ANALYTICAL REPORT

January 27, 2016

XTO Energy - San Juan Division

Sample Delivery Group:	L812725
Samples Received:	01/19/2016
Project Number:	05-067-07799
Description:	Huber Burkett 2-26

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

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Technical Service Representative

DURKH-011716-1030 L812725-01 Solid

Collected by: Kurt Hoekstra
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
Calculated Results	WG843386	1	01/19/16 15:26	01/20/16 23:19	LTB
Calculated Results	WG843559	1	01/20/16 13:11	01/22/16 11:51	JDG
Mercury by Method 7471A	WG843976	1	01/21/16 17:20	01/23/16 10:42	TRB
Metals (ICP) by Method 6010B	WG843386	1	01/19/16 15:26	01/20/16 23:19	LTB
Semi-Volatile Organic Compounds (GC) by Method 3546/DRO	WG843548	1	01/19/16 22:01	01/20/16 10:40	AAT
Total Solids by Method 2540 G-2011	WG843816	1	01/21/16 09:28	01/21/16 09:37	MEL
Volatile Organic Compounds (GC) by Method 8015/8021	WG843564	5	01/20/16 16:32	01/21/16 20:14	JRB
Wet Chemistry by Method 2580 B-2011	WG843619	1	01/21/16 09:31	01/21/16 12:15	JER
Wet Chemistry by Method 3060A/7196A	WG843430	1	01/20/16 08:36	01/20/16 13:47	AMC
Wet Chemistry by Method 9045D	WG843365	1	01/19/16 16:47	01/19/16 16:47	MAJ
Wet Chemistry by Method 9050AMod	WG844383	1	01/26/16 09:27	01/26/16 09:27	JSS

DURKH-011716-1120 L812725-02 Solid

Collected by: Kurt Hoekstra
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
Calculated Results	WG843386	1	01/19/16 15:26	01/20/16 23:22	LTB
Calculated Results	WG843559	1	01/20/16 13:11	01/25/16 08:30	JDG
Mercury by Method 7471A	WG843976	1	01/21/16 17:20	01/23/16 10:45	TRB
Metals (ICP) by Method 6010B	WG843386	1	01/19/16 15:26	01/20/16 23:22	LTB
Semi-Volatile Organic Compounds (GC) by Method 3546/DRO	WG843548	1	01/19/16 22:01	01/20/16 11:03	AAT
Total Solids by Method 2540 G-2011	WG843816	1	01/21/16 09:28	01/21/16 09:37	MEL
Volatile Organic Compounds (GC) by Method 8015/8021	WG843564	5	01/20/16 16:32	01/21/16 20:39	JRB
Wet Chemistry by Method 2580 B-2011	WG843619	1	01/21/16 09:31	01/21/16 12:15	JER
Wet Chemistry by Method 3060A/7196A	WG843430	1	01/20/16 08:36	01/20/16 13:49	AMC
Wet Chemistry by Method 9045D	WG843365	1	01/19/16 16:47	01/19/16 16:47	MAJ
Wet Chemistry by Method 9050AMod	WG844383	1	01/26/16 09:27	01/26/16 09:27	JSS

DURKH-011716-1150 L812725-03 Solid

Collected by: Kurt Hoekstra
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
Calculated Results	WG843386	1	01/19/16 15:26	01/20/16 21:59	LTB
Calculated Results	WG843559	1	01/20/16 13:11	01/25/16 08:33	JDG
Mercury by Method 7471A	WG843657	1	01/21/16 16:09	01/23/16 09:17	TRB
Metals (ICP) by Method 6010B	WG843386	1	01/19/16 15:26	01/20/16 21:59	LTB
Semi-Volatile Organic Compounds (GC) by Method 3546/DRO	WG843548	5	01/19/16 22:01	01/20/16 11:25	AAT
Total Solids by Method 2540 G-2011	WG843818	1	01/21/16 11:22	01/21/16 11:33	KDW
Volatile Organic Compounds (GC) by Method 8015/8021	WG843564	5	01/20/16 16:32	01/21/16 21:05	JRB
Wet Chemistry by Method 2580 B-2011	WG843619	1	01/21/16 09:31	01/21/16 12:15	JER
Wet Chemistry by Method 3060A/7196A	WG843430	1	01/20/16 08:36	01/20/16 13:50	AMC
Wet Chemistry by Method 9045D	WG843365	1	01/19/16 16:47	01/19/16 16:47	MAJ
Wet Chemistry by Method 9050AMod	WG844383	1	01/26/16 09:27	01/26/16 09:27	JSS

