



06/05/14

Technical Report for

Confluence Energy

Peterson Ridge 01-20H

Accutest Job Number: D58292

Sampling Date: 05/28/14

Report to:

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Total number of pages in report: 22



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.

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

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Sample Summary

Confluence Energy

Job No: D58292

Peterson Ridge 01-20H

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D58292-1	05/28/14	12:00 MJM	06/02/14	AQ	Water	PETERSON RIDGE 01-20H





CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Confluence Energy

Job No D58292

Site: Peterson Ridge 01-20H

Report Date 6/5/2014 9:21:41 AM

On 06/02/2014, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 28.3 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D58292 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 AQ

Batch ID: V6V1423

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D58246-14DUP, D58271-10MS were used as the QC samples indicated.
- D58292-1: Dilution required due to matrix interference (sample foamed).
- D58271-10MS: The pH of the sample aliquot for VOA analysis was >2 at time of analysis.

Wet Chemistry By Method EPA 300.0/SW846 9056

Matrix AQ

Batch ID: GP12705

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D58292-1MS, D58292-1MSD were used as the QC samples for the Chloride, Sulfate, Chloride analysis.

Wet Chemistry By Method SM 2540C-2011

Matrix AQ

Batch ID: GN24929

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D58242-1DUP were used as the QC samples for the Solids, Total Dissolved analysis.

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

Job Number: D58292
Account: Confluence Energy
Project: Peterson Ridge 01-20H
Collected: 05/28/14



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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D58292-1 PETERSON RIDGE 01-20H

Chloride	556	25		mg/l	EPA 300.0/SW846 9056
Solids, Total Dissolved	1750	10		mg/l	SM 2540C-2011
Sulfate	49.8	25		mg/l	EPA 300.0/SW846 9056

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: PETERSON RIDGE 01-20H Lab Sample ID: D58292-1 Matrix: AQ - Water Method: SW846 8260B Project: Peterson Ridge 01-20H	Date Sampled: 05/28/14 Date Received: 06/02/14 Percent Solids: n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	6V25119.D	50	06/02/14	BR	n/a	n/a	V6V1423
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	13	ug/l	
108-88-3	Toluene	ND	100	50	ug/l	
100-41-4	Ethylbenzene	ND	100	16	ug/l	
1330-20-7	Xylene (total)	ND	150	75	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	105%		62-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	95%		69-130%

(a) Dilution required due to matrix interference (sample foamed).

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

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Report of Analysis

Client Sample ID: PETERSON RIDGE 01-20H	Date Sampled: 05/28/14
Lab Sample ID: D58292-1	Date Received: 06/02/14
Matrix: AQ - Water	Percent Solids: n/a
Project: Peterson Ridge 01-20H	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	556	25	mg/l	50	06/02/14 17:16	SK	EPA 300.0/SW846 9056
Solids, Total Dissolved	1750	10	mg/l	1	06/03/14	RW	SM 2540C-2011
Sulfate	49.8	25	mg/l	50	06/02/14 17:16	SK	EPA 300.0/SW846 9056

RL = Reporting Limit

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Misc. Forms

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Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

GC/MS 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: D58292
Account: CONECOK Confluence Energy
Project: Peterson Ridge 01-20H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V6V1423-MB	6V25110.D	1	06/02/14	BR	n/a	n/a	V6V1423

The QC reported here applies to the following samples:

Method: SW846 8260B

D58292-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.31	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.5	ug/l	

CAS No.	Surrogate Recoveries	Limits	
17060-07-0	1,2-Dichloroethane-D4	91%	62-130%
2037-26-5	Toluene-D8	100%	70-130%
460-00-4	4-Bromofluorobenzene	97%	69-130%

Blank Spike Summary

Job Number: D58292
 Account: CONECOK Confluence Energy
 Project: Peterson Ridge 01-20H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V6V1423-BS	6V25111.D	1	06/02/14	BR	n/a	n/a	V6V1423

The QC reported here applies to the following samples:

Method: SW846 8260B

D58292-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	49.8	100	70-130
100-41-4	Ethylbenzene	50	51.9	104	70-130
108-88-3	Toluene	50	48.2	96	70-130
1330-20-7	Xylene (total)	150	157	105	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4	91%	62-130%
2037-26-5	Toluene-D8	97%	70-130%
460-00-4	4-Bromofluorobenzene	104%	69-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: D58292
 Account: CONECOK Confluence Energy
 Project: Peterson Ridge 01-20H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V6V1423-BS	6V25112.D	1	06/02/14	BR	n/a	n/a	V6V1423

The QC reported here applies to the following samples:

Method: SW846 8260B

D58292-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4	97%	62-130%
2037-26-5	Toluene-D8	96%	70-130%
460-00-4	4-Bromofluorobenzene	101%	69-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: D58292
 Account: CONECOK Confluence Energy
 Project: Peterson Ridge 01-20H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D58271-10MS ^a	6V25124.D	50	06/02/14	BR	n/a	n/a	V6V1423
D58271-10 ^a	6V25123.D	50	06/02/14	BR	n/a	n/a	V6V1423

The QC reported here applies to the following samples:

Method: SW846 8260B

D58292-1

CAS No.	Compound	D58271-10 ug/l	Spike Q	MS ug/l	MS %	Limits
71-43-2	Benzene	8740	2500	11600	114	62-130
100-41-4	Ethylbenzene	979	2500	3840	114	63-130
108-88-3	Toluene	2070	2500	4720	106	60-130
1330-20-7	Xylene (total)	2570	7500	11100	114	67-130

CAS No.	Surrogate Recoveries	MS	D58271-10	Limits
17060-07-0	1,2-Dichloroethane-D4	103%	105%	62-130%
2037-26-5	Toluene-D8	97%	98%	70-130%
460-00-4	4-Bromofluorobenzene	101%	97%	69-130%

(a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: D58292
 Account: CONECOK Confluence Energy
 Project: Peterson Ridge 01-20H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D58271-10MS ^a	6V25125.D	50	06/02/14	BR	n/a	n/a	V6V1423
D58271-10 ^a	6V25123.D	50	06/02/14	BR	n/a	n/a	V6V1423

The QC reported here applies to the following samples:

Method: SW846 8260B

D58292-1

CAS No.	Compound	D58271-10 ug/l	Spike Q	MS ug/l	MS %	Limits
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CAS No.	Surrogate Recoveries	MS	D58271-10	Limits
17060-07-0	1,2-Dichloroethane-D4	100%	105%	62-130%
2037-26-5	Toluene-D8	99%	98%	70-130%
460-00-4	4-Bromofluorobenzene	99%	97%	69-130%

(a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.

* = Outside of Control Limits.

Duplicate Summary

Job Number: D58292
 Account: CONECOK Confluence Energy
 Project: Peterson Ridge 01-20H

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D58246-14DUP	6V25115.D	1	06/02/14	BR	n/a	n/a	V6V1423
D58246-14	6V25114.D	1	06/02/14	BR	n/a	n/a	V6V1423

The QC reported here applies to the following samples:

Method: SW846 8260B

D58292-1

CAS No.	Compound	D58246-14 ug/l	DUP Q	DUP ug/l	Q	RPD	Limits
71-43-2	Benzene	3.0		2.7		11	30
100-41-4	Ethylbenzene	ND		ND		nc	30
108-88-3	Toluene	ND		ND		nc	30
1330-20-7	Xylene (total)	ND		ND		nc	30

CAS No.	Surrogate Recoveries	DUP	D58246-14	Limits
17060-07-0	1,2-Dichloroethane-D4	98%	100%	62-130%
2037-26-5	Toluene-D8	99%	100%	70-130%
460-00-4	4-Bromofluorobenzene	96%	99%	69-130%

* = Outside of Control Limits.

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: D58292
Account: CONECOK - Confluence Energy
Project: Peterson Ridge 01-20H

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP12705/GN24904	0.50	0.0	mg/l	5	4.69	93.8	90-110%
Solids, Total Dissolved	GN24929	10	0.0	mg/l	400	403	100.8	90-110%
Sulfate	GP12705/GN24904	0.50	0.0	mg/l	5	5.03	100.6	90-110%

Associated Samples:
Batch GN24929: D58292-1
Batch GP12705: D58292-1
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D58292
Account: CONECOK - Confluence Energy
Project: Peterson Ridge 01-20H

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Total Dissolved	GN24929	D58242-1	mg/l	853	867	1.6	0-20%

Associated Samples:
Batch GN24929: D58292-1
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D58292
Account: CONECOK - Confluence Energy
Project: Peterson Ridge 01-20H

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP12705/GN24904	D58292-1	mg/l	556	250	806	100.0	80-120%
Sulfate	GP12705/GN24904	D58292-1	mg/l	49.8	250	289	95.7	80-120%

Associated Samples:

Batch GP12705: D58292-1

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D58292
Account: CONECOK - Confluence Energy
Project: Peterson Ridge 01-20H

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chloride	GP12705/GN24904	D58292-1	mg/l	556	250	804	0.2	20%
Sulfate	GP12705/GN24904	D58292-1	mg/l	49.8	250	289	0.0	20%

Associated Samples:

Batch GP12705: D58292-1

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits