

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**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: Jicarilla Apache #14 (API 30-039-20140)	Facility Type: Gas Well (Dakota, Mesa Verde, Pictured Cliffs, Chacra)
Surface Owner: Jicarilla Apache	Mineral Owner:
	Lease No.: JIC-54

**LOCATION OF RELEASE**

Unit Letter M	Section 34	Township 26N	Range 5W	Feet from the 900	North/South Line FSL	Feet from the 900	East/West Line FWL	County Rio Arriba
------------------	---------------	-----------------	-------------	----------------------	-------------------------	----------------------	-----------------------	----------------------

Latitude: 36.43859 Longitude: -107.35198

**NATURE OF RELEASE**

Type of Release: Produced Water	Volume of Release: Unknown	Volume Recovered: None
Source of Release: BGT	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: November 9, 2012
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? N/A	<b>RCVD JAN 23 '13</b>
By Whom?	Date and Hour:	<b>OIL CONS. DIV.</b>
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	<b>DIST. 3</b>

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

The below grade tank was taken out of service at the Jicarilla Apache #14 well site due to upgrades being made to this well site. A composite sample was collected beneath the location of the on-site BGT, and submitted for laboratory analysis for TPH via USEPA Method 418.1 and 8015, Benzene and BTEX via USEPA Method 8021, and for total chlorides. The sample returned results below the 'Pit Rule' spill confirmation standards for Benzene, Total BTEX and total chlorides, but above the 'pit rule' standards for TPH, confirming that a release has occurred at this location. The site was then ranked pursuant to the NMOCD Guidelines for the Remediation of Leaks, Spills and Releases. The site was ranked a 20 due to an estimated distance of less than 200 feet to Tapicito Creek. This set the closure standard to 100 ppm TPH, 10 ppm benzene and 50 ppm total BTEX, or 100 ppm organic vapors.

Describe Area Affected and Cleanup Action Taken.\*

\* Please see attached document for area affected and cleanup action required.

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.

		<b>OIL CONSERVATION DIVISION</b>	
Signature: <i>Logan Hixon</i>	Approved by District Supervisor: <i>Patrick Kelly</i>		
Printed Name: Logan Hixon	Approval Date: <i>1/29/2013</i>	Expiration Date:	
Title: Environmental Technician	Conditions of Approval:		
E-mail Address: Logan.Hixon@xtoenergy.com			Attached <input type="checkbox"/>
Date: <i>1-18-13</i>	Phone: 505-333-3202		

*nJK1302943057*

## **Affected Area and Cleanup Actions**

### **December 5, 2012**

Logan Hixon (XTO) was on-site to oversee the excavation of impacted soil and collect samples. The excavation reached an extent of 15'x 15'x 6', where a composite sample was taken of the bottom. The composite sample was screened in the field for organic vapor (OV) using a photo ionization detector (PID), and returned results above the organic vapor standard of 100 ppm determined for this site as outlined in the NMOCD Guidelines for the Remediation of Leaks, Spills and Releases. The excavation continued to an extent of 15'x 15' x 10' deep, where a composite sample was taken of the bottom, east wall, west wall, north wall, and south wall. The five composite samples were screened in the field for OV, and returned results above the OV standard of 100 ppm determined for this site for the bottom, east, west, and south wall, but under OV standard for the north wall. The samples from the bottom, east, south and west wall were sent in to the lab for TPH, benzene, and BTEX analysis via US EPA method 8015 and 8021 respectively. The composite sample from the north wall was sent in for TPH analysis via 8015 method. \*See attached field sheet.

### **December 7, 2012-**

Lab analysis of the bottom, east, south, and west walls returned results below the standards determined for this site for benzene and BTEX, but above the 100 ppm TPH standard determined for this site. The lab analysis for the north wall returned results below the TPH standards determined for this site. \*See attached sample results.

### **December 10, 2012-**

Logan Hixon (XTO) and Brent Beaty (XTO) were on-site to oversee the continued excavation of the impacted soil. The excavation reached an extent of 34'x 30' x 12', where a hard sandstone bottom was exposed. Composite samples were taken of the bottom, west, east, south walls of the excavation. OV sampling was completed on the four composite samples. The four composite samples returned results above the OV standard determined for this site. The composite samples were sent in to the lab for TPH, benzene, and BTEX analysis via US EPA method 8015 and 8021 respectively. \*See attached field sheet.

### **December 12, 2012-**

Lab analysis of the bottom and east wall returned results below the standards determined for this site for benzene, but above the standards determined for this site for BTEX and TPH. The south and west walls returned results below the benzene and BTEX standards determined for this site, but above the 100 ppm TPH standard. \*See attached sample results.

Logan Hixon (XTO) and Brent Beaty (XTO) were on-site to oversee the continued excavation of impacted soil. The excavation reached an extent of 36' x 36'x 12' deep. Composite samples were collected from the south and east walls. OV sampling was completed on two samples. The composite sample from the south wall returned results

above the OV standard determined for this site. The composite sample from the east wall returned results below the OV standard determined for this site. The composite sample from the south wall was sent in to the lab for TPH, benzene, and BTEX analysis via US EPA method 8015 and 8021 respectively. The composite sample from the east wall was sent in to the lab for TPH analysis via US EPA method 8015. Approximately 378 CY of soil was disposed of at the TNT land farm. \*See attached field sheet.

### **December 13, 2012-**

Lab analysis of the south wall returned results below the standards determined for this site for benzene, BTEX, but above the 100 ppm TPH standard. The east wall returned results below the regulatory standards for all constituents analyzed. \*See attached sample results.

Logan Hixon (XTO) and Scott Baxstrom (XTO) were onsite to oversee the continued excavation of impacted soil. The excavation reached an extent of 37' x 37' x 12' deep. Composite samples were collected from the bottom, south and west walls. OV sampling was completed on all three samples. The composite sample from the bottom returned results above the 100 ppm OV standard determined for this site. The composite sample from the bottom was sent in to the lab for TPH, benzene, and BTEX analysis via US EPA method 8015 and 8021 respectively. The composite sample from the west and south walls returned values under the 100 ppm OV standard determined for this site. The composite samples from the west and south walls were sent in to the lab for TPH analysis via US EPA method 8015. Approximately 480 CY of soil was disposed of at the TNT land farm. \*See attached field sheet.

### **December 14, 2012**

Lab Analysis from the west and south wall returned values below the 100 ppm TPH standard determined for this site. The sample results for the bottom returned values below the standards for benzene and BTEX, but over the standards for TPH determined for this site. \*See attached sample results

A Phone call was made from Logan Hixon (XTO) to Hobson Sandoval (Hobson Sandoval (Jicarilla Apache EPO) to request the closure of the excavation with values above the standards for the bottom of the excavation. Hobson Sandoval (Jicarilla Apache EPO) approved closure of excavation with values above the closure standards on bottom, but requested that XTO apply potassium permanganate to bottom of excavation to facilitate bioremediation. A phone call was made by Logan Hixon (XTO) to Brandon Powell (NMOCD) requesting closure of the excavation with values above the standards for the bottom of the excavation. Brandon Powell approved closure of excavation with values above the NMOCD standards on the bottom, but requested XTO apply potassium permanganate to the bottom of the excavation to facilitate bioremediation.

**January 4, 2013**

Logan Hixon (XTO) was on-site with Nelson Revegetation and Hobson Sandoval (Jicarilla Apache EPO) to apply potassium permanganate to the bottom of excavation as requested by Hobson Sandoval (Jicarilla Apache EPO) and Brandon Powell (NMOCD). Approximately 350 gallons of 5% solution of potassium permanganate was applied to the bottom of the excavation where sandstone was encountered. After the application verbal confirmation to begin backfilling the excavation was granted by Hobson Sandoval (Jicarilla Apache EPO). The site was backfilled with clean fill soil from an area that Hobson Sandoval (Jicarilla Apache EPO) had designated. Reclamation of the excavated area was completed and the site was reconfigured for continued operations. \*Field notes are attached for your viewing



### XTO Energy On-Site Form

Well Name Jicarilla Apache #14 API # 30-039-

Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_ County \_\_\_\_\_

Contractors On-Site TPC, XTO gang master Time On-Site 8:00A Time Off-Site 12:54

Spill Amount Historical bbls Spilled ( Oil/Produced W/Other \_\_\_\_\_ ) RCVRD \_\_\_\_\_

Land Use ( Range / Residential / Tribe Jicarilla ) Excavation \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ deep

**Sample Location**

**Sample Location**

**Site Diagram**

sent for analysis & to plan excavation to further extent.

