3R-1044

XTO
NV Navajo 35-1
Water Manifold

Initial C-141

Date 2/24/17

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy, Inc.	Contact: Logan Hixon
Address: 382 Road 3100, Aztec, New Mexico 87410	Telephone No.: (505) 333-3683
Facility Name: NV Navajo 35-1 Wtr Manifold	Facility Type: Gas/Water Manifold

Surface Owner: Navajo Nation	Mineral Owner: Tribal	API No. Non Production Facility

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	35	29 N	14W					San Juan

Latitude: N36.68529890481074 **Longitude:** W-108.2708031312639

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: Approximately 10 bbl.	Volume Recovered: 0 bbl. Recovered
Source of Release: Water Manifold (Gas Eliminator)	Date and Hour of Occurrence: February 1, 2017 at Unknown Time	Date and Hour of Discovery: February 1, 2017 at 1145.
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

OIL CONS. DIV DIST. 3

FEB 16 2017

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* On February 1, 2017, a water leak was discovered in the produced water transport line near the NV Navajo 35-1 well site. An estimated 10 bbl. of produced water leaked from the pipeline. The waterline was evacuated, and the leak occurred at the above grade gas eliminator. The produced water traveled to the north east approximately 500 feet where it stopped. The site was ranked a 20 pursuant to the NMOCD Guidelines for the Remediation of Leaks, Spills and Releases. The distance to a waterway is estimated to be less than 200 feet from the end of the release. This set the regulatory limits to 100 ppm TPH, 10 ppm benzene, and 50 ppm total BTEX.

Describe Area Affected and Cleanup Action Taken.* On February 1, 2017, a composite sample was collected at the source of the release, a composite sample was collected approximately 200' down the flow path, and another composite sample was collected at the end of the release. The samples were analyzed for DRO/GRO via USEPA Method 8015, BTEX via USEPA Method 8021, and for chlorides. The sample returned results below all regulatory standards determined for this location. XTO has submitted a request for remediation activities to be performed to address chloride levels. With the approval of the NMOCD, cleanup activities will occur, and a final C-141 will be submitted at completion of remediation activities. The sample results are attached for your reference.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Logan Hixon	OIL CONSERVATION DIVISION
Printed Name: Logan Hixon	Approved by Environmental Specialist:
Title: EHS Coordinator	Approval Date: 3/8/2017 Expiration Date:
E-mail Address: Logan_Hixon@xtoenergy.com	Conditions of Approval: Attached ☐
Date: 2-14-17 Phone: 505-333-3683	NVF1706734658

Apply gypsum application per BLM Spec. Sheet. Scrap and remove top layer of soil before application process.

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 2/16/2017 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number NVF1706734688 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District II office in 30 on or before 4/18/2017. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

- Nominal detection limits for field and laboratory analyses must be provided.

- Composite sampling is not generally allowed.

- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

•Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

• If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

• Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

ESC LAB SCIENCES
YOUR LAB OF CHOICE

ANALYTICAL REPORT

February 09, 2017

myESC
REAL TIME DATA ACCESS

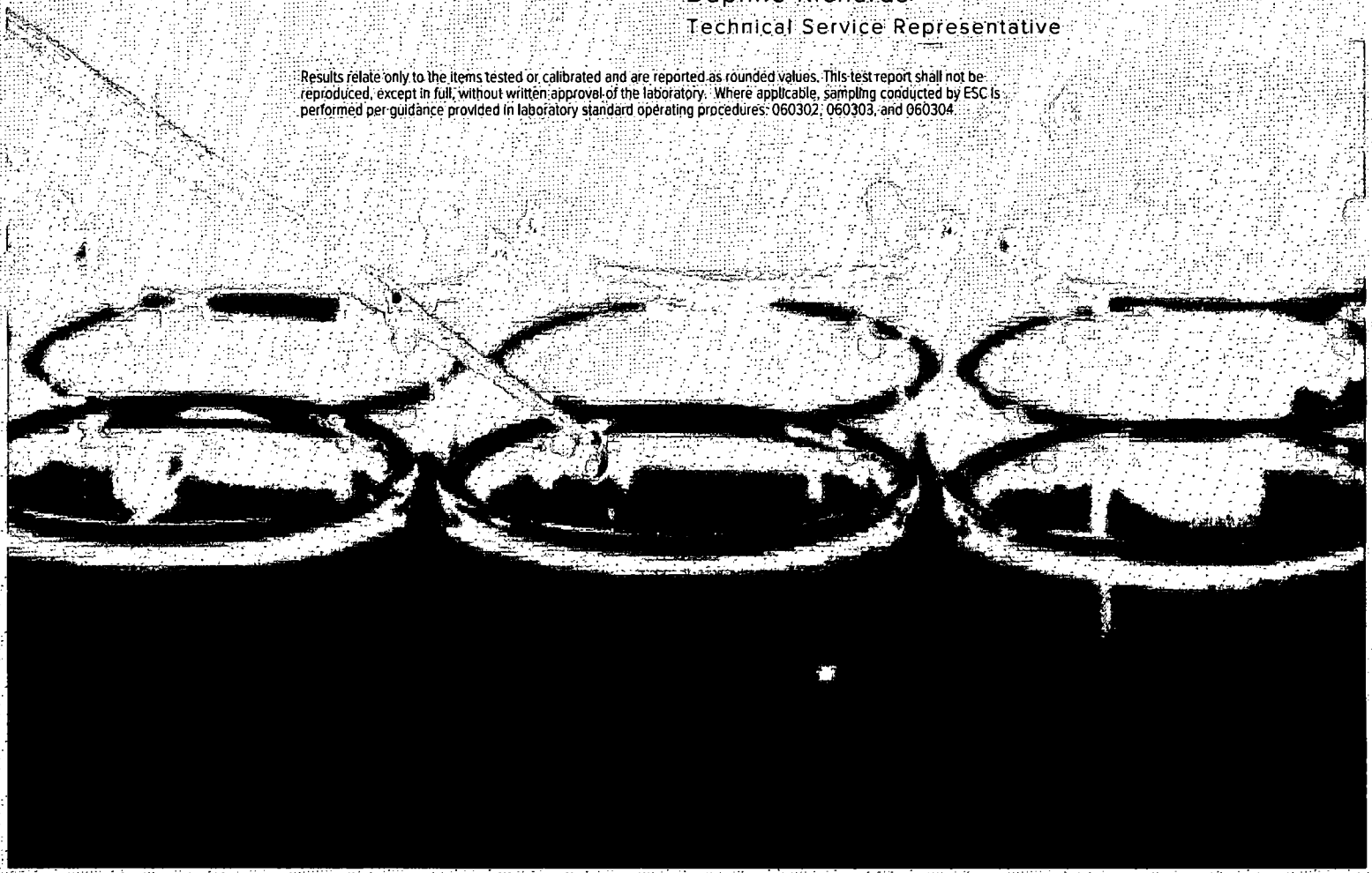
XTO Energy - San Juan Division

Sample Delivery Group:	L887468
Samples Received:	02/02/2017
Project Number:	
Description:	NV Navajo 35-1

Report To: James McDaniel
382 County Road 3100
Aztec, NM 87410

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Technical Service Representative



POINT OF RELEASE L887468-01 Solid

Collected by: Logan Hixon | Collected date/time: 02/01/17 13:25 | Received date/time: 02/02/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG949458	1	02/06/17 23:01	02/07/17 13:14	KLM
Total Solids by Method 2540 G-2011	WG949506	1	02/04/17 13:20	02/04/17 13:32	KDW
Volatile Organic Compounds (GC) by Method 8015/8021	WG949639	1	02/03/17 09:39	02/06/17 18:30	JHH
Wet Chemistry by Method 9056A	WG949592	20	02/06/17 12:30	02/07/17 05:59	KCF

BEFORE SANDSTONE L887468-02 Solid

Collected by: Logan Hixon | Collected date/time: 02/01/17 13:30 | Received date/time: 02/02/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG949458	1	02/06/17 23:01	02/07/17 13:25	KLM
Total Solids by Method 2540 G-2011	WG949506	1	02/04/17 13:20	02/04/17 13:32	KDW
Volatile Organic Compounds (GC) by Method 8015/8021	WG949639	1	02/03/17 09:39	02/06/17 18:54	JHH
Wet Chemistry by Method 9056A	WG949592	10	02/06/17 12:30	02/07/17 06:16	KCF

END OF RELEASE L887468-03 Solid

Collected by: Logan Hixon | Collected date/time: 02/01/17 13:35 | Received date/time: 02/02/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG949458	1	02/06/17 23:01	02/07/17 13:37	KLM
Total Solids by Method 2540 G-2011	WG949506	1	02/04/17 13:20	02/04/17 13:32	KDW
Volatile Organic Compounds (GC) by Method 8015/8021	WG949639	1	02/03/17 09:39	02/08/17 14:06	KMC
Wet Chemistry by Method 9056A	WG949592	5	02/06/17 12:30	02/07/17 06:32	KCF

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

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.5		1	02/04/2017 13:32	WG949506

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	6910		229	20	02/07/2017 05:59	WG949592

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000777		0.000571	1	02/06/2017 18:30	WG949639
Toluene	ND		0.00571	1	02/06/2017 18:30	WG949639
Ethylbenzene	ND		0.000571	1	02/06/2017 18:30	WG949639
Total Xylene	0.00173		0.00171	1	02/06/2017 18:30	WG949639
TPH (GC/FID) Low Fraction	0.138		0.114	1	02/06/2017 18:30	WG949639
(S) a,a,a-Trifluorotoluene(FID)	*103*		*77.0-120*		*02/06/2017 18:30*	WG949639
(S) a,a,a-Trifluorotoluene(PID)	*107*		*75.0-128*		*02/06/2017 18:30*	WG949639

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	31.3		4.57	1	02/07/2017 13:14	WG949458
(S) o-Terphenyl	*20.7*		*18.0-148*		*02/07/2017 13:14*	WG949458

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	81.8		1	02/04/2017 13:32	WG949596

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	3580		122	10	02/07/2017 06:16	WG949592

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00152		0.000612	1	02/06/2017 18:54	WG949639
Toluene	ND		0.00612	1	02/06/2017 18:54	WG949639
Ethylbenzene	ND		0.000612	1	02/06/2017 18:54	WG949639
Total Xylene	ND		0.00183	1	02/06/2017 18:54	WG949639
TPH (GC/FID) Low Fraction	0.303		0.122	1	02/06/2017 18:54	WG949639
(S) a,a,a-Trifluorotoluene(FID)	*104*		*77.0-120*		*02/06/2017 18:54*	WG949639
(S) a,a,a-Trifluorotoluene(PID)	*107*		*75.0-128*		*02/06/2017 18:54*	WG949639

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.89	1	02/07/2017 13:25	WG949458
(S) o-Terphenyl	*70.1*		*18.0-148*		*02/07/2017 13:25*	WG949458

Total Solids by Method 2540 G-2011

Analyte	Result %	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.0		1	02/04/2017 13:32	WG949506

Wet Chemistry by Method 9056A

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Chloride	994		60.2	5	02/07/2017 06:32	WG949592

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00117		0.000602	1	02/08/2017 14:06	WG949639
Toluene	ND		0.00602	1	02/08/2017 14:06	WG949639
Ethylbenzene	ND		0.000602	1	02/08/2017 14:06	WG949639
Total Xylene	ND		0.00181	1	02/08/2017 14:06	WG949639
TPH (GC/FID) Low Fraction	ND		0.120	1	02/08/2017 14:06	WG949639
(S) a,a,a-Trifluorotoluene(FID)	*105*		*77.0-120*		*02/08/2017 14:06*	WG949639
(S) a,a,a-Trifluorotoluene(PID)	*108*		*75.0-128*		*02/08/2017 14:06*	WG949639

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.82	1	02/07/2017 13:37	WG949458
(S) o-Terphenyl	*45.2*		*18.0-148*		*02/07/2017 13:37*	WG949458

Method Blank (MB)

(MB) R3194915-1 02/04/17 13:32

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L887502-04 Original Sample (OS) • Duplicate (DUP)

(OS) L887502-04 02/04/17 13:32 • (DUP) R3194915-3 02/04/17 13:32

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	68.4	68.2	1	0.314		5

Laboratory Control Sample (LCS)

(LCS) R3194915-2 02/04/17 13:32

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

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

Method Blank (MB)

(MB) R3195179-1 02/06/17 21:56

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	2.18	J	0.795	10.0

L887220-17 Original Sample (OS) • Duplicate (DUP)

(OS) L887220-17 02/07/17 00:09 • (DUP) R3195179-4 02/07/17 00:26

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	5.21	1	0		15

L887220-19 Original Sample (OS) • Duplicate (DUP)

