30451.D	1	06/01/15	EP	n/a	n/a	GGB1637
Run #2							

Run #	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)	14.4	12	5.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	101%		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

4.1
4

Report of Analysis

Client Sample ID: S. BERM GRIZZLY Lab Sample ID: D71214-1 Matrix: SO - Soil Project: Grizzly	Date Sampled: 05/27/15 Date Received: 05/29/15 Percent Solids: 91.5
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Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.0	0.11	mg/kg	5	06/01/15	06/04/15 KV	SW846 6020A ²	SW846 3050B ⁵
Barium	3070	1.1	mg/kg	1	06/01/15	06/01/15 LH	SW846 6010C ¹	SW846 3050B ⁴
Cadmium	< 1.1	1.1	mg/kg	1	06/01/15	06/01/15 LH	SW846 6010C ¹	SW846 3050B ⁴
Chromium	15.8	1.1	mg/kg	1	06/01/15	06/01/15 LH	SW846 6010C ¹	SW846 3050B ⁴
Copper	12.4	1.1	mg/kg	1	06/01/15	06/01/15 LH	SW846 6010C ¹	SW846 3050B ⁴
Lead	30.8	5.3	mg/kg	1	06/01/15	06/01/15 LH	SW846 6010C ¹	SW846 3050B ⁴
Mercury	< 0.090	0.090	mg/kg	1	06/05/15	06/05/15 KV	SW846 7471B ³	SW846 7471B ⁶
Nickel	9.4	3.2	mg/kg	1	06/01/15	06/01/15 LH	SW846 6010C ¹	SW846 3050B ⁴
Selenium	< 5.3	5.3	mg/kg	1	06/01/15	06/01/15 LH	SW846 6010C ¹	SW846 3050B ⁴
Silver	< 3.2	3.2	mg/kg	1	06/01/15	06/01/15 LH	SW846 6010C ¹	SW846 3050B ⁴
Zinc	41.0	3.2	mg/kg	1	06/01/15	06/01/15 LH	SW846 6010C ¹	SW846 3050B ⁴

- (1) Instrument QC Batch: MA6178
- (2) Instrument QC Batch: MA6189
- (3) Instrument QC Batch: MA6194
- (4) Prep QC Batch: MP16044
- (5) Prep QC Batch: MP16045
- (6) Prep QC Batch: MP16077

RL = Reporting Limit

4.1
4

Report of Analysis

Client Sample ID: S. BERM GRIZZLY	Date Sampled: 05/27/15
Lab Sample ID: D71214-1	Date Received: 05/29/15
Matrix: SO - Soil	Percent Solids: 91.5
Project: Grizzly	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	91.5		%	1	06/01/15	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	1230	1.0	umhos/cm	1	06/02/15	AK	SM 2510B-2011 MOD
Chromium, Hexavalent	< 1.0	1.0	mg/kg	1	06/03/15	AK	SW846 3060A/7196A
Chromium, Trivalent ^a	15.8	2.1	mg/kg	1	06/03/15	AK	SW846 3060A/7196A M
Redox Potential Vs H2	365		mv	1	06/02/15	AK	ASTM D1498-76M
pH	9.08		su	1	06/01/15 14:10	JD	SW846 9045D

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

RL = Reporting Limit

Report of Analysis

Client Sample ID: S. BERM GRIZZLY	Date Sampled: 05/27/15
Lab Sample ID: D71214-1A	Date Received: 05/29/15
Matrix: SO - Soil	Percent Solids: 91.5
Project: Grizzly	

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	55.2	2.0	mg/l	1	06/02/15	06/02/15 LH	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	12.1	1.0	mg/l	1	06/02/15	06/02/15 LH	SW846 6010C ¹	SW846 3010A/M ²
Sodium	203	2.0	mg/l	1	06/02/15	06/02/15 LH	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA6179

(2) Prep QC Batch: MP16043

RL = Reporting Limit

4.2
4

Report of Analysis

Client Sample ID: S. BERM GRIZZLY	Date Sampled: 05/27/15
Lab Sample ID: D71214-1A	Date Received: 05/29/15
Matrix: SO - Soil	Percent Solids: 91.5
Project: Grizzly	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	6.44		ratio	1	06/02/15 19:20	LH	USDA HANDBOOK 60

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

RL = Reporting Limit

4.2
 4

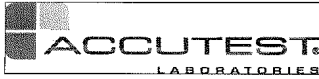
Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

4036 Youngfield Street, Wheat Ridge, CO 80033
 TEL: 303-425-6021 FAX: 303-425-6854
 www.accutest.com

FED-EX Tracking #	Bottle Order Control # D71214
Accutest Quote #	Accutest Job # D71213B8

Client / Reporting Information		Project Information										Requested Analysis (see TEST CODE sheet)										Matrix Codes														
Company Name Confluence Energy		Project Name: Grizzly South berm material										CO table 910 please run first before running complete table 910DRO										DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank														
Street Address 1809 Hwy 9 - PO Box 1387		Street		Billing Information (If different from Report to)																																
City Kremmling Colorado		City		State		Company Name																														
Project Contact Mark		Project #		Street Address																																
Phone # 970-724-9839		Client Purchase Order #		City																																
Sampler(s) Name(s)		Project Manager Jonah		Attention:																																
Field ID / Point of Collection S. Berm Grizzly		MECH/DI Vial #		Collection		Sampled by		Matrix		# of bottles													Number of preserved Bottles													
Date 5/27/16		Time 4pm		Samp		Mtx		#		HCl													NICH		HNO3		H2SO4		NONE		DI Water		MECH		ENCORE	
Turnaround Time (Business days)		Data Deliverable Information																					Comments / Special Instructions													

<input type="checkbox"/> Std. 15 Business Days <input type="checkbox"/> Std. 10 Business Days <input checked="" type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day Emergency <input type="checkbox"/> 2 Day Emergency <input type="checkbox"/> 1 Day Emergency Emergency & Rush T/A data available VIA Lablink		Approved By (Accutest PM) / Date: _____ Stand price _____ _____ _____		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> COMMBN <input type="checkbox"/> COMMBN+ <input type="checkbox"/>		<input type="checkbox"/> State Forms Required <input type="checkbox"/> Send Forms to State <input type="checkbox"/> Report by Fax <input type="checkbox"/> Report by PDF <input type="checkbox"/> EDD Format		Commercial "A" = Results Only Commercial "B" = Results + QC Summary Commercial BN = Results/QC/Narrative (* = chromatograms)	
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Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: 1 mark	Date Time: 8:00	Received By: 1	Relinquished By: FRG	Date Time:	Received By: JOL S-29-15
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: TOBO
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	<input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Preserved where applicable <input checked="" type="checkbox"/> On Ice <input type="checkbox"/> Cooler Temp. 20.0

5.1 5

Accutest Job Number: D71214 **Client:** CONFLUENCE ENERGY **Project:** GRIZZLY SOUTH BERM MATERIAL
Date / Time Received: 5/29/2015 11:00:00 AM **Delivery Method:** _____ **Airbill #'s:** fxg
Cooler Temps (Initial/Adjusted): #1: (20/20):

Cooler Security		<u>Y or N</u>			<u>Y or N</u>
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		<u>Y or N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Cooler temp verification:	<u>IR Gun;</u>	
3. Cooler media:	<u>Ice (Bag)</u>	
4. No. Coolers:	<u>1</u>	

Quality Control Preservation	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
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"/>

Comments

Sample Integrity - Documentation		<u>Y</u>	<u>or</u>	<u>N</u>
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		<u>Y</u>	<u>or</u>	<u>N</u>
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:	<u>Intact</u>			

Sample Integrity - Instructions	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
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"/>

5.1
5

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

Job Number: D71214
Account: CONECOK Confluence Energy
Project: Grizzly

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11831-MB	3G23970.D	1	06/03/15	JJ	06/03/15	OP11831	E3G1200

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D71214-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	2.1	ug/kg	
120-12-7	Anthracene	ND	4.3	2.1	ug/kg	
56-55-3	Benzo(a)anthracene	ND	4.3	2.1	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	4.3	2.1	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	4.3	2.1	ug/kg	
50-32-8	Benzo(a)pyrene	ND	4.3	2.1	ug/kg	
218-01-9	Chrysene	ND	4.3	2.1	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	4.3	2.1	ug/kg	
206-44-0	Fluoranthene	ND	4.3	2.1	ug/kg	
86-73-7	Fluorene	ND	4.3	2.1	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.3	3.3	ug/kg	
91-20-3	Naphthalene	ND	4.3	2.6	ug/kg	
129-00-0	Pyrene	ND	4.3	2.1	ug/kg	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	72% 11-164%
321-60-8	2-Fluorobiphenyl	66% 14-138%
1718-51-0	Terphenyl-d14	98% 35-139%