**Comments**

**Number of Photos Taken**

#### Samples

Time	Sample #	Sample Description	Characteristics	OVM (ppm)	Analysis Requested
8:15	NA	100 Standard	NA	101	NA
8:30	1	0yr surface comp	sand	21.7	Correlation
9:17	2	6ft bottom	Sand odor	3082	NO Lab
11:55	3	6ft 10' bottom	Sand odor	1235	8015, 8021
12:00	4	6ft 10' E wall	Sand odor	835	8015, 8021
12:15	5	6ft 10' N wall	Sand	72.6	8015
12:20	6	6ft 10' W wall	Sand	753	8015, 8021
12:25	7	6ft 10' S wall	Sand	923	8015, 8021

Name (Print) Lagan Hixon

Date 12-5-12

Name (Signature) [Signature]

Company XTO



12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859  
Tax I.D. 62-0814289  
Est. 1970

James McDaniel  
XTO Energy - San Juan Division  
382 County Road 3100  
Aztec, NM 87410

### Report Summary

Friday December 07, 2012

Report Number: L609450

Samples Received: 12/06/12

Client Project:

Description: Jicarilla Apache #14

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

T. Alan Harvill , ESC Representative

#### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,  
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,  
NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002,  
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,  
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,  
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



**YOUR LAB OF CHOICE**

12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
 (615) 758-5858  
 1-800-767-5859  
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

December 07, 2012

James McDaniel  
 XTO Energy - San Juan Division  
 382 County Road 3100  
 Aztec, NM 87410

ESC Sample # : L609450-01  
 Site ID : JICARILLA APACH #14  
 Project # :

Date Received : December 06, 2012  
 Description : Jicarilla Apache #14  
 Sample ID : BGT 10FT BOTTOM  
 Collected By : Logan Hixon  
 Collection Date : 12/05/12 11:55

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	88.7	0.100	%	2540G	12/07/12	1
Benzene	BDL	0.028	mg/kg	8021/8015	12/06/12	50
Toluene	BDL	0.28	mg/kg	8021/8015	12/06/12	50
Ethylbenzene	0.22	0.028	mg/kg	8021/8015	12/06/12	50
Total Xylene	0.48	0.084	mg/kg	8021/8015	12/06/12	50
TPH (GC/FID) Low Fraction	76.	5.6	mg/kg	GRO	12/06/12	50
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	95.0		% Rec.	8021/8015	12/06/12	50
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021/8015	12/06/12	50
TPH (GC/FID) High Fraction	870	90.	mg/kg	3546/DRO	12/07/12	20
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DRO	12/07/12	20

Results listed are dry weight basis.  
 BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit (PQL)

Note:  
 This report shall not be reproduced, except in full, without the written approval from ESC.  
 The reported analytical results relate only to the sample submitted  
 Reported: 12/07/12 14:20 Printed: 12/07/12 15:07



**YOUR LAB OF CHOICE**

12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
 (615) 758-5858  
 1-800-767-5859  
 Fax (615) 758-5859  
 Tax I.D. 62-0814289  
 Est. 1970

REPORT OF ANALYSIS

December 07, 2012

James McDaniel  
 XTO Energy - San Juan Division  
 382 County Road 3100  
 Aztec, NM 87410

ESC Sample # : L609450-02  
 Site ID : JICARILLA APACH #14  
 Project # :

Date Received : December 06, 2012  
 Description : Jicarilla Apache #14  
 Sample ID : BGT 10FT EAST WALL  
 Collected By : Logan Hixon  
 Collection Date : 12/05/12 12:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	88.4	0.100	%	2540G	12/07/12	1
Benzene	BDL	0.0028	mg/kg	8021/8015	12/06/12	5
Toluene	BDL	0.028	mg/kg	8021/8015	12/06/12	5
Ethylbenzene	BDL	0.0028	mg/kg	8021/8015	12/06/12	5
Total Xylene	BDL	0.0085	mg/kg	8021/8015	12/06/12	5
TPH (GC/FID) Low Fraction	0.66	0.56	mg/kg	GRO	12/06/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	97.8		% Rec.	8021/8015	12/06/12	5
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021/8015	12/06/12	5
TPH (GC/FID) High Fraction	190	4.5	mg/kg	3546/DRO	12/07/12	1
Surrogate recovery(%)						
o-Terphenyl	77.1		% Rec.	3546/DRO	12/07/12	1

Results listed are dry weight basis.  
 BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
 Note:  
 This report shall not be reproduced, except in full, without the written approval from ESC.  
 The reported analytical results relate only to the sample submitted  
 Reported: 12/07/12 14:20 Printed: 12/07/12 15:07



**YOUR LAB OF CHOICE**

12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
 (615) 758-5858  
 1-800-767-5859  
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

December 07, 2012

James McDaniel  
 XTO Energy - San Juan Division  
 382 County Road 3100  
 Aztec, NM 87410

ESC Sample # : L609450-03

Date Received : December 06, 2012  
 Description : Jicarilla Apache #14

Site ID : JICARILLA APACH #14

Sample ID : BGT 10FT NORTH WALL

Project # :

Collected By : Logan Hixon  
 Collection Date : 12/05/12 12:15

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	87.1	0.100	%	2540G	12/07/12	1
Benzene	BDL	0.0029	mg/kg	8021/8015	12/06/12	5
Toluene	BDL	0.029	mg/kg	8021/8015	12/06/12	5
Ethylbenzene	BDL	0.0029	mg/kg	8021/8015	12/06/12	5
Total Xylene	BDL	0.0086	mg/kg	8021/8015	12/06/12	5
TPH (GC/FID) Low Fraction	BDL	0.57	mg/kg	GRO	12/06/12	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene (FID)	98.2		% Rec.	8021/8015	12/06/12	5
a,a,a-Trifluorotoluene (PID)	102.		% Rec.	8021/8015	12/06/12	5
TPH (GC/FID) High Fraction	BDL	4.6	mg/kg	3546/DRO	12/07/12	1
Surrogate recovery(%)						
o-Terphenyl	67.4		% Rec.	3546/DRO	12/07/12	1

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

This report shall not be reproduced, except in full, without the written approval from ESC.

The reported analytical results relate only to the sample submitted

Reported: 12/07/12 14:20 Printed: 12/07/12 15:07



**YOUR LAB OF CHOICE**

12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
 (615) 758-5858  
 1-800-767-5859  
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

December 07, 2012

James McDaniel  
 XTO Energy - San Juan Division  
 382 County Road 3100  
 Aztec, NM 87410

ESC Sample # : L609450-04

Date Received : December 06, 2012  
 Description : Jicarilla Apache #14

Site ID : JICARILLA APACH #14

Sample ID : BGT 10FT WEST WALL

Project # :

Collected By : Logan Hixon  
 Collection Date : 12/05/12 12:20

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	89.8	0.100	%	2540G	12/07/12	1
Benzene	0.044	0.028	mg/kg	8021/8015	12/06/12	50
Toluene	BDL	0.28	mg/kg	8021/8015	12/06/12	50
Ethylbenzene	BDL	0.028	mg/kg	8021/8015	12/06/12	50
Total Xylene	0.19	0.084	mg/kg	8021/8015	12/06/12	50
TPH (GC/FID) Low Fraction	20.	5.6	mg/kg	GRO	12/06/12	50
Surrogate Recovery-%						
a,a,a-Trifluorotoluene (FID)	93.9		% Rec.	8021/8015	12/06/12	50
a,a,a-Trifluorotoluene (PID)	100.		% Rec.	8021/8015	12/06/12	50
TPH (GC/FID) High Fraction	2900	220	mg/kg	3546/DRO	12/07/12	50
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DRO	12/07/12	50

