Mountain States ACCUTEST LABORATORIES

06/05/15

Technical Report for

Confluence Energy

Grizzly

Accutest Job Number: D71214

Sampling Date: 05/27/15

Report to:

Confluence Energy
PO Box 1387
Kremmling, CO 80459
mark@confluenceenergy.com; Jlevine@confluenceenergy.com

ATTN: Jonah Levine

Total number of pages in report: **70**

NELAP ACCREDITED TNI LABORATORY

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

Client Service contact: Renea Jackson 303-425-6021

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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Accutest Laboratories

Sample Summary

Confluence Energy

Grizzly

Job No: D71214

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

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

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

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

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Accutest Mountain States	**Job No**	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 QualityObjectives 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 / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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]

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

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

	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							

	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 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	**Date Sampled:**	05/27/15
Matrix:	SO - Soil	**Date Received:**	05/29/15
Method:	SW846 8270C BY SIM SW846 3546	**Percent Solids:**	91.5
Project:	Grizzly		

	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							

	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	**Date Sampled:**	05/27/15
Matrix:	SO - Soil	**Date Received:**	05/29/15
Method:	SW846 8015B	**Percent Solids:**	91.5
Project:	Grizzly		

	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							

	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

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

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

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

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
Lab Sample ID: D71214-1A
Matrix: SO - Soil
Project: Grizzly

Date Sampled: 05/27/15
Date Received: 05/29/15
Percent Solids: 91.5

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

Report of Analysis

Client Sample ID:	S. BERM GRIZZLY		
Lab Sample ID:	D71214-1A	**Date Sampled:**	05/27/15
Matrix:	SO - Soil	**Date Received:**	05/29/15
		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 meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

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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 #: D71213-BB

Client / Reporting Information

Company Name: Confluence Energy
Street Address: 1809 Hwy 9 - PO Box 1387
City: Kremmling State: Colorado
Project Contact: Mark
Phone #: 970-724-9839
Sampler(s) Name(s):

Project Information

Project Name: Grizzly South berm material
Project #: EE3
Street:
City: Walden
Client Purchase Order #:
Project Manager: Jonah
Attention:

Billing Information (if different from Report to)

Company Name:
Street Address:
City:

Requested Analysis (see TEST CODE sheet)

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	CO table 910	please run first before runing complete table 910DRO	LAB USE ONLY
	S. Berm Grizzly		5/27/15	4pm	MJM	soil	1									X	X	01

Matrix Codes

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

Turnaround Time (Business days)

- [ ] Std. 15 Business Days
- [ ] Std. 10 Business Days
- [x] 5 Day RUSH
- [ ] 3 Day Emergency
- [ ] 2 Day Emergency
- [ ] 1 Day Emergency
- [ ]

Approved By (Accutest PM): / Date:
Stand price

Emergency & Rush T/A data available VIA Labfink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] COMMBN
- [ ] COMMBN+
- [ ]
- [ ] State Forms Required
- [ ] Send Forms to State
- [ ] Report by Fax
- [ ] Report by PDF
- [ ] EDD Format

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial BN = Results/QC/Narrative (+ = chromatograms)

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 mark	8:00	1	2 FXC		2 5-29-15 11:00
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4 TOM
Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice	Cooler Temp.
5		5				NONE	20.0

5.1 5

D71214: Chain of Custody
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Accutest Laboratories Sample Receipt Summary

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	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Comments

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www/accutest.com

D71214: Chain of Custody
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Mountain States ACCUTEST LABORATORIES

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	Q	Spike 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.

Mountain States ACCUTEST LABORATORIES

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%

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	Q	Spike mg/kg	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.

Mountain States ACCUTEST LABORATORIES

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

(anr) Analyte not requested

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 ICPALL2	% 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

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 ICPALL2	% Rec	QC Limits

(N) Matrix Spike Rec. 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: 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

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

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

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

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

(anr) Analyte not requested

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

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

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

(anr) Analyte not requested

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

(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 ICPALL2	% 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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

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

QC Batch ID: MP16044 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 06/01/15

	D71275-1	Spikelot		QC
Metal	Original MS	ICPALL2	% Rec	Limits

(N) Matrix Spike Rec. 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: MP16044 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 06/01/15

Metal	D71275-1 Original	MSD	Spikelot ICPALL2	% 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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

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

QC Batch ID: MP16044 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 06/01/15

Metal	D71275-1 Original MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit

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

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

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

(anr) Analyte not requested

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

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

	D71275-1		QC
Metal	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

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	% 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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

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

QC Batch ID: MP16045 Methods: SW846 6020A
Matrix Type: SOLID 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

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
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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

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

QC Batch ID: MP16077 Methods: SW846 7471B
Matrix Type: SOLID 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

Mountain States ACCUTEST LABORATORIES

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

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest Northern California, Inc.)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST

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

Accutest Job #:	D71214
Accutest Quote #:	0
AMS P.O. #:	
Project No.:	

Client Information			Subcontract Laboratory Information			Analytical Information
Name: Accutest Mountain States (AMS)			Name: Accutest - Northern California			
Address: 4036 Youngfield St.			Address: 2105 Lundy Ave.			
City: Wheat Ridge,	State: CO	Zip: 80033	City: San Jose	State: CA	Zip: 95131	
Send Report to: Scott Heideman			Contact: Sample Management			
Any questions contact: Renea Rooks						
Phone/Fax #: (303) 425-6021; (303)425-6854			Phone: (408) 588-0200			

Field ID / Point of Collection	Collection: Date	Collection: Time		Matrix	# of bottles	Preservation: HCL	NaOH	HNO3	H2SO4	None	V8260BTX					Comments
D71214 -1	5/27/15	10:06 AM		Soil	1						X					2 oz
-																

Turnaround Information

[X] 3 - 5 Business Day Rush — Approved By:

[ ] Other 4 (Days)

RUSH

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] Commercial "BN"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] PDF
- [ ] Compact Disk Deliverable
- [ ] Electronic Delivery:
- [ ] State Forms
- [ ] Other (Specify)

Comments / Remarks

Please use Colorado regulations and RLs.

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:
1	5/29/15	1	
Relinquished by: 2	Date & Time:	2	
Relinquished by: 3	Date & Time:	3	

Relinquished: Fedex
Received By:
Date:5/30/15 Time: 0900
Fedex#: 6289 5701 7010
Custody Seal Intact Temp: 2.9

For Subcontract Laborartory Use Only

Seal #: Headspace: Yes [ ] No [ ] NA [ ]

Preserved where applicable: [ ]

Temperature °C _____ On Ice [ ]

10.1 10

D71214: Chain of Custody
Page 1 of 2
Accutest Northern California,Inc.

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	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Therm ID:	IR1;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:408.588.0200
2105 Lundy Avenue
F: 408.588.0201
San Jose, CA 95131
www/accutest.com

D71214: Chain of Custody
Page 2 of 2

Mountain States ACCUTEST LABORATORIES

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%

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

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%

* = 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	Q	Spike 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.