Blank Spike Summary

Job Number: D71214
 Account: CONECOK Confluence Energy
 Project: Grizzly

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11831-BS	3G23971.D	1	06/03/15	JJ	06/03/15	OP11831	E3G1200

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D71214-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	83.3	66.3	80	42-130
120-12-7	Anthracene	83.3	80.1	96	45-130
56-55-3	Benzo(a)anthracene	83.3	78.6	94	49-137
205-99-2	Benzo(b)fluoranthene	83.3	81.5	98	43-146
207-08-9	Benzo(k)fluoranthene	83.3	80.8	97	27-146
50-32-8	Benzo(a)pyrene	83.3	86.5	104	53-130
218-01-9	Chrysene	83.3	75.8	91	61-130
53-70-3	Dibenzo(a,h)anthracene	83.3	81.5	98	59-130
206-44-0	Fluoranthene	83.3	41.6	50	48-130
86-73-7	Fluorene	83.3	71.0	85	44-130
193-39-5	Indeno(1,2,3-cd)pyrene	83.3	76.3	92	58-130
91-20-3	Naphthalene	83.3	68.1	82	56-130
129-00-0	Pyrene	83.3	77.7	93	53-130

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	79%	11-164%
321-60-8	2-Fluorobiphenyl	68%	14-138%
1718-51-0	Terphenyl-d14	100%	35-139%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D71214
 Account: CONECOK Confluence Energy
 Project: Grizzly

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11831-MS	3G23974.D	4	06/03/15	JJ	06/03/15	OP11831	E3G1200
OP11831-MSD	3G23975.D	4	06/03/15	JJ	06/03/15	OP11831	E3G1200
D71214-1 ^a	3G23973.D	4	06/03/15	JJ	06/03/15	OP11831	E3G1200

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D71214-1

CAS No.	Compound	D71214-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	91.1	80.3	88	91.1	81.6	90	2	10-167/30
120-12-7	Anthracene	ND	91.1	75.3	83	91.1	84.9	93	12	10-200/30
56-55-3	Benzo(a)anthracene	ND	91.1	106	116	91.1	105	115	1	10-161/30
205-99-2	Benzo(b)fluoranthene	ND	91.1	113	124	91.1	116	127	3	10-166/30
207-08-9	Benzo(k)fluoranthene	ND	91.1	82.9	91	91.1	87.8	96	6	10-152/30
50-32-8	Benzo(a)pyrene	ND	91.1	103	113	91.1	106	116	3	10-149/30
218-01-9	Chrysene	103	91.1	167	70	91.1	170	74	2	10-156/30
53-70-3	Dibenzo(a,h)anthracene	ND	91.1	53.2	58	91.1	54.7	60	3	11-149/30
206-44-0	Fluoranthene	ND	91.1	128	141	91.1	132	145	3	10-175/30
86-73-7	Fluorene	ND	91.1	111	122	91.1	146	160	27	10-280/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND	91.1	75.2	83	91.1	74.8	82	1	10-151/30
91-20-3	Naphthalene	31.4	91.1	104	80	91.1	100	75	4	10-230/30
129-00-0	Pyrene	84.7	91.1	152	74	91.1	148	70	3	10-160/30

CAS No.	Surrogate Recoveries	MS	MSD	D71214-1	Limits
4165-60-0	Nitrobenzene-d5	76%	75%	76%	11-164%
321-60-8	2-Fluorobiphenyl	71%	70%	69%	14-138%
1718-51-0	Terphenyl-d14	95%	96%	97%	35-139%

(a) Dilution required due to matrix interference. Internal standard failure without dilution.

* = Outside of Control Limits.

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: D71214
Account: CONECOK Confluence Energy
Project: Grizzly

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1637-MB	GB30443.D	1	06/01/15	EP	n/a	n/a	GGB1637

The QC reported here applies to the following samples:

Method: SW846 8015B

D71214-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	9.9	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	99% 60-140%

7.1.1
7

Blank Spike Summary

Job Number: D71214
Account: CONECOK Confluence Energy
Project: Grizzly

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1637-BS	GB30444.D	1	06/01/15	EP	n/a	n/a	GGB1637

The QC reported here applies to the following samples:

Method: SW846 8015B

D71214-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	109	108	99	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	104%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D71214
 Account: CONECOK Confluence Energy
 Project: Grizzly

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D71273-1MS	GB30446.D	1	06/01/15	EP	n/a	n/a	GGB1637
D71273-1MSD	GB30447.D	1	06/01/15	EP	n/a	n/a	GGB1637
D71273-1	GB30445.D	1	06/01/15	EP	n/a	n/a	GGB1637

The QC reported here applies to the following samples:

Method: SW846 8015B

D71214-1

CAS No.	Compound	D71273-1 mg/kg	Spike Q	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	34.6	162	187	94	162	184	92	2	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D71273-1	Limits
120-82-1	1,2,4-Trichlorobenzene	104%	108%	113%	60-140%

* = Outside of Control Limits.

