

XTO Energy - San Juan Division

Sample Delivery Group: L814360
Samples Received: 01/19/2016
Project Number: 05-067-07799
Description: Huber Buckett 2-26

Report To: Kurt Hoekstra
382 County Road 3100
Aztec, NM 87410

Entire Report Reviewed By:



Daphne Richards
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



¹Cp: Cover Page	1
²Tc: Table of Contents	2
³Ss: Sample Summary	3
⁴Cn: Case Narrative	4
⁵Sr: Sample Results	5
DURKH-011716-1030 L814360-01	5
DURKH-011716-1030 L814360-02	6
DURKH-011716-1120 L814360-03	7
DURKH-011716-1120 L814360-04	8
DURKH-011716-1150 L814360-05	9
DURKH-011716-1150 L814360-06	10
⁶Qc: Quality Control Summary	11
Total Solids by Method 2540 G-2011	11
Wet Chemistry by Method 9056A	13
Metals (ICP) by Method 6010B	14
⁷Gl: Glossary of Terms	15
⁸Al: Accreditations & Locations	16
⁹Sc: Chain of Custody	17





DURKH-011716-1030 L814360-01 Waste

			Collected by Kurt	Collected date/time 01/17/16 10:30	Received date/time 01/19/16 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG845803	1	01/30/16 09:24	01/31/16 19:49	LTB
Preparation by Method 1311	WG845538	1	01/29/16 11:44	01/29/16 11:45	BG

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

DURKH-011716-1030 L814360-02 Solid

			Collected by Kurt	Collected date/time 01/17/16 10:30	Received date/time 01/19/16 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG843816	1	01/21/16 09:28	01/21/16 09:37	MEL
Wet Chemistry by Method 9056A	WG846199	1	02/03/16 01:41	02/03/16 06:29	CM

DURKH-011716-1120 L814360-03 Waste

			Collected by Kurt	Collected date/time 01/17/16 11:20	Received date/time 01/19/16 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG845803	1	01/30/16 09:24	01/31/16 19:52	LTB
Preparation by Method 1311	WG845538	1	01/29/16 11:44	01/29/16 11:45	BG

DURKH-011716-1120 L814360-04 Solid

			Collected by Kurt	Collected date/time 01/17/16 11:20	Received date/time 01/19/16 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG843816	1	01/21/16 09:28	01/21/16 09:37	MEL
Wet Chemistry by Method 9056A	WG846199	1	02/03/16 01:41	02/03/16 06:53	CM

DURKH-011716-1150 L814360-05 Waste

			Collected by Kurt	Collected date/time 01/17/16 11:50	Received date/time 01/19/16 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG845803	1	01/30/16 09:24	01/31/16 19:55	LTB
Preparation by Method 1311	WG845538	1	01/29/16 11:44	01/29/16 11:45	BG

DURKH-011716-1150 L814360-06 Solid

			Collected by Kurt	Collected date/time 01/17/16 11:50	Received date/time 01/19/16 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG843818	1	01/21/16 11:22	01/21/16 11:33	KDW
Wet Chemistry by Method 9056A	WG846199	1	02/03/16 01:41	02/03/16 07:17	CM



All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Technical Service Representative

Sample Handling and Receiving

Sample quantity was not sufficient to complete analysis per recommended method guidelines for the following samples.

ESC Sample ID	Project Sample ID	Method
L814360-01	DURKH-011716-1030	1311
L814360-03	DURKH-011716-1120	1311
L814360-05	DURKH-011716-1150	1311

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		1/29/2016 11:44:31 AM	WG845538

¹Cp

²Tc

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Boron	ND		9.00		1	01/31/2016 19:49	WG845803

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.0		1	01/21/2016 09:37	WG843816

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	99.4		11.4	1	02/03/2016 06:29	WG846199
Sulfate	ND		56.8	1	02/03/2016 06:29	WG846199

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Preparation by Method 1311

	Result	<u>Qualifier</u>	Prep date / time	<u>Batch</u>
Analyte				
TCLP Extraction	-		1/29/2016 11:44:31 AM	WG845538

Metals (ICP) by Method 6010B

	Result	<u>Qualifier</u>	RDL	Limit	Dilution	Analysis date / time	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l			
Boron	ND		9.00		1	01/31/2016 19:52	WG845803

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.2		1	01/21/2016 09:37	WG843816

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	76.2		11.7	1	02/03/2016 06:53	WG846199
Sulfate	ND		58.7	1	02/03/2016 06:53	WG846199

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		1/29/2016 11:44:31 AM	WG845538

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Boron	ND		9.00		1	01/31/2016 19:55	WG845803

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	82.0		1	01/21/2016 11:33	WG843818

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	84.1		12.2	1	02/03/2016 07:17	WG846199
Sulfate	ND		61.0	1	02/03/2016 07:17	WG846199

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) 01/21/16 09:37

Analyte	MB Result %	MB Qualifier	MB RDL %
Total Solids	0.000500		

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L812712-14 Original Sample (OS) • Duplicate (DUP)

(OS) 01/21/16 09:37 • (DUP) 01/21/16 09:37

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	81.4	80.4	1	1.21		5

Laboratory Control Sample (LCS)