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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 R Richards

Daphne Richards
Technical Service Representative

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.35		1	01/22/2016 11:51	WG843559

Calculated Results

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	10.7		2.27	1	01/20/2016 23:19	WG843386

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 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	474		1	01/21/2016 12:15	WG843619

Wet Chemistry by Method 3060A/7196A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.27	1	01/20/2016 13:47	WG843430

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.89		1	01/19/2016 16:47	WG843365

Sample Narrative:

9045D L812725-01 WG843365: 7.89 at 24.4c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	199		1	01/26/2016 09:27	WG844383

Mercury by Method 7471A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0227	1	01/23/2016 10:42	WG843976

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.78		2.27	1	01/20/2016 23:19	WG843386
Barium	316		0.568	1	01/20/2016 23:19	WG843386
Cadmium	ND		0.568	1	01/20/2016 23:19	WG843386
Chromium	10.7		1.14	1	01/20/2016 23:19	WG843386
Copper	20.6		2.27	1	01/20/2016 23:19	WG843386
Lead	14.5		0.568	1	01/20/2016 23:19	WG843386
Nickel	13.7		2.27	1	01/20/2016 23:19	WG843386
Selenium	ND		2.27	1	01/20/2016 23:19	WG843386
Silver	ND		1.14	1	01/20/2016 23:19	WG843386

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Zinc	51.7		5.68	1	01/20/2016 23:19	WG843386

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00284	5	01/21/2016 20:14	WG843564
Toluene	ND		0.0284	5	01/21/2016 20:14	WG843564
Ethylbenzene	ND		0.00284	5	01/21/2016 20:14	WG843564
Total Xylene	ND		0.00852	5	01/21/2016 20:14	WG843564
TPH (GC/FID) Low Fraction	ND		0.568	5	01/21/2016 20:14	WG843564
(S) a,a,a-Trifluorotoluene(FID)	*96.6*		*59.0-128*		*01/21/2016 20:14*	WG843564
(S) a,a,a-Trifluorotoluene(PID)	*101*		*54.0-144*		*01/21/2016 20:14*	WG843564

Semi-Volatile Organic Compounds (GC) by Method 3546/DRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.54	1	01/20/2016 10:40	WG843548
(S) o-Terphenyl	*62.4*		*50.0-150*		*01/20/2016 10:40*	WG843548

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.0499		1	01/25/2016 08:30	WG843559

Calculated Results

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	6.43		2.35	1	01/20/2016 23:22	WG843386

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 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	464		1	01/21/2016 12:15	WG843619

Wet Chemistry by Method 3060A/7196A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.35	1	01/20/2016 13:49	WG843430

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.81		1	01/19/2016 16:47	WG843365

Sample Narrative:

9045D L812725-02 WG843365: 7.81 at 24.3c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	131		1	01/26/2016 09:27	WG844383

Mercury by Method 7471A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0235	1	01/23/2016 10:45	WG843976

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.40		2.35	1	01/20/2016 23:22	WG843386
Barium	204		0.587	1	01/20/2016 23:22	WG843386
Cadmium	ND		0.587	1	01/20/2016 23:22	WG843386
Chromium	6.43		1.17	1	01/20/2016 23:22	WG843386
Copper	13.0		2.35	1	01/20/2016 23:22	WG843386
Lead	10.4		0.587	1	01/20/2016 23:22	WG843386
Nickel	4.94		2.35	1	01/20/2016 23:22	WG843386
Selenium	ND		2.35	1	01/20/2016 23:22	WG843386
Silver	ND		1.17	1	01/20/2016 23:22	WG843386

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Zinc	40.4		5.87	1	01/20/2016 23:22	WG843386

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00293	5	01/21/2016 20:39	WG843564
Toluene	ND		0.0293	5	01/21/2016 20:39	WG843564
Ethylbenzene	ND		0.00293	5	01/21/2016 20:39	WG843564
Total Xylene	ND		0.00880	5	01/21/2016 20:39	WG843564
TPH (GC/FID) Low Fraction	ND		0.587	5	01/21/2016 20:39	WG843564
(S) a,a,a-Trifluorotoluene(FID)	*96.3*		*59.0-128*		*01/21/2016 20:39*	WG843564
(S) a,a,a-Trifluorotoluene(PID)	*101*		*54.0-144*		*01/21/2016 20:39*	WG843564

Semi-Volatile Organic Compounds (GC) by Method 3546/DRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.69	1	01/20/2016 11:03	WG843548
(S) o-Terphenyl	*69.5*		*50.0-150*		*01/20/2016 11:03*	WG843548

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.0626		1	01/25/2016 08:33	WG843559

Calculated Results

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	4.11		2.44	1	01/20/2016 21:59	WG843386

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 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	476		1	01/21/2016 12:15	WG843619

Wet Chemistry by Method 3060A/7196A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	4.00		2.44	1	01/20/2016 13:50	WG843430

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.72		1	01/19/2016 16:47	WG843365

Sample Narrative:

9045D L812725-03 WG843365: 7.72 at 23.6c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	52.6		1	01/26/2016 09:27	WG844383

Mercury by Method 7471A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0244	1	01/23/2016 09:17	WG843657

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.63		2.44	1	01/20/2016 21:59	WG843386
Barium	320		0.610	1	01/20/2016 21:59	WG843386
Cadmium	ND		0.610	1	01/20/2016 21:59	WG843386
Chromium	8.11		1.22	1	01/20/2016 21:59	WG843386
Copper	15.0		2.44	1	01/20/2016 21:59	WG843386
Lead	22.4		0.610	1	01/20/2016 21:59	WG843386
Nickel	9.86		2.44	1	01/20/2016 21:59	WG843386
Selenium	ND		2.44	1	01/20/2016 21:59	WG843386
Silver	ND		1.22	1	01/20/2016 21:59	WG843386

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Zinc	69.3		6.10	1	01/20/2016 21:59	WG843386

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00305	5	01/21/2016 21:05	WG843564
Toluene	ND		0.0305	5	01/21/2016 21:05	WG843564
Ethylbenzene	ND		0.00305	5	01/21/2016 21:05	WG843564
Total Xylene	ND		0.00915	5	01/21/2016 21:05	WG843564
TPH (GC/FID) Low Fraction	ND		0.610	5	01/21/2016 21:05	WG843564
(S) a,a,a-Trifluorotoluene(FID)	*96.7*		*59.0-128*		*01/21/2016 21:05*	WG843564
(S) a,a,a-Trifluorotoluene(PID)	*102*		*54.0-144*		*01/21/2016 21:05*	WG843564

Semi-Volatile Organic Compounds (GC) by Method 3546/DRO

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	59.4	J6	24.4	5	01/20/2016 11:25	WG843548
(S) o-Terphenyl	*63.8*		*50.0-150*		*01/20/2016 11:25*	WG843548

Method Blank (MB)

(MB) 01/21/16 09:37

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

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		

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	

L812231-20 Original Sample (OS) • Duplicate (DUP)

(OS) 01/21/16 12:15 • (DUP) 01/21/16 12:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mV	mV		%		%
ORP	520	524	1	0.766		20

L812746-04 Original Sample (OS) • Duplicate (DUP)

(OS) 01/21/16 12:15 • (DUP) 01/21/16 12:15

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mV	mV		%		%
ORP	150	152	1	1.32		20

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

(LCS) 01/21/16 12:15 • (LCSD) 01/21/16 12:15

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mV	mV	mV	%	%	%			%	%
ORP	100	99	99	99.0	99.0	90.0-110			0.000	20

Method Blank (MB)

(MB) 01/20/16 13:45

Analyte	MB Result	MB Qualifier	MB RDL
	mg/kg		mg/kg
Chromium,Hexavalent	ND		2.00

L812725-01 Original Sample (OS) • Duplicate (DUP)

(OS) 01/20/16 13:47 • (DUP) 01/20/16 13:47

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/kg	mg/kg		%		%
Chromium,Hexavalent	ND	ND	1	0.000		20

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

(LCS) 01/20/16 13:45 • (LCSD) 01/20/16 13:45

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Chromium,Hexavalent	97.4	87.4	87.4	89.7	89.7	80.0-120			0.000	20

L812725-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 01/20/16 13:47 • (MS) 01/20/16 13:48 • (MSD) 01/20/16 13:48

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chromium,Hexavalent	20.0	ND	17.8	17.8	88.8	88.8	1	75.0-125			0.000	20

L811197-04 Original Sample (OS) • Duplicate (DUP)

(OS) 01/19/16 16:47 • (DUP) 01/19/16 16:47

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	5.20	5.21	1	0.192		1

L812746-04 Original Sample (OS) • Duplicate (DUP)

