



08/07/15

Technical Report for

Confluence Energy

Hebron 3-12H

Accutest Job Number: D51232

Sampling Date: 09/30/13

Report to:

rmcclure@ee3llc.com

Total number of pages in report: 47



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.

A handwritten signature in black ink, appearing to read 'Scott Heideman'.

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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Test results relate only to samples analyzed.

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Sample Summary

Confluence Energy

Job No: D51232

Hebron 3-12H

Sample Number	Collected		Time By	Received	Matrix		Client Sample ID
	Date				Code	Type	
D51232-1	09/30/13	17:30	WJ	10/03/13	SO	Soil	HEBRON 3-12H 60 DAY TEST
D51232-1A	09/30/13	17:30	WJ	10/03/13	SO	Soil	HEBRON 3-12H 60 DAY TEST

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



CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Confluence Energy

Job No D51232

Site: Hebron 3-12H (60 day test)

Report Date 10/10/2013 3:22:05 PM

On 10/03/2013, 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 D51232 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

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

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix SO

Batch ID: OP8681

- All samples were extracted and analyzed within the recommended method holding time.
- Sample(s) D51224-2MS, D51224-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method SW846 8015B

Matrix SO

Batch ID: GGB1233

- All samples were analyzed within the recommended method holding time.
- Sample(s) D51229-1MS, D51229-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D51232-1 have surrogates outside control limits. Probable cause due to matrix interference.
- D51232-1 for 1,2,4 Trichlorobenzene: Outside control limits due to possible matrix interference.

Extractables by GC By Method SW846-8015B

Matrix SO

Batch ID: OP8682

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D51224-3MS, D51224-3MSD were used as the QC samples indicated.
- The matrix spike / matrix spike duplicate (MS/MSD) recovery(s) of TPH-DRO (C10-C28) are outside control limits. Probable cause due to matrix interference.

Metals By Method SW846 6010C

Matrix AQ

Batch ID: MP11305

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D51224-6AMS, D51224-6AMSD, D51224-6ASDL were used as the QC samples for the metals analysis.

Metals By Method SW846 6020A

Matrix SO	Batch ID: MP11336
------------------	--------------------------

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D51232-1MS, D51232-1SDL, D51232-1MSD were used as the QC samples for the metals analysis.

Wet Chemistry By Method SM2540B-2011 M

Matrix SO	Batch ID: GN22162
------------------	--------------------------

- The data for SM2540B-2011 M meets quality control requirements.

Wet Chemistry By Method SW846 9045D

Matrix SO	Batch ID: GN22190
------------------	--------------------------

- The following samples were run outside of holding time for method SW846 9045D: D51232-1

Wet Chemistry By Method USDA HANDBOOK 60

Matrix SO	Batch ID: MP11305
------------------	--------------------------

- D51232-1A 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.

Summary of Hits

Page 1 of 1

Job Number: D51232
Account: Confluence Energy
Project: Hebron 3-12H
Collected: 09/30/13

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

D51232-1 HEBRON 3-12H 60 DAY TEST

TPH-GRO (C6-C10)	213	16	7.8	mg/kg	SW846 8015B
TPH-DRO (C10-C28)	906	8.6	6.4	mg/kg	SW846-8015B
Arsenic	9.8	0.13		mg/kg	SW846 6020A
Specific Conductivity	4880	1.0		umhos/cm	SM 2510B-2011 MOD
pH	9.67			su	SW846 9045D

D51232-1A HEBRON 3-12H 60 DAY TEST

Calcium	113	2.0		mg/l	SW846 6010C
Magnesium	18.0	1.0		mg/l	SW846 6010C
Sodium	530	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a	12.2			ratio	USDA HANDBOOK 60

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



Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

Client Sample ID:	HEBRON 3-12H 60 DAY TEST			Date Sampled:	09/30/13
Lab Sample ID:	D51232-1			Date Received:	10/03/13
Matrix:	SO - Soil			Percent Solids:	77.9
Method:	SW846 8270C BY SIM SW846 3546				
Project:	Hebron 3-12H				

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G16564.D	1	10/04/13	DC	10/04/13	OP8681	E3G818
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
50-32-8	Benzo(a)pyrene	ND	11	5.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	76%		10-175%
321-60-8	2-Fluorobiphenyl	77%		25-130%
1718-51-0	Terphenyl-d14	75%		41-133%

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

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

Report of Analysis

Page 1 of 1

Client Sample ID:	HEBRON 3-12H 60 DAY TEST					Date Sampled:	09/30/13
Lab Sample ID:	D51232-1					Date Received:	10/03/13
Matrix:	SO - Soil					Percent Solids:	77.9
Method:	SW846 8015B						
Project:	Hebron 3-12H						

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB22418.D	1	10/04/13	EV	n/a	n/a	GGB1233
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	213	16	7.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	147% ^a		60-140%		

(a) Outside control limits due to possible matrix interference.