(LCS) 01/21/16 09:37

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	



Method Blank (MB)

(MB) 01/21/16 11:33

Analyte	MB Result %	MB Qualifier	MB RDL %
Total Solids	0.000100		

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L812748-04 Original Sample (OS) • Duplicate (DUP)

(OS) 01/21/16 11:33 • (DUP) 01/21/16 11:33

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	66.2	66.3	1	0.262		5

Laboratory Control Sample (LCS)

(LCS) 01/21/16 11:33

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	



Method Blank (MB)

(MB) 02/03/16 03:38

	MB Result	MB Qualifier	MB RDL
Analyte	mg/kg		mg/kg
Chloride	ND		10.0
Sulfate	ND		50.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L814313-10 Original Sample (OS) • Duplicate (DUP)

(OS) 02/03/16 05:42 • (DUP) 02/03/16 06:05

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	32.2	32.0	1	1		15
Sulfate	46.6	46.4	1	0		15

L814460-01 Original Sample (OS) • Duplicate (DUP)

(OS) 02/03/16 15:16 • (DUP) 02/03/16 15:39

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	113	113	1	0		15
Sulfate	166	166	1	0		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 02/03/16 04:06 • (LCSD) 02/03/16 04:30

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Chloride	200	218	216	109	108	80-120			1	15
Sulfate	200	213	215	107	108	80-120			1	15

L814360-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 02/03/16 07:17 • (MS) 02/03/16 07:41 • (MSD) 02/03/16 08:05

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chloride	500	68.9	581	593	102	105	1	80-120			2	15
Sulfate	500	6.14	520	536	103	106	1	80-120			3	15



Method Blank (MB)

(MB) 01/31/16 19:13

	MB Result	MB Qualifier	MB RDL
Analyte	mg/l		mg/l
Boron	ND		9.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 01/31/16 19:16 • (LCSD) 01/31/16 19:19

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Boron	10.0	9.84	10.1	98	101	80-120			2	20

L814315-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 01/31/16 19:22 • (MS) 01/31/16 19:28 • (MSD) 01/31/16 19:31

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Boron	10.0	0.0944	10.2	9.86	101	98	1	75-125			3	20

L814323-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 02/01/16 08:57 • (MS) 02/01/16 09:00 • (MSD) 02/01/16 09:03

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Boron	1.00	0.317	ND	ND	100	95	1.111111	75-125			0	20



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
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The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



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* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

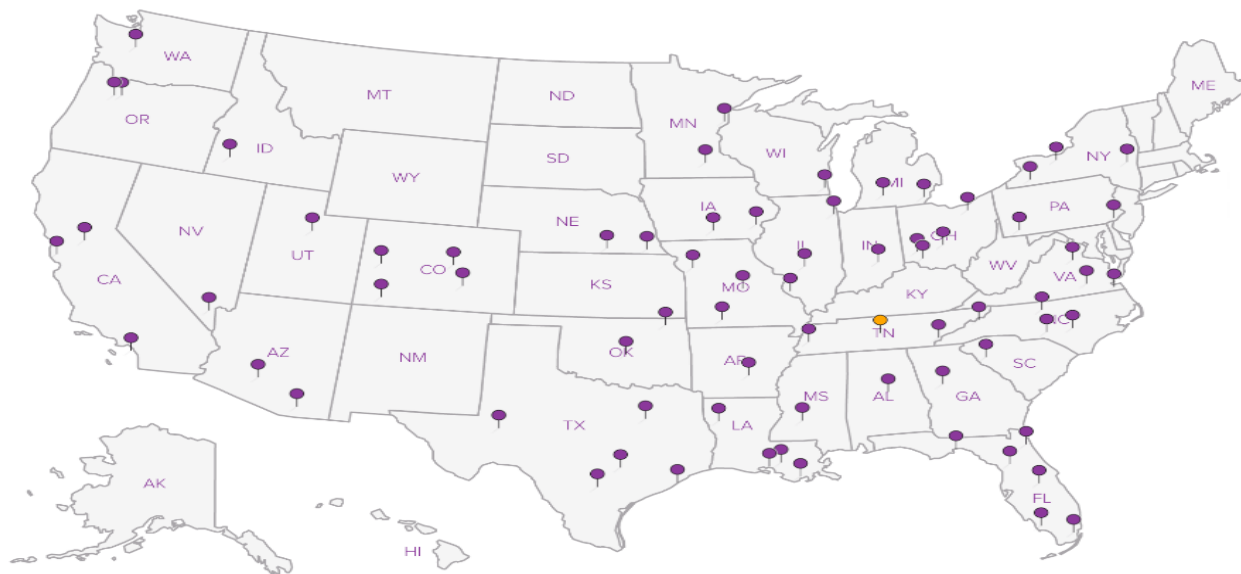
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**


¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

* Sample ID will be the office and sampler-date-military time FARJM-MMDDYY-1200

Matt Shacklock

From: Daphne Richards
Sent: Thursday, January 28, 2016 11:21 AM
To: Login
Subject: Relog L812725 XTORNM

Please relog L812725 for TCLP Boron and total chloride, sulfate
thanks

Daphne Richards
Technical Service Representative
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Direct: 615-773-9662