Results listed are dry weight basis.  
 BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
 Note:  
 This report shall not be reproduced, except in full, without the written approval from ESC.  
 The reported analytical results relate only to the sample submitted  
 Reported: 12/07/12 14:20 Printed: 12/07/12 15:07



12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
 (615) 758-5858  
 1-800-767-5859  
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

December 07, 2012

James McDaniel  
 XTO Energy - San Juan Division  
 382 County Road 3100  
 Aztec, NM 87410

Date Received : December 06, 2012  
 Description : Jicarilla Apache #14  
 Sample ID : BGT 10FT SOUTH WALL  
 Collected By : Logan Hixon  
 Collection Date : 12/05/12 12:25

ESC Sample # : L609450-05

Site ID : JICARILLA APACH #14

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	88.0	0.100	%	2540G	12/07/12	1
Benzene	BDL	0.28	mg/kg	8021/8015	12/06/12	500
Toluene	BDL	2.8	mg/kg	8021/8015	12/06/12	500
Ethylbenzene	2.8	0.28	mg/kg	8021/8015	12/06/12	500
Total Xylene	16.	0.85	mg/kg	8021/8015	12/06/12	500
TPH (GC/FID) Low Fraction	810	57.	mg/kg	GRO	12/06/12	500
Surrogate Recovery-%						
a, a, a-Trifluorotoluene (FID)	97.9		% Rec.	8021/8015	12/06/12	500
a, a, a-Trifluorotoluene (PID)	102.		% Rec.	8021/8015	12/06/12	500
TPH (GC/FID) High Fraction	5300	230	mg/kg	3546/DRO	12/07/12	50
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DRO	12/07/12	50

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

This report shall not be reproduced, except in full, without the written approval from ESC.

The reported analytical results relate only to the sample submitted

Reported: 12/07/12 14:20 Printed: 12/07/12 15:07

Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L609450-01	WG626600	SAMP	o-Terphenyl	R2468658	J7
L609450-04	WG626600	SAMP	o-Terphenyl	R2468658	J7
L609450-05	WG626600	SAMP	o-Terphenyl	R2468658	J7

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



**YOUR LAB OF CHOICE**

XTO Energy - San Juan Division  
James McDaniel  
382 County Road 3100

Aztec, NM 87410

Quality Assurance Report  
Level II

L609450

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

December 07, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .0005	mg/kg			WG626236	12/06/12 13:48
Ethylbenzene	< .0005	mg/kg			WG626236	12/06/12 13:48
Toluene	< .005	mg/kg			WG626236	12/06/12 13:48
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG626236	12/06/12 13:48
Total Xylene	< .0015	mg/kg			WG626236	12/06/12 13:48
a,a,a-Trifluorotoluene (FID)		% Rec.	97.50	59-128	WG626236	12/06/12 13:48
a,a,a-Trifluorotoluene (PID)		% Rec.	101.2	54-144	WG626236	12/06/12 13:48
Total Solids	< .1	%			WG626532	12/07/12 09:46
TPH (GC/FID) High Fraction	< 4	mg/kg			WG626600	12/07/12 10:40
o-Terphenyl		% Rec.	59.80	50-150	WG626600	12/07/12 10:40

Analyte	Units	Result	Duplicate		Limit	Ref Samp	Batch
			Duplicate	RPD			
Total Solids	%	88.0	88.0	0.0221	5	L609450-05	WG626532

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/kg	.05	0.0457	91.3	76-113	WG626236
Ethylbenzene	mg/kg	.05	0.0488	97.6	78-115	WG626236
Toluene	mg/kg	.05	0.0477	95.4	76-114	WG626236
Total Xylene	mg/kg	.15	0.144	96.3	81-118	WG626236
a,a,a-Trifluorotoluene (PID)				98.55	54-144	WG626236
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.04	91.6	67-135	WG626236
a,a,a-Trifluorotoluene (FID)				94.28	59-128	WG626236
Total Solids	%	50	50.0	99.9	85-115	WG626532
TPH (GC/FID) High Fraction	mg/kg	60	42.9	71.5	50-150	WG626600
o-Terphenyl				63.70	50-150	WG626600

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Benzene	mg/kg	0.0467	0.0457	93.0	76-113	2.24	20	WG626236
Ethylbenzene	mg/kg	0.0486	0.0488	97.0	78-115	0.370	20	WG626236
Toluene	mg/kg	0.0476	0.0477	95.0	76-114	0.120	20	WG626236
Total Xylene	mg/kg	0.143	0.144	96.0	81-118	0.750	20	WG626236
a,a,a-Trifluorotoluene (PID)				98.70	54-144			WG626236
TPH (GC/FID) Low Fraction	mg/kg	4.75	5.04	86.0	67-135	5.85	20	WG626236
a,a,a-Trifluorotoluene (FID)				93.05	59-128			WG626236
TPH (GC/FID) High Fraction	mg/kg	43.9	42.9	73.0	50-150	2.17	20	WG626600
o-Terphenyl				66.80	50-150			WG626600

Analyte	Units	MS Res	Matrix Spike			% Rec	Limit	Ref Samp	Batch
			Ref Res	TV					
Benzene	mg/kg	0.216	0	.05	86.5	32-137	L609054-11	WG626236	
Ethylbenzene	mg/kg	0.175	0	.05	70.0	10-150	L609054-11	WG626236	
Toluene	mg/kg	0.207	0	.05	82.9	20-142	L609054-11	WG626236	

\* Performance of this Analyte is outside of established criteria.  
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
 (615) 758-5858  
 1-800-767-5859  
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

**YOUR LAB OF CHOICE**

XTO Energy - San Juan Division  
 James McDaniel  
 382 County Road 3100

Quality Assurance Report  
 Level II

Aztec, NM 87410

L609450

December 07, 2012

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Total Xylene	mg/kg	0.528	0	.15	70.3	16-141	L609054-11	WG626236
a,a,a-Trifluorotoluene(PID)					98.31	54-144		WG626236
TPH (GC/FID) Low Fraction	mg/kg	19.6	0	5.5	71.3	55-109	L609054-11	WG626236
a,a,a-Trifluorotoluene(FID)					92.05	59-128		WG626236

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Benzene	mg/kg	0.233	0.216	93.2	32-137	7.41	39	L609054-11	WG626236
Ethylbenzene	mg/kg	0.218	0.175	87.0	10-150	21.7	44	L609054-11	WG626236
Toluene	mg/kg	0.229	0.207	91.7	20-142	10.1	42	L609054-11	WG626236
Total Xylene	mg/kg	0.645	0.528	86.0	16-141	20.0	46	L609054-11	WG626236
a,a,a-Trifluorotoluene(PID)				98.98	54-144				WG626236
TPH (GC/FID) Low Fraction	mg/kg	19.2	19.6	69.7	55-109	2.18	20	L609054-11	WG626236
a,a,a-Trifluorotoluene(FID)				91.79	59-128				WG626236

Batch number /Run number / Sample number cross reference

WG626236: R2467799: L609450-01 02 03 04 05  
 WG626532: R2468217: L609450-01 02 03 04 05  
 WG626600: R2468658: L609450-01 02 03 04 05

\* \* Calculations are performed prior to rounding of reported values.  
 \* Performance of this Analyte is outside of established criteria.  
 For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



**YOUR LAB OF CHOICE**

XTO Energy - San Juan Division  
James McDaniel  
382 County Road 3100

Aztec, NM 87410

Quality Assurance Report  
Level II

L609450

12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
(615) 758-5858  
1-800-767-5859  
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

December 07, 2012

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Company Name/Address: <b>XTO Energy - San Juan Division</b>  382 County Road 3100 Aztec, NM 87410		Billing Information:  XTO Energy Inc Accounts Payable PO Box 6501  Englewood, CO 80155		Analysis/Container/Preservative				Chain of Custody A112 Page ___ of ___			
Report to: James McDaniel Legan Hixon		Email to: James_McDaniel@xtoenergy.com Legan_Hixon@xtoenergy.com		DRO/GRO(8015) / 1-4oz / COC BTEX(8001) / 1-4oz / COC				 <b>ESC</b> L.A.B S.C.I.E.N.C.E.S 12065 Lebanon Road Mt. Juliet, TN 37122 Phone: (800) 767-5859 Phone: (615) 758-5858 Fax: (615) 758-5859			
Project Description: Jicarilla Apache #14		City/State Collected: Rio Arriba, CO									
Phone: (505) 333-3100		Client Project #:		ESC Key:		CoCode: XTORNM (lab use only) Template/Prelogin Shipped Via:					
FAX:		Site/Facility ID#: Jicarilla Apache #14		P.O.#:							
Collected by (print): Legan Hixon		Rush? (Lab MUST Be Notified)		Date Results Needed:		No. of Cntrs Email? ___ No ___ Yes FAX? ___ No ___ Yes					
Collected by (signature): [Signature]		<input checked="" type="checkbox"/> Same Day ..... 200% <input checked="" type="checkbox"/> Next Day ..... 100% <input type="checkbox"/> Two Day ..... 50% <input type="checkbox"/> Three Day ..... 25%		<input checked="" type="checkbox"/> Immediately Packed on Ice N ___ <input checked="" type="checkbox"/>							
Sample ID		Comp/Grab	Matrix*	Depth	Date	Time	Remarks/Contaminant				Sample # (lab only)
BGT 10' Bottom		Comp	SS	10'	12/5/12	11:55	X X				L 6094/50 .01
BGT 10' East Wall		Comp	SS	-	↓	12:00	X X				.02
BGT 10' North Wall		↓	↓	-	↓	12:15	X X				.03
BGT 10' West Wall		↓	↓	-	↓	12:20	X X				.04
BGT 10' South Wall		↓	↓	-	↓	12:25	X X				.05

\*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other \_\_\_\_\_ pH \_\_\_\_\_ Temp \_\_\_\_\_

Remarks: \_\_\_\_\_ Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature) [Signature]		Date: 12/5/12	Time: 15:30	Received by: (Signature) [Signature]		Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____		Condition: JF (lab use only)	
Relinquished by: (Signature) [Signature]		Date:	Time:	Received by: (Signature) [Signature]		Temp: 3.4	Bottles Received: 5-4oz	CoC Seals Intact <input checked="" type="checkbox"/> N ___ NA	
Relinquished by: (Signature) [Signature]		Date:	Time:	Received for lab by: (Signature) [Signature]		Date: 12/6/12	Time: 09:00	pH Checked:	NCF:



# XTO Energy On-Site Form

Well Name Ticarilla Apache #14 API # \_\_\_\_\_

Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_ County Palo Verde

Contractors On-Site Core & TPC + Xtocore Time On-Site 12:00 Time Off-Site 15:44

Spill Amount \_\_\_\_\_ bbls Spilled (Oil/Produced W/Other \_\_\_\_\_) RCVRD \_\_\_\_\_

Land Use (Range / Residential / ~~Tribe~~ Ticarilla) Excavation 15' x 15' x 10' deep  
Ent 30x34 x 12'

<p style="text-align: center;">12' deep</p>	<p style="text-align: center;">Sample Location</p>
<p style="text-align: center;">Sample Location</p>	<p style="text-align: center;">Number of Photos Taken</p>
<p>Comments</p>	<p>Number of Photos Taken</p>

### Samples

Time	Sample #	Sample Description	Characteristics	OVM (ppm)	Analysis Requested
12:15	NA	100 Standard	NA	101	NA
13:15	1	W. Wall 12'	Sand stone clay	700	8015, 8021
13:20	2	S. Wall 12'	Sand stone clay	1300	8015, 8021
15:00	3	E. Wall 12'	Sand, clay, odor	2345	8015, 8021
15:20	4	Bottom 12'	Sand, clay odor sandstone barrier	2908	8015, 8021

Name (Print) Logan Hixon

Date 12-10-12

Name (Signature) [Signature]

Company XTO



*Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)*

December 13, 2012

Logan Hixon  
XTO Energy  
382 County Road 3100  
Aztec, NM 87410  
TEL: (505) 386-8018  
FAX (505) 333-3280

RE: Jicarilla Apache #14

OrderNo.: 1212432

Dear Logan Hixon:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/11/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: XTO Energy

Client Sample ID: East Wall @ 12'

Project: Jicarilla Apache #14

Collection Date: 12/10/2012 1:00:00 PM

Lab ID: 1212432-001

Matrix: MEOH (SOIL)

Received Date: 12/11/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: <b>MMD</b>
Diesel Range Organics (DRO)	3900	200		mg/Kg	20	12/11/2012 3:15:43 PM
Surr: DNOP	0	72.4-120	S	%REC	20	12/11/2012 3:15:43 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	2600	250		mg/Kg	50	12/11/2012 4:05:30 PM
Surr: BFB	273	84-116	S	%REC	50	12/11/2012 4:05:30 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	0.70	0.25		mg/Kg	5	12/11/2012 12:15:20 PM
Toluene	16	0.25		mg/Kg	5	12/11/2012 12:15:20 PM
Ethylbenzene	11	0.25		mg/Kg	5	12/11/2012 12:15:20 PM
Xylenes, Total	130	5.0		mg/Kg	50	12/11/2012 4:05:30 PM
Surr: 4-Bromofluorobenzene	109	80-120		%REC	50	12/11/2012 4:05:30 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: XTO Energy

Client Sample ID: West Wall @ 12'

Project: Jicarilla Apache #14

Collection Date: 12/10/2012 1:15:00 PM

Lab ID: 1212432-002

Matrix: MEOH (SOIL)

Received Date: 12/11/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: <b>MMD</b>
Diesel Range Organics (DRO)	1100	100		mg/Kg	10	12/11/2012 3:39:22 PM
Surr: DNOP	0	72.4-120	S	%REC	10	12/11/2012 3:39:22 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	110	25		mg/Kg	5	12/11/2012 3:36:46 PM
Surr: BFB	200	84-116	S	%REC	5	12/11/2012 3:36:46 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.12		mg/Kg	5	12/11/2012 3:36:46 PM
Toluene	ND	0.25		mg/Kg	5	12/11/2012 3:36:46 PM
Ethylbenzene	ND	0.25		mg/Kg	5	12/11/2012 3:36:46 PM
Xylenes, Total	1.1	0.50		mg/Kg	5	12/11/2012 3:36:46 PM
Surr: 4-Bromofluorobenzene	102	80-120		%REC	5	12/11/2012 3:36:46 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: XTO Energy

Client Sample ID: South Wall

Project: Jicarilla Apache #14

Collection Date: 12/10/2012 1:20:00 PM

Lab ID: 1212432-003

Matrix: MEOH (SOIL)

Received Date: 12/11/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: <b>MMD</b>
Diesel Range Organics (DRO)	750	100		mg/Kg	10	12/11/2012 2:32:07 PM
Surr: DNOP	0	72.4-120	S	%REC	10	12/11/2012 2:32:07 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	310	25		mg/Kg	5	12/11/2012 1:12:49 PM
Surr: BFB	451	84-116	S	%REC	5	12/11/2012 1:12:49 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.12		mg/Kg	5	12/11/2012 1:12:49 PM
Toluene	ND	0.25		mg/Kg	5	12/11/2012 1:12:49 PM
Ethylbenzene	ND	0.25		mg/Kg	5	12/11/2012 1:12:49 PM
Xylenes, Total	5.9	0.50		mg/Kg	5	12/11/2012 1:12:49 PM
Surr: 4-Bromofluorobenzene	121	80-120	S	%REC	5	12/11/2012 1:12:49 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** XTO Energy**Client Sample ID:** Bottom @ 12'**Project:** Jicarilla Apache #14**Collection Date:** 12/10/2012 1:20:00 PM**Lab ID:** 1212432-004**Matrix:** MEOH (SOIL)**Received Date:** 12/11/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: <b>MMD</b>
Diesel Range Organics (DRO)	2900	100		mg/Kg	10	12/11/2012 2:53:51 PM
Surr: DNOP	0	72.4-120	S	%REC	10	12/11/2012 2:53:51 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	1700	25		mg/Kg	5	12/11/2012 2:10:27 PM
Surr: BFB	1360	84-116	S	%REC	5	12/11/2012 2:10:27 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	0.20	0.12		mg/Kg	5	12/11/2012 2:10:27 PM
Toluene	7.8	0.25		mg/Kg	5	12/11/2012 2:10:27 PM
Ethylbenzene	7.0	0.25		mg/Kg	5	12/11/2012 2:10:27 PM
Xylenes, Total	51	5.0		mg/Kg	50	12/11/2012 4:34:12 PM
Surr: 4-Bromofluorobenzene	101	80-120		%REC	50	12/11/2012 4:34:12 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1212432

13-Dec-12

**Client:** XTO Energy  
**Project:** Jicarilla Apache #14

Sample ID	<b>MB-5212</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015B: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>5212</b>	RunNo:	<b>7421</b>					
Prep Date:	<b>12/11/2012</b>	Analysis Date:	<b>12/11/2012</b>	SeqNo:	<b>215171</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.9		10.00		99.2	72.4	120			

Sample ID	<b>LCS-5212</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015B: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>5212</b>	RunNo:	<b>7421</b>					
Prep Date:	<b>12/11/2012</b>	Analysis Date:	<b>12/11/2012</b>	SeqNo:	<b>215172</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.4	47.4	122			
Surr: DNOP	4.1		5.000		81.1	72.4	120			

### Qualifiers:

- |  |  |
|--|--|
| * Value exceeds Maximum Contaminant Level.   | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range             | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit               |
| P Sample pH greater than 2                   | R RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212432

13-Dec-12

Client: XTO Energy  
Project: Jicarilla Apache #14

Sample ID	<b>MB-5186</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015B: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R7427</b>	RunNo:	<b>7427</b>					
Prep Date:	<b>12/10/2012</b>	Analysis Date:	<b>12/11/2012</b>	SeqNo:	<b>215515</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.1	84	116			

Sample ID	<b>LCS-5186</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015B: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R7427</b>	RunNo:	<b>7427</b>					
Prep Date:	<b>12/10/2012</b>	Analysis Date:	<b>12/11/2012</b>	SeqNo:	<b>215516</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.3	74	117			
Surr: BFB	950		1000		94.8	84	116			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1212432

13-Dec-12

**Client:** XTO Energy  
**Project:** Jicarilla Apache #14

Sample ID	<b>MB-5186</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R7427</b>	RunNo:	<b>7427</b>					
Prep Date:	<b>12/10/2012</b>	Analysis Date:	<b>12/11/2012</b>	SeqNo:	<b>215544</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		97.8	80	120			

Sample ID	<b>LCS-5186</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R7427</b>	RunNo:	<b>7427</b>					
Prep Date:	<b>12/10/2012</b>	Analysis Date:	<b>12/11/2012</b>	SeqNo:	<b>215545</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.050	1.000	0	96.6	76.3	117			
Toluene	0.96	0.050	1.000	0	96.4	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.6	77	116			
Xylenes, Total	2.9	0.10	3.000	0	97.9	76.7	117			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# Chain-of-Custody Record

Client: XTO

Mailing Address:

Phone #: 505 386 8018

email or Fax#: Logan - Hixon @xtocorp.com

QA/QC Package:  
 Standard       Level 4 (Full Validation)

Accreditation  
 NELAP       Other \_\_\_\_\_

EDD (Type) \_\_\_\_\_

Turn-Around Time:

Standard       Rush Same Day

Project Name:

Jicarilla Apache #14

Project #:

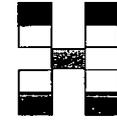
Project Manager:

Logan Hixon

Sampler: L. Hixon

On Ice:  Yes       No

Sample Temperature: 7.7



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975      Fax 505-345-4107

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)	
12/10/12	1300	Soil	East Wall @ 12'	1) 4oz jar	Cool	-001	X	X											
12/10/12	1315	soil	West Wall @ 12'	I	Cool	-002	X	X											
12/10/12	1320	Soil	South Wall	I	Cool	-003	X	X											
12/10/12	1320	soil	Bottom @ 12'	I	Cool	-004	X	X											

Date: 12-10-12 Time: 13:20 Relinquished by: Logan Hixon

Received by: Christal Waele Date: 12/10/12 Time: 1320

Remarks:

Date: 12/11/12 Time: 1647 Relinquished by: Christal Waele

Received by: [Signature] Date: 12/11/12 Time: 1000

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



# XTO Energy On-Site Form

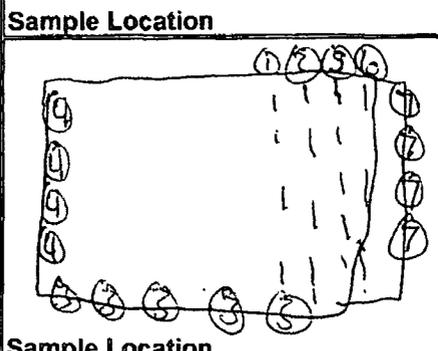
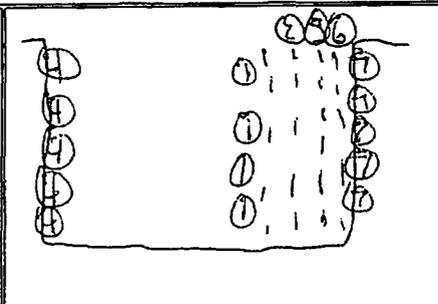
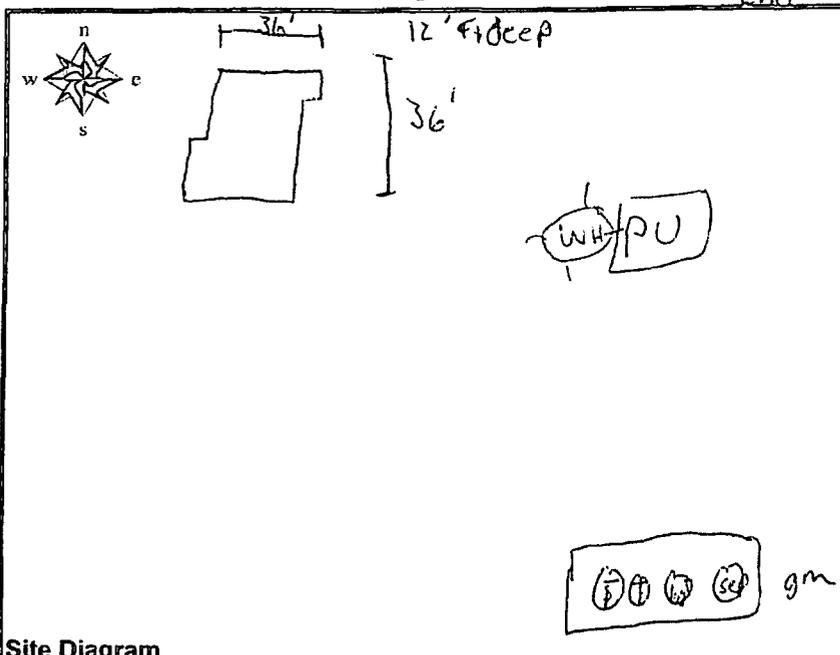
Well Name Ticuarilla Apache #14 API # \_\_\_\_\_

Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_ County Rio Arriba

Contractors On-Site Cole, TPC, Roberts, Enviro Time On-Site 8:30 Time Off-Site 15:30  
ECL

Spill Amount \_\_\_\_\_ bbls Spilled (Oil/Produced W/Other) RCVRD \_\_\_\_\_

Land Use ( Range / Residential / Tribe Ticuarilla ) Excavation 30 x 34 x 12 deep  
Begin End



Site Diagram

Sample Location

Sample Location

Comments

Number of Photos Taken

## Samples

Time	Sample #	Sample Description	Characteristics	OVM (ppm)	Analysis Requested
8:45	NA	100 Standard	NA	100	NA
11:10	1	E. wall 12'	Sam odor black	3279	
12:40	2	E. wall 12'	Sam odor	3579	
12:45	3	S. wall 12'	Sam odor	107	8015, 8021
13:40	4	W. wall 12'	Sam clay	287	
13:45	5	E. wall 12'	Sam clay	1927	
14:10	6	E. wall 12'	Sam clay	504	
15:00	7	E. wall 12'	Sam clay	92.7	8015, <del>8021</del>

Name (Print) Logan Hixon Date 12-12-17

Name (Signature) Logan Hixon Company XTO



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

December 18, 2012

Logan Hixon  
XTO Energy  
382 County Road 3100  
Aztec, NM 87410  
TEL: (505) 386-8018  
FAX (505) 333-3280

RE: Jicarilla Apache #14

OrderNo.: 1212553

Dear Logan Hixon:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/13/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: XTO Energy

Client Sample ID: S. Wall 12'

Project: Jicarilla Apache #14

Collection Date: 12/12/2012 12:40:00 PM

Lab ID: 1212553-001

Matrix: MEOH (SOIL)

Received Date: 12/13/2012 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: <b>MMD</b>
Diesel Range Organics (DRO)	260	10		mg/Kg	1	12/13/2012 12:34:07 PM
Surr: DNOP	97.1	72.4-120		%REC	1	12/13/2012 12:34:07 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/13/2012 1:33:20 PM
Surr: BFB	96.2	84-116		%REC	1	12/13/2012 1:33:20 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	12/13/2012 1:33:20 PM
Toluene	ND	0.050		mg/Kg	1	12/13/2012 1:33:20 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/13/2012 1:33:20 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/13/2012 1:33:20 PM
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	12/13/2012 1:33:20 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** XTO Energy**Client Sample ID:** E. Wall 12'**Project:** Jicarilla Apache #14**Collection Date:** 12/12/2012 3:00:00 PM**Lab ID:** 1212553-002**Matrix:** MEOH (SOIL)**Received Date:** 12/13/2012 9:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: <b>MMD</b>
Diesel Range Organics (DRO)	34	10		mg/Kg	1	12/13/2012 12:55:56 PM
Surr: DNOP	98.0	72.4-120		%REC	1	12/13/2012 12:55:56 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/13/2012 2:02:13 PM
Surr: BFB	98.2	84-116		%REC	1	12/13/2012 2:02:13 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	12/13/2012 2:02:13 PM
Toluene	ND	0.050		mg/Kg	1	12/13/2012 2:02:13 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/13/2012 2:02:13 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/13/2012 2:02:13 PM
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	12/13/2012 2:02:13 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**QC SUMMARY REPORT**  
**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1212553  
 18-Dec-12

**Client:** XTO Energy  
**Project:** Jicarilla Apache #14

Sample ID	<b>1212489-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015B: Diesel Range Organics</b>					
Client ID:	<b>BatchQC</b>	Batch ID:	<b>5258</b>	RunNo:	<b>7502</b>					
Prep Date:	<b>12/13/2012</b>	Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>217610</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	9.9	49.50	0	71.7	12.6	148			
Surr: DNOP	4.0		4.950		80.6	72.4	120			

Sample ID	<b>1212489-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015B: Diesel Range Organics</b>					
Client ID:	<b>BatchQC</b>	Batch ID:	<b>5258</b>	RunNo:	<b>7502</b>					
Prep Date:	<b>12/13/2012</b>	Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>217611</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38	9.9	49.60	0	75.7	12.6	148	5.55	22.5	
Surr: DNOP	4.4		4.960		88.3	72.4	120	0	0	

Sample ID	<b>MB-5275</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015B: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>5275</b>	RunNo:	<b>7502</b>					
Prep Date:	<b>12/14/2012</b>	Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>217763</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.7		10.00		97.1	72.4	120			

Sample ID	<b>LCS-5275</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015B: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>5275</b>	RunNo:	<b>7502</b>					
Prep Date:	<b>12/14/2012</b>	Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>217764</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		85.1	72.4	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits





# XTO Energy On-Site Form

Well Name Jicarilla Apache #14 API # \_\_\_\_\_

Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_ County \_\_\_\_\_

Contractors On-Site Cole, TPC, XTO, S&P Time On-Site 13:00 Time Off-Site \_\_\_\_\_

Spill Amount \_\_\_\_\_ bbls Spilled ( Oil/Produced W/Other ) RCVRD \_\_\_\_\_

Land Use ( Range / Residential / (Tribe) Jicarilla ) Excavation <sup>begin</sup> 36 x 36 x 12 deep  
37' x 37' x 12'

**Site Diagram**

**Sample Location**

Approx 480 cy hauled - 18 cy = removed approx 200 cy

**Comments**

**Number of Photos Taken**

## Samples

Time	Sample #	Sample Description	Characteristics	OVM (ppm)	Analysis Requested
13:16	NA	100 Standard	NA	100	NA
15:20	1	W. Wall 12'	Sand	1.1	S&S
15:40	2	Bottom 12'	Sand Stone	19.5	BOIS 8021
16:00	3	S. Wall 12'	Sand	29.3	S&S

Name (Print) Legan Huan

Date 12-13-12

Name (Signature) [Signature]

Company XTO



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

December 19, 2012

Logan Hixon  
XTO Energy  
382 County Road 3100  
Aztec, NM 87410  
TEL: (505) 386-8018  
FAX (505) 333-3280

RE: Jicarilla Apache #14

OrderNo.: 1212657

Dear Logan Hixon:

Hall Environmental Analysis Laboratory received 3 sample(s) on 12/14/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a thin horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** XTO Energy

**Client Sample ID:** W Wall 12'

**Project:** Jicarilla Apache #14

**Collection Date:** 12/13/2012 1:20:00 PM

**Lab ID:** 1212657-001

**Matrix:** MEOH (SOIL)

**Received Date:** 12/14/2012 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: <b>MMD</b>
Diesel Range Organics (DRO)	93	9.8		mg/Kg	1	12/14/2012 11:39:20 AM
Surr: DNOP	105	72.4-120		%REC	1	12/14/2012 11:39:20 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/14/2012 12:30:43 PM
Surr: BFB	91.1	84-116		%REC	1	12/14/2012 12:30:43 PM

**Qualifiers:**

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** XTO Energy**Client Sample ID:** S Wall 12'**Project:** Jicarilla Apache #14**Collection Date:** 12/13/2012 4:00:00 PM**Lab ID:** 1212657-002**Matrix:** MEOH (SOIL)**Received Date:** 12/14/2012 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: <b>MMD</b>
Diesel Range Organics (DRO)	26	9.7		mg/Kg	1	12/14/2012 12:01:03 PM
Surr: DNOP	100	72.4-120		%REC	1	12/14/2012 12:01:03 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/14/2012 12:59:29 PM
Surr: BFB	94.0	84-116		%REC	1	12/14/2012 12:59:29 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: XTO Energy

Client Sample ID: Bottom 12'

Project: Jicarilla Apache #14

Collection Date: 12/13/2012 3:40:00 PM

Lab ID: 1212657-003

Matrix: MEOH (SOIL)

Received Date: 12/14/2012 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: <b>MMD</b>
Diesel Range Organics (DRO)	480	10		mg/Kg	1	12/14/2012 12:22:44 PM
Surr: DNOP	112	72.4-120		%REC	1	12/14/2012 12:22:44 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	28	25		mg/Kg	5	12/14/2012 1:28:11 PM
Surr: BFB	125	84-116	S	%REC	5	12/14/2012 1:28:11 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.12		mg/Kg	5	12/14/2012 1:28:11 PM
Toluene	ND	0.25		mg/Kg	5	12/14/2012 1:28:11 PM
Ethylbenzene	ND	0.25		mg/Kg	5	12/14/2012 1:28:11 PM
Xylenes, Total	ND	0.50		mg/Kg	5	12/14/2012 1:28:11 PM
Surr: 4-Bromofluorobenzene	101	80-120		%REC	5	12/14/2012 1:28:11 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1212657

19-Dec-12

**Client:** XTO Energy  
**Project:** Jicarilla Apache #14

Sample ID	<b>MB-5275</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015B: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>5275</b>	RunNo:	<b>7502</b>					
Prep Date:	<b>12/14/2012</b>	Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>217763</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.7		10.00		97.1	72.4	120			

Sample ID	<b>LCS-5275</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015B: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>5275</b>	RunNo:	<b>7502</b>					
Prep Date:	<b>12/14/2012</b>	Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>217764</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	81.5	47.4	122			
Surr: DNOP	4.3		5.000		85.1	72.4	120			

Sample ID	<b>1212594-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015B: Diesel Range Organics</b>					
Client ID:	<b>BatchQC</b>	Batch ID:	<b>5275</b>	RunNo:	<b>7516</b>					
Prep Date:	<b>12/14/2012</b>	Analysis Date:	<b>12/17/2012</b>	SeqNo:	<b>218072</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	49.85	0	82.6	12.6	148			
Surr: DNOP	3.7		4.985		74.4	72.4	120			

Sample ID	<b>1212594-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015B: Diesel Range Organics</b>					
Client ID:	<b>BatchQC</b>	Batch ID:	<b>5275</b>	RunNo:	<b>7516</b>					
Prep Date:	<b>12/14/2012</b>	Analysis Date:	<b>12/17/2012</b>	SeqNo:	<b>218073</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.8	49.07	0	85.3	12.6	148	1.67	22.5	
Surr: DNOP	3.8		4.907		77.0	72.4	120	0	0	

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212657

19-Dec-12

Client: XTO Energy  
Project: Jicarilla Apache #14

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015B: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R7507</b>	RunNo:	<b>7507</b>					
Prep Date:		Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>218193</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		90.9	84	116			

Sample ID	<b>2.5UG GRO LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015B: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R7507</b>	RunNo:	<b>7507</b>					
Prep Date:		Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>218194</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	74	117			
Surr: BFB	990		1000		99.4	84	116			

Sample ID	<b>1212657-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015B: Gasoline Range</b>					
Client ID:	<b>W Wall 12'</b>	Batch ID:	<b>R7507</b>	RunNo:	<b>7507</b>					
Prep Date:		Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>218196</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	23.80	0	107	70	130			
Surr: BFB	960		951.8		101	84	116			

Sample ID	<b>1212657-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015B: Gasoline Range</b>					
Client ID:	<b>W Wall 12'</b>	Batch ID:	<b>R7507</b>	RunNo:	<b>7507</b>					
Prep Date:		Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>218197</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	23.80	0	111	70	130	3.56	22.1	
Surr: BFB	960		951.8		100	84	116	0	0	

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1212657

19-Dec-12

**Client:** XTO Energy  
**Project:** Jicarilla Apache #14

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R7507</b>	RunNo:	<b>7507</b>					
Prep Date:		Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>218215</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		97.8	80	120			

Sample ID	<b>100NG BTEX LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R7507</b>	RunNo:	<b>7507</b>					
Prep Date:		Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>218216</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.050	1.000	0	97.0	76.3	117			
Toluene	0.98	0.050	1.000	0	98.4	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.6	77	116			
Xylenes, Total	3.0	0.10	3.000	0	99.2	76.7	117			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID	<b>1212657-003AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>Bottom 12'</b>	Batch ID:	<b>R7507</b>	RunNo:	<b>7507</b>					
Prep Date:		Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>218218</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.9	0.25	4.895	0	100	67.2	113			
Toluene	5.1	0.25	4.895	0	104	62.1	116			
Ethylbenzene	5.2	0.25	4.895	0.05894	105	67.9	127			
Xylenes, Total	16	0.50	14.69	0.4860	108	60.6	134			
Surr: 4-Bromofluorobenzene	5.2		4.895		107	80	120			

Sample ID	<b>1212657-003AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>Bottom 12'</b>	Batch ID:	<b>R7507</b>	RunNo:	<b>7507</b>					
Prep Date:		Analysis Date:	<b>12/14/2012</b>	SeqNo:	<b>218219</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.6	0.25	4.895	0	94.2	67.2	113	6.12	14.3	
Toluene	4.9	0.25	4.895	0	99.4	62.1	116	4.07	15.9	
Ethylbenzene	5.1	0.25	4.895	0.05894	102	67.9	127	3.02	14.4	
Xylenes, Total	16	0.50	14.69	0.4860	103	60.6	134	4.61	12.6	
Surr: 4-Bromofluorobenzene	5.1		4.895		104	80	120	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits





# XTO Energy On-Site Form

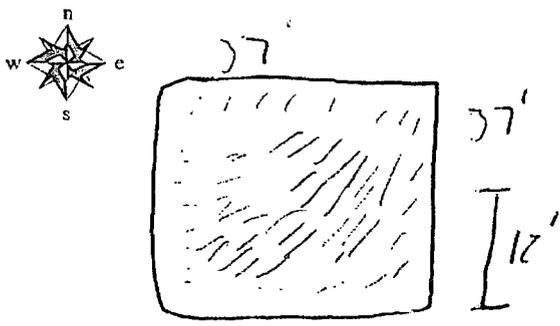
Well Name Jicarilla Apache #14 API # \_\_\_\_\_

Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_ County Rio Arriba

Contractors On-Site CDC Nelson Services Time On-Site 12:00 Time Off-Site \_\_\_\_\_

Spill Amount \_\_\_\_\_ bbls Spilled (Oil/Produced W/Other \_\_\_\_\_) RCVRD \_\_\_\_\_

Land Use (Range / Residential Tribe Jicarilla) Excavation 37 x 37 x 12 deep

 <p>* Application of potassium permanganate        - sprayed 350 ga @ 5% dilution        - met w/ Hobson Sandoval, gave permission to spray &amp; backfill excavation.</p>	<p>Sample Location</p>
<p>Comments</p>	<p>Sample Location</p> <p>Number of Photos Taken</p>

### Samples

Time	Sample #	Sample Description	Characteristics	OVM (ppm)	Analysis Requested
	NA	100 Standard	NA		NA

Name (Print) Legan Hixon

Date 1-4-17

Name (Signature) [Signature]

Company XTO

XTO Energy, Inc.  
Jicarilla Apache #14  
Section 34, Township 26N, Range 5W  
Closure: 1/4/2013

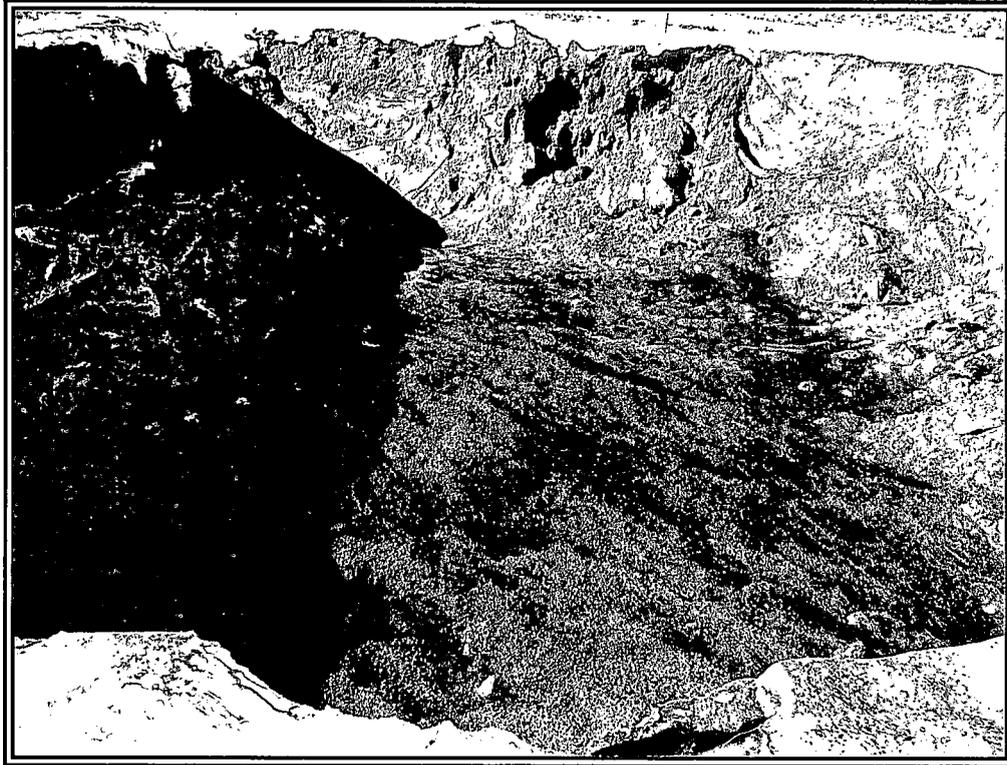


Photo 1: Jicarilla Apache #14 after Potassium Permanganate App.