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

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

Report of Analysis

Page 1 of 1

Client Sample ID:	HEBRON 3-12H 60 DAY TEST					Date Sampled:	09/30/13
Lab Sample ID:	D51232-1					Date Received:	10/03/13
Matrix:	SO - Soil					Percent Solids:	77.9
Method:	SW846-8015B SW846 3546						
Project:	Hebron 3-12H						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH013744.D	1	10/04/13	TU	10/04/13	OP8682	GFH723
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	906	8.6	6.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	77%		20-130%		

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

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

Report of Analysis

Client Sample ID:	HEBRON 3-12H 60 DAY TEST				Date Sampled:	09/30/13
Lab Sample ID:	D51232-1				Date Received:	10/03/13
Matrix:	SO - Soil				Percent Solids:	77.9
Project:	Hebron 3-12H					

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	9.8	0.13	mg/kg	5	10/09/13	10/10/13 JB	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4052
(2) Prep QC Batch: MP11336

RL = Reporting Limit

Report of Analysis

Client Sample ID:	HEBRON 3-12H 60 DAY TEST	Date Sampled:	09/30/13
Lab Sample ID:	D51232-1	Date Received:	10/03/13
Matrix:	SO - Soil	Percent Solids:	77.9
Project:	Hebron 3-12H		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	4880	1.0	umhos/cm	1	10/08/13	JD	SM 2510B-2011 MOD
Solids, Percent	77.9		%	1	10/04/13	SWT	SM2540B-2011 M
pH	9.67		su	1	10/07/13 15:30	AK	SW846 9045D

RL = Reporting Limit

Report of Analysis

Client Sample ID:	HEBRON 3-12H 60 DAY TEST	Date Sampled:	09/30/13
Lab Sample ID:	D51232-1A	Date Received:	10/03/13
Matrix:	SO - Soil	Percent Solids:	77.9
Project:	Hebron 3-12H		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	113	2.0	mg/l	1	10/04/13	10/04/13 JM	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	18.0	1.0	mg/l	1	10/04/13	10/04/13 JM	SW846 6010C ¹	SW846 3010A/M ²
Sodium	530	2.0	mg/l	1	10/04/13	10/04/13 JM	SW846 6010C ¹	SW846 3010A/M ²

- (1) Instrument QC Batch: MA4038
(2) Prep QC Batch: MP11305

RL = Reporting Limit

Report of Analysis

Client Sample ID: HEBRON 3-12H 60 DAY TEST
Lab Sample ID: D51232-1A
Matrix: SO - Soil
Project: Hebron 3-12H

Date Sampled: 09/30/13
Date Received: 10/03/13
Percent Solids: 77.9

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	12.2		ratio	1	10/04/13 22:24	JM	USDA HANDBOOK 60

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

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

[illegible]

D51232: Chain of Custody

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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D51232

Client: CONFLUENCE

Immediate Client Services Action Required: No

Date / Time Received: 10/3/2013 10:00:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project: HEBRON

Airbill #'s: UPS

Cooler Security

Y or N

Y or N

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

Cooler Temperature

Y or N

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

Quality Control Preservation

Y or N

N/A

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

Sample Integrity - Documentation

Y or N

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

Sample Integrity - Condition

Y or N

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

Sample Integrity - Instructions

Y or N N/A

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

Comments

Accutest Laboratories
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4036 Youngfield Street
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Wheat Ridge, CO
www.accutest.com

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D51232
Account: CONECOK Confluence Energy
Project: Hebron 3-12H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8681-MB	3G16547.D	1	10/04/13	DC	10/04/13	OP8681	E3G818

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D51232-1

CAS No.	Compound	Result	RL	MDL	Units	Q
50-32-8	Benzo(a)pyrene	ND	8.3	4.3	ug/kg	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	97% 10-175%
321-60-8	2-Fluorobiphenyl	86% 25-130%
1718-51-0	Terphenyl-d14	104% 41-133%

Blank Spike Summary

Page 1 of 1

Job Number: D51232
Account: CONECOK Confluence Energy
Project: Hebron 3-12H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8681-BS	3G16548.D	1	10/04/13	DC	10/04/13	OP8681	E3G818

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D51232-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
50-32-8	Benzo(a)pyrene	83.3	77.9	93	64-130

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	89%	10-175%
321-60-8	2-Fluorobiphenyl	100%	25-130%
1718-51-0	Terphenyl-d14	102%	41-133%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D51232
Account: CONECOK Confluence Energy
Project: Hebron 3-12H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8681-MS	3G16550.D	1	10/04/13	DC	10/04/13	OP8681	E3G818
OP8681-MSD	3G16551.D	1	10/04/13	DC	10/04/13	OP8681	E3G818
D51224-2	3G16549.D	1	10/04/13	DC	10/04/13	OP8681	E3G818

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D51232-1

CAS No.	Compound	D51224-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
50-32-8	Benzo(a)pyrene	ND		111	92.7	84	111	96.2	87	4	10-168/30

CAS No.	Surrogate Recoveries	MS	MSD	D51224-2	Limits
4165-60-0	Nitrobenzene-d5	59%	62%	58%	10-175%
321-60-8	2-Fluorobiphenyl	71%	71%	68%	25-130%
1718-51-0	Terphenyl-d14	86%	88%	84%	41-133%

* = 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: D51232
Account: CONECOK Confluence Energy
Project: Hebron 3-12H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1233-MB	GB22413.D	1	10/04/13	EV	n/a	n/a	GGB1233

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

D51232-1

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

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	79% 60-140%

Blank Spike Summary

Page 1 of 1

Job Number: D51232
Account: CONECOK Confluence Energy
Project: Hebron 3-12H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1233-BS	GB22414.D	1	10/04/13	EV	n/a	n/a	GGB1233

The QC reported here applies to the following samples:

Method: SW846 8015B

D51232-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	115	105	70-130

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D51232
Account: CONECOK Confluence Energy
Project: Hebron 3-12H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D51229-1MS	GB22416.D	1	10/04/13	EV	n/a	n/a	GGB1233
D51229-1MSD	GB22417.D	1	10/04/13	EV	n/a	n/a	GGB1233
D51229-1	GB22415.D	1	10/04/13	EV	n/a	n/a	GGB1233

The QC reported here applies to the following samples:

Method: SW846 8015B

D51232-1

CAS No.	Compound	D51229-1 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)	ND		119	125	105	119	125	105	0	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D51229-1	Limits
120-82-1	1,2,4-Trichlorobenzene	95%	98%	90%	60-140%

* = Outside of Control Limits.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D51232
Account: CONECOK Confluence Energy
Project: Hebron 3-12H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8682-MB	FH013720.D	1	10/04/13	TU	10/04/13	OP8682	GFH723

The QC reported here applies to the following samples:

Method: SW846-8015B

D51232-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	6.7	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	80% 20-130%

8.1.1

8

Blank Spike Summary

Page 1 of 1

Job Number: D51232
Account: CONECOK Confluence Energy
Project: Hebron 3-12H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8682-BS	FH013722.D	1	10/04/13	TU	10/04/13	OP8682	GFH723

The QC reported here applies to the following samples:

Method: SW846-8015B

D51232-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	582	87	42-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	86%	20-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D51232
Account: CONECOK Confluence Energy
Project: Hebron 3-12H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8682-MS	FH013724.D	10	10/04/13	TU	10/04/13	OP8682	GFH723
OP8682-MSD	FH013726.D	10	10/04/13	TU	10/04/13	OP8682	GFH723
D51224-3	FH013732.D	10	10/04/13	TU	10/04/13	OP8682	GFH723

The QC reported here applies to the following samples:

Method: SW846-8015B

D51232-1

CAS No.	Compound	D51224-3 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	618		835	579	-5*	836	743	15*	25	20-150/30

CAS No.	Surrogate Recoveries	MS	MSD	D51224-3	Limits
84-15-1	o-Terphenyl	59%	74%	78%	20-130%

* = Outside of Control Limits.

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: D51232
Account: CONECOK - Confluence Energy
Project: Hebron 3-12H

QC Batch ID: MP11305
Matrix Type: AQUEOUS

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

Prep Date: 10/04/13

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	55	210		
Antimony	150	11	95		
Arsenic	130	19	28		
Barium	50	1	7		
Beryllium	50	4.5	6		
Boron	250	4	33		
Cadmium	50	1	1.8		
Calcium	2000	12	210	-29	<2000
Chromium	50	1.5	2		
Cobalt	25	2.5	2.9		
Copper	50	4	9.5		
Iron	350	7.5	48		
Lead	250	11	110		
Lithium	25	2	14		
Magnesium	1000	34	95	16.0	<1000
Manganese	25	2.5	2.3		
Molybdenum	50	2	4.2		
Nickel	150	2.5	4.4		
Phosphorus	500	75	100		
Potassium	5000	500	1400		
Selenium	250	36	55		
Silicon	250	24	26		
Silver	150	1.5	3		
Sodium	2000	37	850	-140	<2000
Strontium	25	.05	.6		
Thallium	50	9	20		
Tin	250	60	80		
Titanium	50	.5	11		
Uranium	250	15	28		
Vanadium	50	2	2		
Zinc	150	2	16		

Associated samples MP11305: D51232-1A

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D51232
Account: CONECOK - Confluence Energy
Project: Hebron 3-12H

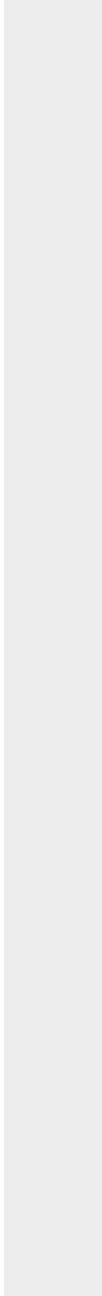
QC Batch ID: MP11305
Matrix Type: AQUEOUS

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

Prep Date: 10/04/13

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



MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D51232
Account: CONECOK - Confluence Energy
Project: Hebron 3-12H

QC Batch ID: MP11305
Matrix Type: AQUEOUS

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

Prep Date: 10/04/13

Metal	D51224-6A Original MS		Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	19600	148000	125000	102.7	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	5170	127000	125000	97.5	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	16500	137000	125000	96.4	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP11305: D51232-1A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D51232
 Account: CONECOK - Confluence Energy
 Project: Hebron 3-12H

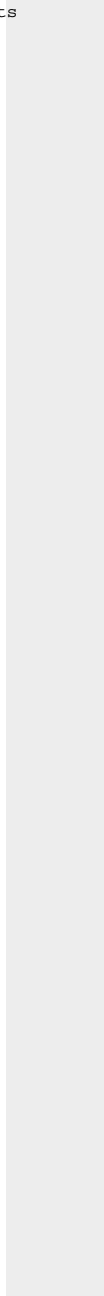
QC Batch ID: MP11305
 Matrix Type: AQUEOUS

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

Prep Date: 10/04/13

Metal	D51224-6A Original MS	Spikelot ICPALL2	% Rec	QC Limits
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(N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested



MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D51232
Account: CONECOK - Confluence Energy
Project: Hebron 3-12H

QC Batch ID: MP11305
Matrix Type: AQUEOUS

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

Prep Date: 10/04/13

Metal	D51224-6A Original	MSD	Spikelot ICPAL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	19600	149000	125000	103.5	0.7	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	5170	128000	125000	98.3	0.8	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	16500	137000	125000	96.4	0.0	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP11305: D51232-1A

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D51232
 Account: CONECOK - Confluence Energy
 Project: Hebron 3-12H

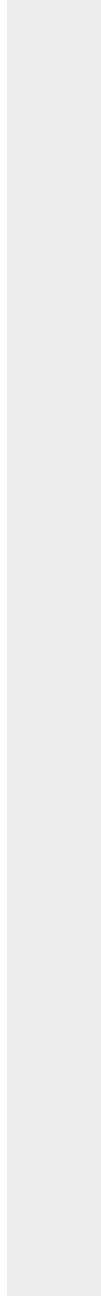
QC Batch ID: MP11305
 Matrix Type: AQUEOUS

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

Prep Date: 10/04/13

Metal	D51224-6A Original MSD	Spikelet ICPALL2 % Rec	MSD RPD	QC Limit
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(N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested



SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D51232
Account: CONECOK - Confluence Energy
Project: Hebron 3-12H

QC Batch ID: MP11305
Matrix Type: AQUEOUS

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

Prep Date: 10/04/13

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	130000	125000	104.0	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	122000	125000	97.6	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	121000	125000	96.8	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP11305: D51232-1A

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D51232

Account: CONECOK - Confluence Energy

Project: Hebron 3-12H

QC Batch ID: MP11305

Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60

Units: ug/l

Prep Date:

10/04/13

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D51232
Account: CONECOK - Confluence Energy
Project: Hebron 3-12H

QC Batch ID: MP11305
Matrix Type: AQUEOUS

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

Prep Date: 10/04/13

Metal	D51224-6A		QC	
	Original	SDL 1:5	%DIF	Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	3920	3920	0.2	0-10
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	1030	1100	6.3	0-10
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	3300	3260	0.9	0-10
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP11305: D51232-1A

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

Login Number: D51232
Account: CONECOK - Confluence Energy
Project: Hebron 3-12H

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

	D51224-6A	QC
Metal	Original SDL 1:5 %DIF	Limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D51232
Account: CONECOK - Confluence Energy
Project: Hebron 3-12H

QC Batch ID: MP11336
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 10/09/13

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.55	.75		
Antimony	0.20	.0011	.029		
Arsenic	0.10	.0085	.024	0.016	<0.10
Barium	1.0	.008	.16		
Beryllium	0.10	.008	.049		
Boron	20	.25	.07		
Cadmium	0.050	.018	.038		
Calcium	200	2.8	13		
Chromium	1.0	.027	.11		
Cobalt	0.10	.0025	.0085		
Copper	1.0	.03	.1		
Iron	5.0	1.8	1.8		
Lead	0.25	.004	.0075		
Magnesium	50	.65	.65		
Manganese	0.50	.06	.07		
Molybdenum	0.50	.025	.046		
Nickel	1.0	.0044	.17		
Phosphorus	30	1.3	4.9		
Potassium	100	1.5	2.5		
Selenium	0.20	.03	.13		
Silver	0.050	.00095	.01		
Sodium	250	2.5	5.5		
Strontium	10	.005	.027		
Thallium	0.10	.0012	.0075		
Tin	5.0	.032	2.3		
Titanium	1.0	.03	.085		
Uranium	0.25	.00085	.0015		
Vanadium	2.0	.019	.11		
Zinc	5.0	.11	1.4		

Associated samples MP11336: D51232-1

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: D51232
Account: CONECOK - Confluence Energy
Project: Hebron 3-12H

QC Batch ID: MP11336
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 10/09/13

Metal	D51232-1 Original MS	Spikelot ICPAL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	9.8	134	125	99.7
Barium				75-125
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	anr			

Associated samples MP11336: D51232-1

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: D51232
Account: CONECOK - Confluence Energy
Project: Hebron 3-12H

QC Batch ID: MP11336
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 10/09/13

Metal	D51232-1 Original	MSD	SpikeLot ICPAL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	9.8	134	122	101.6	0.0	20
Barium						
Beryllium						
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper	anr					
Iron						
Lead	anr					
Magnesium						
Manganese						
Molybdenum	anr					
Nickel	anr					
Phosphorus						
Potassium	anr					
Selenium	anr					
Silver	anr					
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	anr					

Associated samples MP11336: D51232-1

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D51232
Account: CONECOK - Confluence Energy
Project: Hebron 3-12H

QC Batch ID: MP11336
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 10/09/13

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	101	100	101.0	80-120
Barium				
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	anr			

Associated samples MP11336: D51232-1

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D51232
Account: CONECOK - Confluence Energy
Project: Hebron 3-12H

QC Batch ID: MP11336
Matrix Type: SOLID

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/09/13

Metal	D51232-1 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	78.1	75.0	4.0	0-10
Barium				
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	anr			

Associated samples MP11336: D51232-1

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

General Chemistry

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D51232
Account: CONECOK - Confluence Energy
Project: Hebron 3-12H

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP11110/GN22203			umhos/cm	9979	9980	100.0	90-110%
pH	GN22190			su	8.00	8.00	100.0	99.3-100.7%

Associated Samples:
Batch GN22190: D51232-1
Batch GP11110: D51232-1
(*) Outside of QC limits