(OS) 01/19/16 16:47 • (DUP) 01/19/16 16:47

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	9.82	9.85	1	0.305		1

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

(LCS) 01/19/16 16:47 • (LCSD) 01/19/16 16:47

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	6.31	6.33	6.33	100	100	98.5-102			0.000	1

Method Blank (MB)

(MB) 01/26/16 09:27

Analyte	MB Result umhos/cm	MB Qualifier	MB RDL umhos/cm
Specific Conductance	2.13		

L812725-03 Original Sample (OS) • Duplicate (DUP)

(OS) 01/26/16 09:27 • (DUP) 01/26/16 09:27

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	52.6	47.5	1	10.2		20

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

(LCS) 01/26/16 09:27 • (LCSD) 01/26/16 09:27

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCSD Result umhos/cm	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Specific Conductance	768	796	798	104	104	90.0-110			0.251	20

Method Blank (MB)

(MB) 01/23/16 09:10

Analyte	MB Result	MB Qualifier	MB RDL
	mg/kg		mg/kg
Mercury	ND		0.0200

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

(LCS) 01/23/16 09:12 • (LCSD) 01/23/16 09:15

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Mercury	0.300	0.284	0.286	95	95	80-120			0	20

L812725-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 01/23/16 09:17 • (MS) 01/23/16 09:20 • (MSD) 01/23/16 09:28

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Mercury	0.300	0.0154	0.287	0.292	91	92	1	75-125			1	20

Method Blank (MB)

(MB) 01/23/16 10:22

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Mercury	ND		0.0200

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

(LCS) 01/23/16 10:30 • (LCSD) 01/23/16 10:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.276	0.280	92	93	80-120			2	20

L813123-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 01/23/16 10:35 • (MS) 01/23/16 10:37 • (MSD) 01/23/16 10:40

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.0627	0.346	0.340	94	92	1	75-125			2	20

Method Blank (MB)

(MB) 01/20/16 21:44

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Arsenic	ND		2.00
Barium	ND		0.500
Cadmium	ND		0.500
Chromium	ND		1.00
Copper	ND		2.00
Lead	ND		0.500
Nickel	ND		2.00
Selenium	ND		2.00
Silver	ND		1.00
Zinc	ND		5.00

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

(LCS) 01/20/16 21:47 • (LCSD) 01/20/16 21:50

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	90.4	91.8	90	92	80-120			1	20
Barium	100	95.6	97.2	96	97	80-120			2	20
Cadmium	100	93.6	95.0	94	95	80-120			2	20
Chromium	100	90.6	92.7	91	93	80-120			2	20
Copper	100	92.9	95.0	93	95	80-120			2	20
Lead	100	95.7	97.1	96	97	80-120			1	20
Nickel	100	94.4	96.3	94	96	80-120			2	20
Selenium	100	91.5	92.4	91	92	80-120			1	20
Silver	100	87.5	89.4	88	89	80-120			2	20
Zinc	100	94.0	96.4	94	96	80-120			3	20

L812725-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 01/20/16 21:59 • (MS) 01/20/16 22:08 • (MSD) 01/20/16 22:11

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	3.79	89.0	97.3	85	94	1	75-125			9	20
Barium	100	262	357	361	94	99	1	75-125			1	20
Cadmium	100	0.161	88.7	96.3	88	96	1	75-125			8	20

L812725-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 01/20/16 21:59 • (MS) 01/20/16 22:08 • (MSD) 01/20/16 22:11

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium	100	6.65	91.4	98.4	85	92	1	75-125			7	20
Copper	100	12.3	99.4	107	87	95	1	75-125			7	20
Lead	100	18.3	112	121	94	102	1	75-125			7	20
Nickel	100	8.09	104	112	96	104	1	75-125			7	20
Selenium	100	0.605	87.4	95.7	87	95	1	75-125			9	20
Silver	100	ND	83.7	91.1	84	91	1	75-125			8	20
Zinc	100	56.8	144	151	87	94	1	75-125			5	20

Method Blank (MB)

(MB) 01/21/16 07:29

Analyte	MB Result	MB Qualifier	MB RDL
	mg/kg		mg/kg
Benzene	ND		0.000500
Toluene	ND		0.00500
Ethylbenzene	ND		0.000500
Total Xylene	ND		0.00150
TPH (GC/FID) Low Fraction	ND		0.100
(S) a,a,a-Trifluorotoluene(FID)	*97.4*		*59.0-128*
(S) a,a,a-Trifluorotoluene(PID)	*102*		*54.0-144*