7.3.1
7

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: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

QC Batch ID: MP16043
Matrix Type: AQUEOUS

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

Prep Date: 06/02/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	55	65		
Antimony	150	11	44		
Arsenic	130	19	60		
Barium	50	1	2		
Beryllium	50	4.5	8		
Boron	250	4	18		
Cadmium	50	1	4		
Calcium	2000	12	50	22.0	<2000
Chromium	50	1.5	3.5		
Cobalt	25	2.5	6		
Copper	50	4	19		
Iron	350	7.5	35		
Lead	250	11	25		
Lithium	25	2	3.5		
Magnesium	1000	34	200	73.0	<1000
Manganese	25	2.5	4.5		
Molybdenum	50	2	18		
Nickel	150	2.5	14		
Phosphorus	500	75	170		
Potassium	5000	500	360		
Selenium	250	36	50		
Silicon	250	24	42		
Silver	150	1.5	3		
Sodium	2000	37	70	5.5	<2000
Strontium	25	.05	1.5		
Thallium	50	9	40		
Tin	250	60	60		
Titanium	50	.5	14		
Uranium	250	15	22		
Vanadium	50	2	3		
Zinc	150	2	18		

Associated samples MP16043: D71214-1A

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

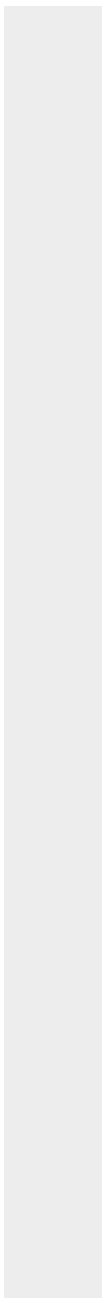
QC Batch ID: MP16043
Matrix Type: AQUEOUS

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

Prep Date: 06/02/15

Metal	RL	IDL	MDL	MB raw	final
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(anr) Analyte not requested



8.1.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D71214
 Account: CONECOK - Confluence Energy
 Project: Grizzly

QC Batch ID: MP16043
 Matrix Type: AQUEOUS

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

Prep Date: 06/02/15

Metal	D71033-11A Original MS		SpikeLot ICPAL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	36600	168000	125000	105.1	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	8270	137000	125000	103.0	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	7690	139000	125000	105.0	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP16043: D71214-1A

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

8.12
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

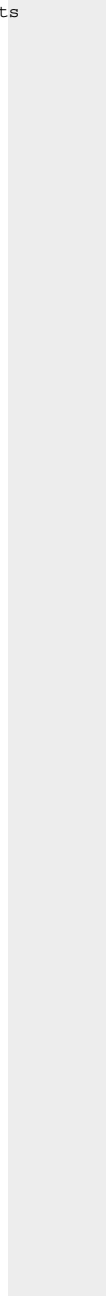
QC Batch ID: MP16043
Matrix Type: AQUEOUS

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

Prep Date: 06/02/15

Metal	D71033-11A Original MS	SpikeLot ICPAL2	% Rec	QC Limits
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(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested



8.1.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D71214
 Account: CONECOK - Confluence Energy
 Project: Grizzly

QC Batch ID: MP16043
 Matrix Type: AQUEOUS

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

Prep Date: 06/02/15

Metal	D71033-11A Original MSD		SpikeLot ICPALL2 % Rec		MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	36600	171000	125000	107.5	1.8	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	8270	140000	125000	105.4	2.2	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	7690	141000	125000	106.6	1.4	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP16043: D71214-1A

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

8.12
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

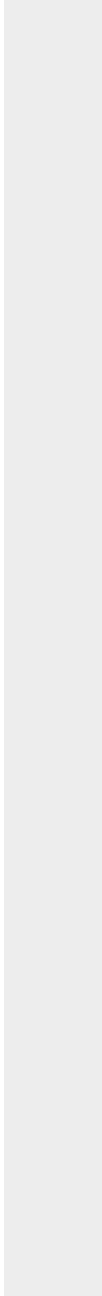
QC Batch ID: MP16043
Matrix Type: AQUEOUS

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

Prep Date: 06/02/15

Metal	D71033-11A Original MSD	SpikeLot ICPALL2	% Rec	MSD RPD	QC Limit
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(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested



8.1.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D71214
 Account: CONECOK - Confluence Energy
 Project: Grizzly

QC Batch ID: MP16043
 Matrix Type: AQUEOUS

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

Prep Date: 06/02/15

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	132000	125000	105.6	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	130000	125000	104.0	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	131000	125000	104.8	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP16043: D71214-1A

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

8.1.3
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

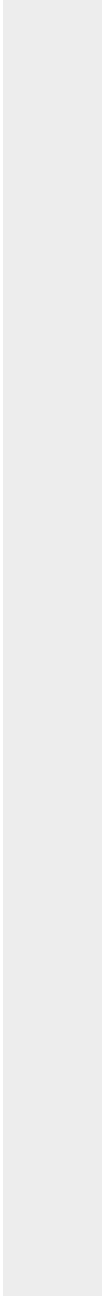
QC Batch ID: MP16043
Matrix Type: AQUEOUS

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

Prep Date: 06/02/15

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
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(anr) Analyte not requested



8.1.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: D71214
 Account: CONECOK - Confluence Energy
 Project: Grizzly

QC Batch ID: MP16043
 Matrix Type: AQUEOUS

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

Prep Date: 06/02/15

Metal	D71033-11A Original SDL 1:5		%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	7320	7120	2.8	0-10
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	1650	1790	8.0	0-10
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	1540	1520	1.5	0-10
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP16043: D71214-1A

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

8.1.4
8

SERIAL DILUTION RESULTS SUMMARY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

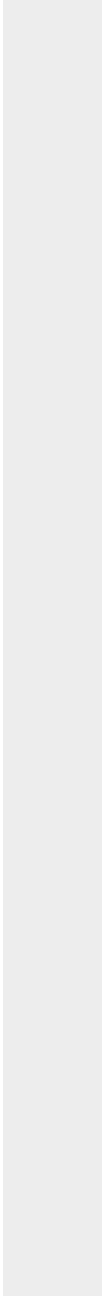
QC Batch ID: MP16043
Matrix Type: AQUEOUS

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

Prep Date: 06/02/15

Metal	D71033-11A	QC
	Original SDL 1:5 %DIF	Limits

(anr) Analyte not requested



8.1.4
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

QC Batch ID: MP16044
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 06/01/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	1.1	1.7		
Antimony	3.0	.21	.82		
Arsenic	2.5	.38	2.1		
Barium	1.0	.02	.03	0.070	<1.0
Beryllium	1.0	.09	.16		
Boron	5.0	.08	.29		
Cadmium	1.0	.02	.1	0.020	<1.0
Calcium	40	.24	9.6		
Chromium	1.0	.03	.07	0.090	<1.0
Cobalt	0.50	.05	.12		
Copper	1.0	.08	.48	0.28	<1.0
Iron	7.0	.15	.69		
Lead	5.0	.21	.6	-0.18	<5.0
Lithium	0.50	.04	.07		
Magnesium	20	.68	3.9		
Manganese	0.50	.05	.07		
Molybdenum	1.0	.04	.36		
Nickel	3.0	.05	.24	0.090	<3.0
Phosphorus	10	1.5	4.3		
Potassium	200	9.9	6		
Selenium	5.0	.71	1	-0.090	<5.0
Silicon	5.0	.47	.91		
Silver	3.0	.03	.05	0.040	<3.0
Sodium	40	.73	1.5		
Strontium	5.0	.001	.03		
Thallium	1.0	.18	.86		
Tin	5.0	1.2	1.2		
Titanium	1.0	.01	.27		
Uranium	5.0	.29	.44		
Vanadium	1.0	.04	.07		
Zinc	3.0	.04	.35	0.58	<3.0

Associated samples MP16044: D71214-1

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

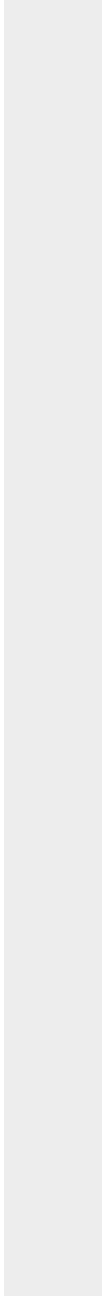
QC Batch ID: MP16044
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 06/01/15

Metal	RL	IDL	MDL	MB raw	final
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(anr) Analyte not requested



MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D71214
 Account: CONECOK - Confluence Energy
 Project: Grizzly

QC Batch ID: MP16044
 Matrix Type: SOLID

Methods: SW846 6010C
 Units: mg/kg

Prep Date: 06/01/15

Metal	D71275-1 Original MS		SpikeLot ICPAL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium	129	346	221	98.0	75-125
Beryllium					
Boron					
Cadmium	0.38	59.2	55.4	106.2	75-125
Calcium					
Chromium	56.7	111	55.4	98.1	75-125
Cobalt					
Copper	15.7	76.2	55.4	109.3	75-125
Iron					
Lead	4.1	115	111	100.1	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	22.5	74.5	55.4	93.9	75-125
Phosphorus	anr				
Potassium					
Selenium	0.0	120	111	108.4	75-125
Silicon					
Silver	0.0	19.5	22.1	88.0	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	48.1	110	55.4	111.8	75-125

Associated samples MP16044: D71214-1

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

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

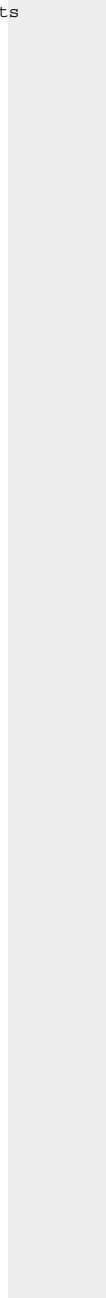
QC Batch ID: MP16044
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 06/01/15

Metal	D71275-1 Original MS	SpikeLot ICPAL2	% Rec	QC Limits
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(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested



8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D71214
 Account: CONECOK - Confluence Energy
 Project: Grizzly

QC Batch ID: MP16044
 Matrix Type: SOLID

Methods: SW846 6010C
 Units: mg/kg

Prep Date: 06/01/15

Metal	D71275-1 Original	MSD	SpikeLot ICPAL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium	129	340	224	94.3	1.7	20
Beryllium						
Boron						
Cadmium	0.38	59.9	55.9	106.4	1.2	20
Calcium						
Chromium	56.7	115	55.9	104.2	3.5	20
Cobalt						
Copper	15.7	73.8	55.9	103.9	3.2	20
Iron						
Lead	4.1	114	112	98.3	0.9	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	22.5	72.5	55.9	89.4	2.7	20
Phosphorus	anr					
Potassium						
Selenium	0.0	123	112	110.0	2.5	20
Silicon						
Silver	0.0	19.2	22.4	85.8	1.6	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	48.1	101	55.9	94.6	8.5	20

Associated samples MP16044: D71214-1

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

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

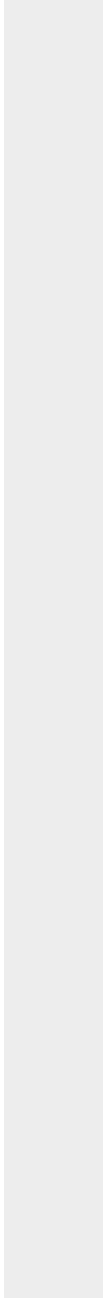
QC Batch ID: MP16044
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 06/01/15

Metal	D71275-1 Original MSD	SpikeLot ICPALL2	% Rec	MSD RPD	QC Limit
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(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested



8.2.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D71214
 Account: CONECOK - Confluence Energy
 Project: Grizzly

QC Batch ID: MP16044
 Matrix Type: SOLID

Methods: SW846 6010C
 Units: mg/kg

Prep Date: 06/01/15

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	194	200	97.0	80-120
Beryllium				
Boron				
Cadmium	54.7	50	109.4	80-120
Calcium				
Chromium	59.7	50	119.4	80-120
Cobalt				
Copper	54.4	50	108.8	80-120
Iron				
Lead	108	100	108.0	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	53.5	50	107.0	80-120
Phosphorus	anr			
Potassium				
Selenium	112	100	112.0	80-120
Silicon				
Silver	20.7	20	103.5	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	55.4	50	110.8	80-120

Associated samples MP16044: D71214-1

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

8.2.3
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

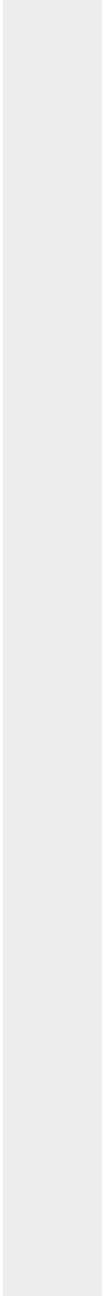
QC Batch ID: MP16044
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 06/01/15

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
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(anr) Analyte not requested



8.2.3
8

SERIAL DILUTION RESULTS SUMMARY

Login Number: D71214
 Account: CONECOK - Confluence Energy
 Project: Grizzly

QC Batch ID: MP16044
 Matrix Type: SOLID

Methods: SW846 6010C
 Units: ug/l

Prep Date: 06/01/15

Metal	D71275-1 Original SDL 1:5		%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	1180	1270	7.5	0-10
Beryllium				
Boron				
Cadmium	3.50	2.00	42.9 (a)	0-10
Calcium				
Chromium	517	549	6.1	0-10
Cobalt				
Copper	143	141	2.0	0-10
Iron				
Lead	37.5	48.5	29.3 (a)	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	205	230	12.2*(b)	0-10
Phosphorus	anr			
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	439	488	11.1*(b)	0-10

Associated samples MP16044: D71214-1

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

8.2.4
8

SERIAL DILUTION RESULTS SUMMARY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

QC Batch ID: MP16044
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/01/15

Metal	D71275-1	QC
	Original SDL 1:5 %DIF	Limits

- (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: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

QC Batch ID: MP16045
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 06/01/15

Metal	RL	IDL	MDL	MB	
				raw	final
Arsenic	0.10	.0085	.024	0.0071	<0.10

Associated samples MP16045: D71214-1

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

8.3.1

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D71214
 Account: CONECOK - Confluence Energy
 Project: Grizzly

QC Batch ID: MP16045
 Matrix Type: SOLID

Methods: SW846 6020A
 Units: mg/kg

Prep Date: 06/01/15

Metal	D71275-1 Original MS	Spikelot ICPALL2	QC % Rec	QC Limits
Arsenic	12.3	122	111 99.1	75-125

Associated samples MP16045: D71214-1

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

8.3.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D71214
 Account: CONECOK - Confluence Energy
 Project: Grizzly

QC Batch ID: MP16045
 Matrix Type: SOLID

Methods: SW846 6020A
 Units: mg/kg

Prep Date: 06/01/15

Metal	D71275-1 Original MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit	
Arsenic	12.3	123	112	99.0	0.8	20

Associated samples MP16045: D71214-1

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

8.3.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

QC Batch ID: MP16045
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 06/01/15

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Arsenic	101	100	101.0	80-120

Associated samples MP16045: D71214-1

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

8.3.3
8

SERIAL DILUTION RESULTS SUMMARY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

QC Batch ID: MP16045
Matrix Type: SOLID

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/01/15

Metal	D71275-1 Original	SDL 5:25	%DIF	QC Limits
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Arsenic 112 111 1.1 0-10

Associated samples MP16045: D71214-1

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: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

QC Batch ID: MP16077
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 06/05/15

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.083	.00088	.0067	0.0	<0.083

Associated samples MP16077: D71214-1

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: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

QC Batch ID: MP16077
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 06/05/15

Metal	D71033-1 Original MS	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.038	0.43	0.39	100.5 75-125

Associated samples MP16077: D71214-1

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

8.4.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D71214
 Account: CONECOK - Confluence Energy
 Project: Grizzly

QC Batch ID: MP16077
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 06/05/15

Metal	D71033-1 Original MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.038	0.43	0.384	102.1	0.0 20

Associated samples MP16077: D71214-1

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

8.4.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

QC Batch ID: MP16077
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 06/05/15

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.34	0.333	102.0	80-120

Associated samples MP16077: D71214-1

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

8.4.3
8

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: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP15450/GN30169	1.0	0.0	mg/kg	59.8	57.4	95.9	80-120%
Specific Conductivity	GP15438/GN30142			umhos/cm	998	996	99.8	90-110%
pH	GN30131			su	8.00	8.03	100.4	99.1-100.9%

Associated Samples:
Batch GN30131: D71214-1
Batch GP15438: D71214-1
Batch GP15450: D71214-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP15450/GN30169	D71276-1	mg/kg	0.0	0.0	0.0	0-20%
Redox Potential Vs H2	GN30159	D71275-1	mv	396	394	0.5	0-20%

Associated Samples:
Batch GN30159: D71214-1
Batch GP15450: D71214-1
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP15450/GN30169	D71276-1	mg/kg	0.0	40.0	37.1	92.7	75-125%

Associated Samples:

Batch GP15450: D71214-1

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D71214
Account: CONECOK - Confluence Energy
Project: Grizzly

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chromium, Hexavalent	GP15450/GN30169	D71276-1	mg/kg	0.0	40.0	39.7	6.8	20%

Associated Samples:

Batch GP15450: D71214-1

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

Misc. Forms

Custody Documents and Other Forms

(Accutest Northern California, Inc.)

Includes the following where applicable:

- Chain of Custody

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D71214 **Client:** AMS **Project:** D71214
Date / Time Received: 5/30/2015 9:00:00 AM **Delivery Method:** FedEx **Airbill #'s:** 628957017010, -31, -42
Cooler Temps (Initial/Adjusted): #1: (2.9/2.9)

Cooler Security

	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
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

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Therm ID:	<u>IR1;</u>		
3. Cooler media:	<u>Ice (Bag)</u>		
4. No. Coolers:	<u>1</u>		

Quality Control Preservation

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
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"/>	<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Sample Integrity - Documentation

	<u>Y</u>	<u>or</u>	<u>N</u>
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

	<u>Y</u>	<u>or</u>	<u>N</u>
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:	<u>Intact</u>		

Sample Integrity - Instructions

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
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

GC/MS Volatiles

QC Data Summaries

(Accutest Northern California, Inc.)

Includes the following where applicable:

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



Method Blank Summary

Job Number: D71214
Account: ALMS Accutest Mountain States
Project: CONECOK: Grizzly

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL1250-MB	L41664.D	1	06/01/15	XB	n/a	n/a	VL1250

The QC reported here applies to the following samples:

Method: SW846 8260B

D71214-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	0.50	ug/kg	
108-88-3	Toluene	ND	5.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	10	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	94% 70-130%
2037-26-5	Toluene-D8	100% 70-130%
460-00-4	4-Bromofluorobenzene	99% 70-130%

11.1.1
11

Blank Spike/Blank Spike Duplicate Summary

Job Number: D71214
 Account: ALMS Accutest Mountain States
 Project: CONECOK: Grizzly

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL1250-BS	L41661.D	1	06/01/15	XB	n/a	n/a	VL1250
VL1250-BSD	L41662.D	1	06/01/15	XB	n/a	n/a	VL1250

The QC reported here applies to the following samples:

Method: SW846 8260B

D71214-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	40	36.7	92	35.3	88	4	81-119/20
100-41-4	Ethylbenzene	40	36.9	92	35.2	88	5	80-119/21
108-88-3	Toluene	40	36.6	92	35.1	88	4	80-117/21
1330-20-7	Xylene (total)	120	109	91	104	87	5	81-122/22

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	96%	96%	70-130%
2037-26-5	Toluene-D8	97%	98%	70-130%
460-00-4	4-Bromofluorobenzene	100%	98%	70-130%

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: D71214
 Account: ALMS Accutest Mountain States
 Project: CONECOK: Grizzly

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL1250-LCS	L41663.D	1	06/01/15	XB	n/a	n/a	VL1250

The QC reported here applies to the following samples:

Method: SW846 8260B

D71214-1

CAS No.	Compound	Spike ug/kg	LCS ug/kg	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	94%	70-130%
2037-26-5	Toluene-D8	99%	70-130%
460-00-4	4-Bromofluorobenzene	99%	70-130%

11.3.1
11

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D71214
 Account: ALMS Accutest Mountain States
 Project: CONECOK: Grizzly

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D71250-9MS	L41677.D	1	06/02/15	XB	n/a	n/a	VL1250
D71250-9MSD	L41678.D	1	06/02/15	XB	n/a	n/a	VL1250
D71250-9	L41673.D	1	06/02/15	XB	n/a	n/a	VL1250

The QC reported here applies to the following samples:

Method: SW846 8260B

D71214-1

CAS No.	Compound	D71250-9 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	43.8	37.2	85	44.3	37.7	85	1	81-119/20
100-41-4	Ethylbenzene	ND	43.8	35.8	82	44.3	36.5	82	2	80-119/21
108-88-3	Toluene	ND	43.8	35.8	82	44.3	36.8	83	3	80-117/21
1330-20-7	Xylene (total)	ND	131	105	80* a	133	108	81	3	81-122/22

CAS No.	Surrogate Recoveries	MS	MSD	D71250-9	Limits
1868-53-7	Dibromofluoromethane	98%	97%	100%	70-130%
2037-26-5	Toluene-D8	98%	99%	98%	70-130%
460-00-4	4-Bromofluorobenzene	102%	101%	99%	70-130%

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.