(OS) L887220-19 02/07/17 01:32 • (DUP) R3195179-5 02/07/17 01:49

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	6.68	1	0		15

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

(LCS) R3195179-2 02/06/17 22:12 • (LCSD) R3195179-3 02/06/17 22:29

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 %
Chloride	200	191	194	95	97	80-120			2	15

L887220-27 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L887220-27 02/07/17 04:36 • (MS) R3195179-6 02/07/17 04:52 • (MSD) R3195179-7 02/07/17 05:09

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	607	ND	634	637	103	103	1	80-120			1	15

Volatile Organic Compounds (GC) by Method 8015/8021

L887468-01,02,03

Method Blank (MB)

(MB) R3195344-5 02/06/17 13:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	0.000380	J	0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*105*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*110*			*75.0-128*

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

(LCS) R3195344-1 02/06/17 11:19 • (LCSD) R3195344-2 02/06/17 11:43

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 %
Benzene	0.0500	0.0506	0.0515	101	103	71.0-121			1.79	20
Toluene	0.0500	0.0500	0.0503	100	101	72.0-120			0.550	20
Ethylbenzene	0.0500	0.0525	0.0530	105	106	76.0-121			1.07	20
Total Xylene	0.150	0.157	0.160	105	107	75.0-124			1.83	20
(S) a,a,a-Trifluorotoluene(FID)				*105*	*105*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*108*	*108*	*75.0-128*				

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

(LCS) R3195344-3 02/06/17 12:07 • (LCSD) R3195344-4 02/06/17 12:31

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 %
TPH (GC/FID) Low Fraction	5.50	5.07	5.02	92.1	91.2	70.0-136			0.970	20
(S) a,a,a-Trifluorotoluene(FID)				*106*	*105*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*120*	*120*	*75.0-128*				

L887539-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L887539-01 02/06/17 15:42 • (MS) R3195344-6 02/06/17 16:06 • (MSD) R3195344-7 02/06/17 16:30

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 %
Benzene	0.0500	ND	0.428	0.445	90.0	93.7	9.5	10.0-146			3.99	29
Toluene	0.0500	ND	0.419	0.433	87.7	90.8	9.5	10.0-143			3.48	30
Ethylbenzene	0.0500	ND	0.444	0.463	93.5	97.6	9.5	10.0-147			4.27	31
Total Xylene	0.150	ND	1.35	1.41	95.0	99.0	9.5	10.0-149			4.12	30
(S) a,a,a-Trifluorotoluene(FID)					*105*	*105*		*77.0-120*				

Volatile Organic Compounds (GC) by Method 8015/8021

L887468-01,02,03

L887539-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L887539-01 02/06/17 15:42 • (MS) R3195344-6 02/06/17 16:06 • (MSD) R3195344-7 02/06/17 16:30

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 %
(S) α,α,α-Trifluorotoluene(PID)					*108*	*109*		*75.0-128*				

L887539-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L887539-01 02/08/17 14:30 • (MS) R3195726-1 02/08/17 15:43 • (MSD) R3195726-2 02/08/17 16:07

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 %
TPH (GC/FID) Low Fraction	5.50	ND	8.46	8.40	16.2	16.1	9.5	10.0-147			0.710	30
(S) α,α,α-Trifluorotoluene(FID)					*108*	*108*		*77.0-120*				
(S) α,α,α-Trifluorotoluene(PID)					*111*	*111*		*75.0-128*				

Semi-Volatile Organic Compounds (GC) by Method 8015

L887468-01,02,03

Method Blank (MB)

(MB) R3195281-1 02/07/17 08:57

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	*77.0*			*18.0-148*

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

(LCS) R3195281-2 02/07/17 09:08 • (LCSD) R3195281-3 02/07/17 09:19

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 %
TPH (GC/FID) High Fraction	60.0	45.4	44.6	75.6	74.3	50.0-150			1.68	20
(S) o-Terphenyl				*85.5*	*84.9*	*18.0-148*				

L887539-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L887539-04 02/07/17 14:34 • (MS) R3195281-4 02/07/17 14:46 • (MSD) R3195281-5 02/07/17 14:58

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 %
TPH (GC/FID) High Fraction	60.0	ND	50.5	48.1	84.2	80.1	1	50.0-150			4.96	20
(S) o-Terphenyl					*88.0*	*83.7*		*18.0-148*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
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.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

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 [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		