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

(LCS) 01/21/16 05:23 • (LCSD) 01/21/16 05:49

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Benzene	0.0500	0.0429	0.0423	85.8	84.7	70.0-130			1.32	20
Toluene	0.0500	0.0444	0.0433	88.8	86.7	70.0-130			2.38	20
Ethylbenzene	0.0500	0.0473	0.0466	94.5	93.3	70.0-130			1.32	20
Total Xylene	0.150	0.145	0.142	96.3	94.6	70.0-130			1.84	20
(S) a,a,a-Trifluorotoluene(FID)				*96.8*	*97.4*	*59.0-128*				
(S) a,a,a-Trifluorotoluene(PID)				*101*	*102*	*54.0-144*				

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

(LCS) 01/21/16 06:39 • (LCSD) 01/21/16 08:47

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
TPH (GC/FID) Low Fraction	5.50	6.35	5.82	116	106	63.5-137			8.85	20
(S) a,a,a-Trifluorotoluene(FID)				*106*	*106*	*59.0-128*				
(S) a,a,a-Trifluorotoluene(PID)				*109*	*109*	*54.0-144*				

Method Blank (MB)

(MB) 01/20/16 10:06

Analyte	MB Result	MB Qualifier	MB RDL
	mg/kg		mg/kg
TPH (GC/FID) High Fraction	ND		4.00
(S) o-Terphenyl	*88.1*		*50.0-150*

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

(LCS) 01/20/16 10:18 • (LCSD) 01/20/16 10:29

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
TPH (GC/FID) High Fraction	60.0	51.7	53.5	86.1	89.2	50.0-150			3.51	20
(S) o-Terphenyl				*94.7*	*98.3*	*50.0-150*				

L812725-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 01/20/16 11:25 • (MS) 01/20/16 11:36 • (MSD) 01/20/16 11:47

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
TPH (GC/FID) High Fraction	12.0	48.7	73.5	85.1	41.4	60.8	5	50.0-150	J6		14.7	20
(S) o-Terphenyl					*63.8*	*59.7*		*50.0-150*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

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
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** 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
Conneticut	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 [1 4]	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		

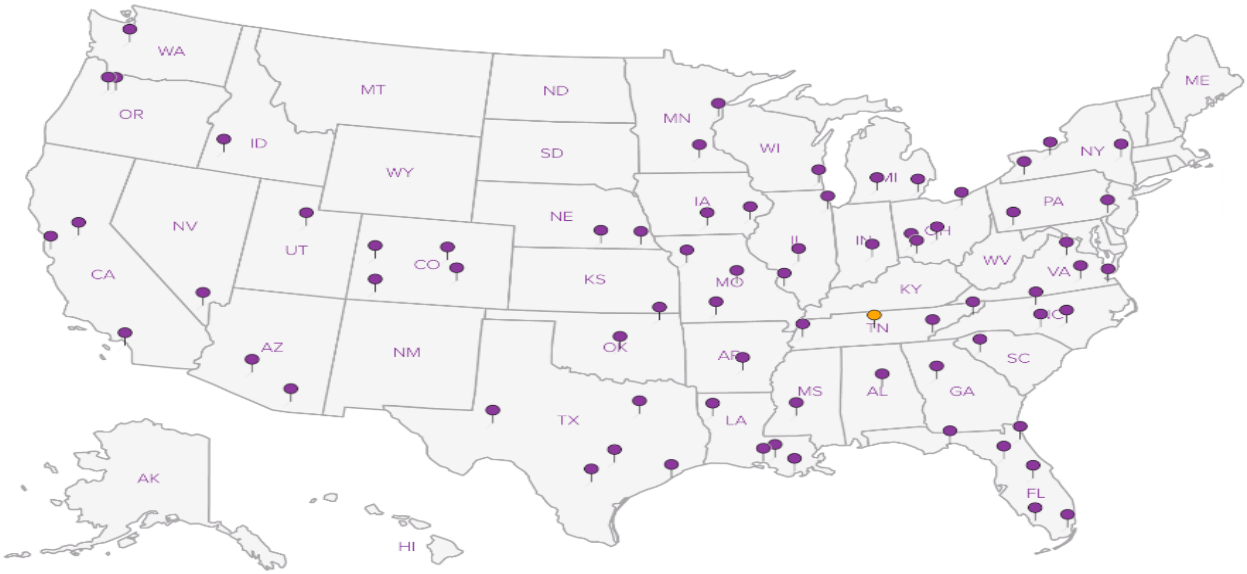
Third Party & Federal Accreditations

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.**



D111 1326

XTO ENERGY
Western Division

Quote Number	
Page ___ of ___	
XTO Contact	KURT
XTO Contact Phone #	505-486-9543
Email Results to:	JAMES, KURT, LOGAN, REX
Well Site/Location	HUBER BURKETT 2-26
API Number	05-067-07799
Saturday Delivery (Y / (N))	
Collected By	KURT
Samples on Ice	(Y) / N
Company	XTO
Test Reason	SPILL
Signature	Kurt Hawkins
Gray Areas for Lab Use Only!	

Turnaround
- X Standard
- ___ Next Day
- ___ Two Day
- ___ Three Day
- ___ Same Day

Date Needed _____

Analysis/Container: 9ID-1 TABLE SEE ATTACHED

Lab Information

Office Abbreviations
Farmington = FAR
Durango = DUR
Bakken = BAK
Raton = RAT
Piceance = PC
Roosevelt = RSV
La Barge = LB
Orangeville = OV

Sample ID	Sample Name	Media	Date	Time	Preservative	No. of Conts.	Sample Number
DURKH-011716-1030	SPILL	S	1-17	10:30	ON ICE	3 1-4oz.	612725-01
DURKH-011716-1120	BACKGROUND1	S	1-17	11:20	ON ICE	3 1-4oz	02
DURKH-011716-1150	BACKGROUND2	S	1-17	11:50	ON ICE	3 1-4oz	03

Media: Filter = F, Soil = S, Wastewater = WW, Groundwater = GW, Drinking Waster = DW, Sludge = SG, Surface Water = SW, Air = A, Drill Mud = DM, Other = OT

Relinquished By: (Signature) Kurt Hawkins	Date: 1-18-16	Time: 2:00	Received By: (Signature)	Number of Bottles: 10 4oz; Sample Condition
Relinquished By: (Signature)	Date:	Time:		Temperature: 3.2 M; Other Information
Relinquished By: (Signature)	Date:	Time:	Received for Lab by: (Signature) Wally	Date: 1-19-16; Time: 0900

Comments: 612767393818

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

Table 910-1 CONCENTRATION LEVELS		Huber Burkett 2-26-Line Break			
Contaminant of Concern	Concentrations	Back Ground 1 (BG1)	Back Ground 2 (BG2)	Back Ground Range	Sample 1 (S1)
Organic Compounds in Soil					
TPH (total volatile & extractable petroleum hyrdrocarbons)	500mg/kg				
Benzene	0.17 mg/kg				
Toluene	85 mg/kg				
Ethylbenzene	100mg/kg				
Xylenes (total)	175 mg/kg				
Inorganics in Soils					
Electrical Conductivity (EC)	<4 mmhos/cm or 2x background				
Sodium Adsorption Ratio (SAR)	<12				
pH	6.0-9.0				
Inorganics in Ground Water					
Total Dissolved Solids (TDS)	<1.25 x background				
Chlorides	<1.25 x background				
Sulfates	<1.25 x background				
Metals in Soils					
Arsenic	0.39 mg/kg				
Barium (LDNR True Total Barium)	15,000 mg/kg				
Boron (Hot Water Soluble)	2 mg/l				
Cadmium	70 mg/kg				
Chromium (III)	120,000 mg/kg				
Chromium (VI)	23 mg/kg				
Copper	3,100 mg/kg				
Lead (inorganic)	400 mg/kg				
Mercury	23 mg/kg				
Nickel (soluble salts)	1,600 mg/kg				
Selenium	390 mg/kg				
Silver	390 mg/kg				
Zinc	23,000 mg/kg				

Matt Shacklock

ESC Lab Sciences
Non-Conformance Form

Login #L812725	Client: XTORNM	Date:1/19/16	Evaluated by:Dakota B

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time		Login Clarification Needed		**If Broken Container:**
	Improper temperature		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.		Insufficient packing material inside cooler
	Improper preservation		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Courie
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
x	Broken container:		Chain of Custody is missing		Date/Time:
x	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments:

1. **Received 2 Broken containers for "Spill" unsalvagable and one transferred into 16oz**
2. **Received 1 broken sample for BG1 Unsalvagable**

Client informed by:		Call		Email		Voice Mail		Date: 01/19	Time: 11:30
TSR Initials: DR	Client Contact:								

Login Instructions:

Proceed with analysis, note limited sample