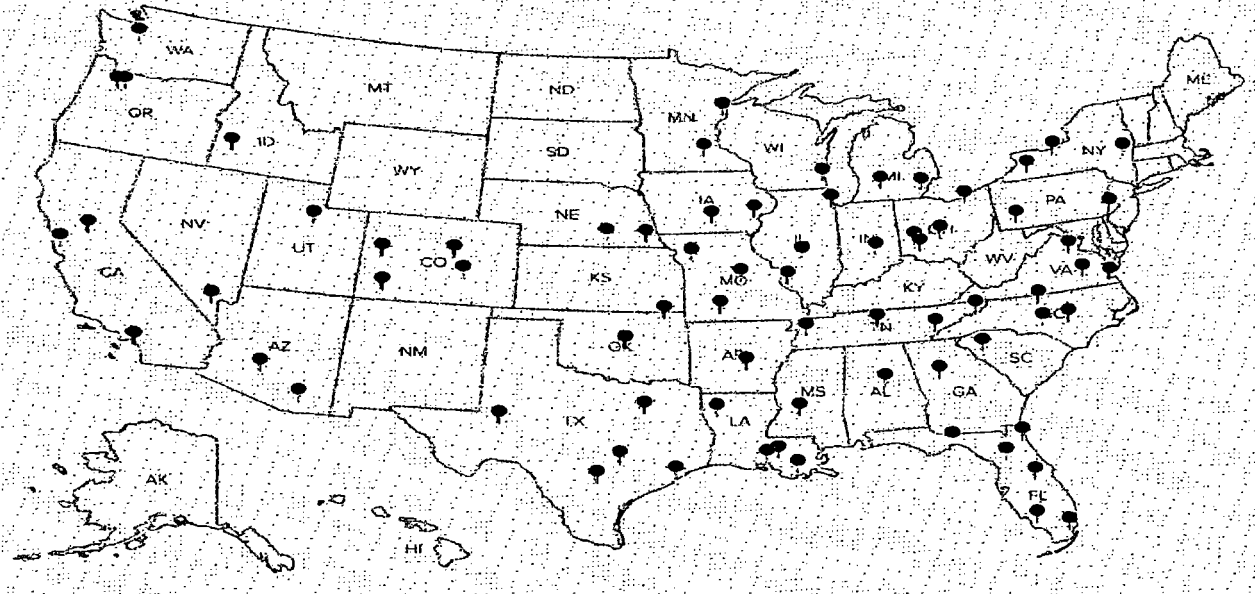
Third Party & Federal Accreditations

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 [14] 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.**



XTO ENERGY Western Division

Quote Number		**Page** 1 **of** 1
XTO Contact Logan		**XTO Contact Phone #** 333-3683
Email Results to: Logan, James, Kurt		
Well Site/Location 35-1 NV Navajo 35-1 MAN[illegible]	**API Number**	**Saturday Delivery (Y / N)** N
Collected By Logan Hixon	**Samples on Ice (Y / N)** Y	**Turnaround** X Standard; Next Day; Two Day; Three Day; Same Day
Company XTO	**Test Reason** Release	
Signature [signature]	**Gray Areas for Lab Use Only!**	**Date Needed**

Analysis/Container: 8015 (DRO+GRO); 8021 (BTEX); Chloride

Lab Information: L887468

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

1161

Sample ID	Sample Name	Media	Date	Time	Preservative	No. of Conts.	8015 (DRO+GRO)	8021 (BTEX)	Chloride					Sample Number
Point of Release	POR	S	2-1	1:25	Cool	1-4oz	X	X	X					-01
Before sandstone	BFR SS.	S	〃	1:30	Cool	1-4oz	〃	〃	〃					-02
End of Release	EOR	〃	〃	1:35	〃	〃	〃	〃	〃					-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) [signature]	**Date:** 2-1-17	**Time:** 1440	**Received By: (Signature)**	**Number of Bottles** 3-4oz	**Sample Condition** OK
Relinquished By: (Signature)	**Date:**	**Time:**		**Temperature:** M[illegible] 3.1	**Other Information**
Relinquished By: (Signature)	**Date:**	**Time:**	**Received for Lab by: (Signature)** [signature]	**Date:** 2/2/17 **Time:** 0900	

Comments

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

ESC LAB SCIENCES
Cooler Receipt Form

Client: XTO	SDG#	688468	
Cooler Received/Opened On: 02/2/2017	Temperature:		
Received By: Jeremy Watkins			
Signature:			

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			