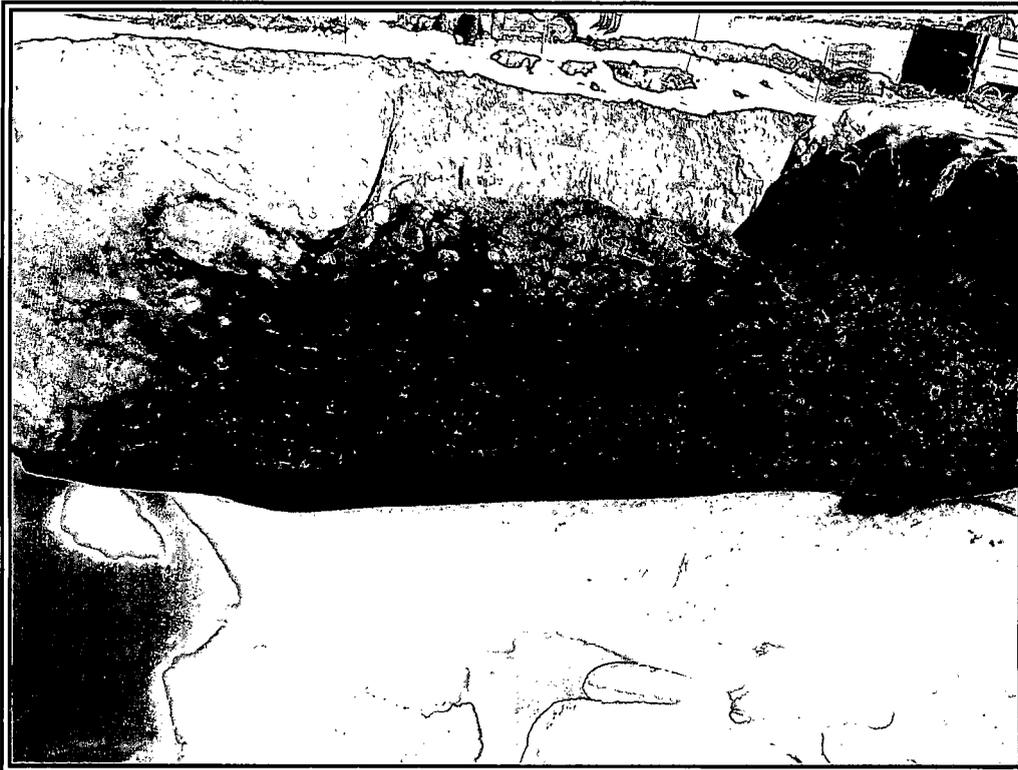


Photo 2: Jicarilla Apache #14 after Potassium Permanganate App.

XTO Energy, Inc.  
Jicarilla Apache #14  
Section 34, Township 26N, Range 5W  
Closure: 1/4/2013

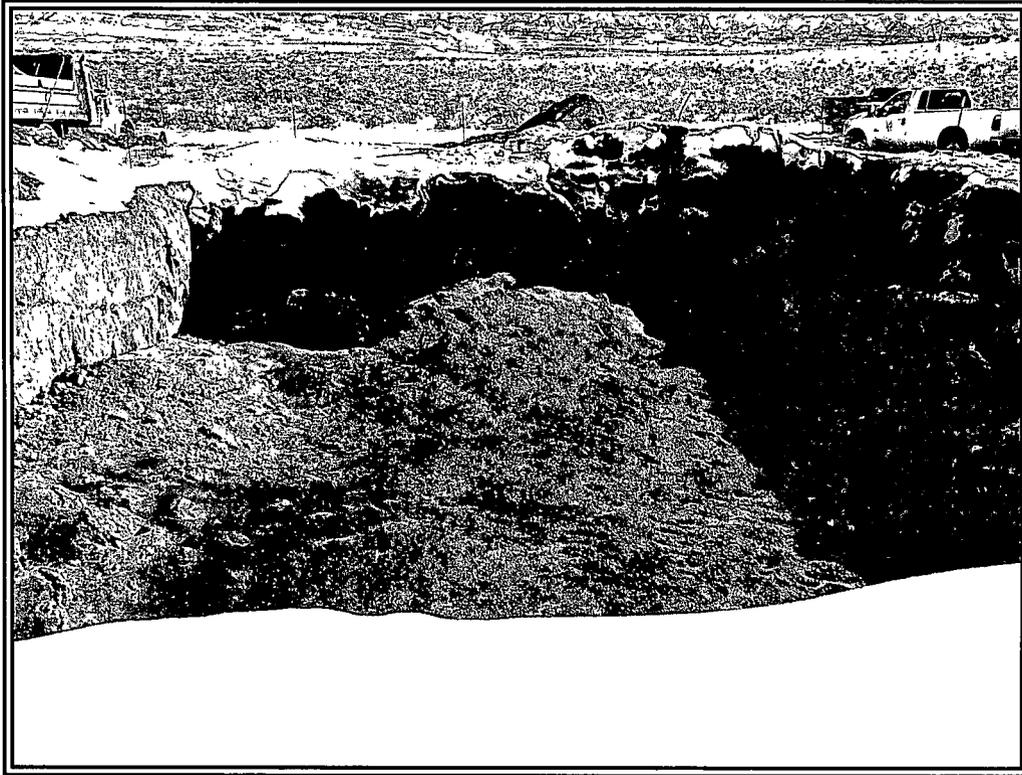


Photo 3: Jicarilla Apache #14 after Potassium Permanganate App.



Photo 4: Jicarilla Apache #14 after Potassium Permanganate App.

XTO Energy, Inc.  
Jicarilla Apache #14  
Section 34, Township 26N, Range 5W  
Closure: 1/4/2013

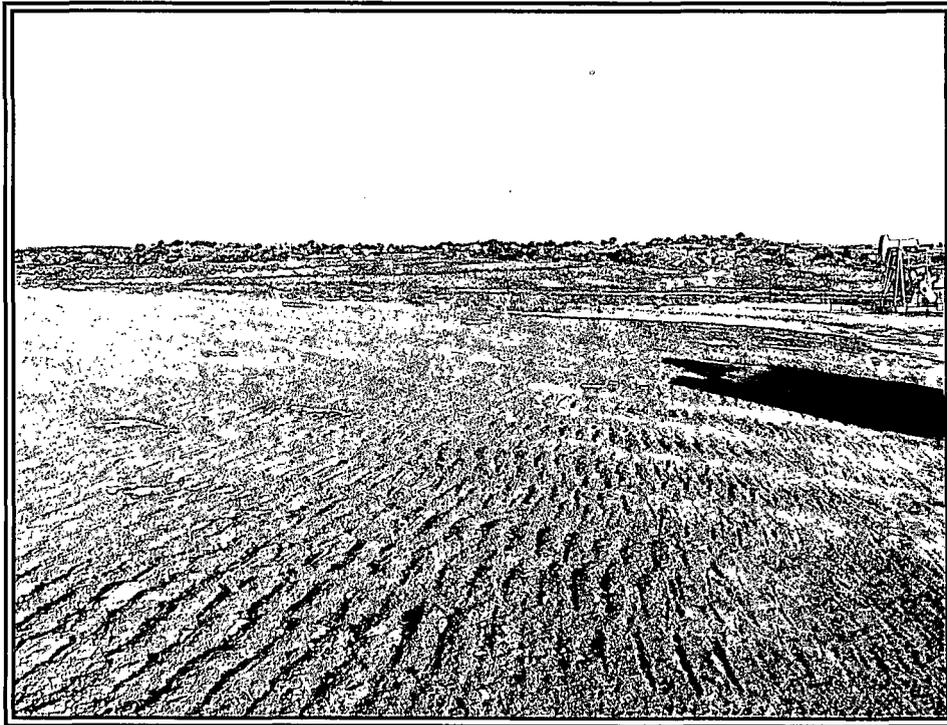


Photo 1: Jicarilla Apache #14 after Reconfigure.



Photo 2: Jicarilla Apache #14 after Reconfigure.

XTO Energy, Inc.  
Jicarilla Apache #14  
Section 34, Township 26N, Range 5W  
Closure: 1/4/2013

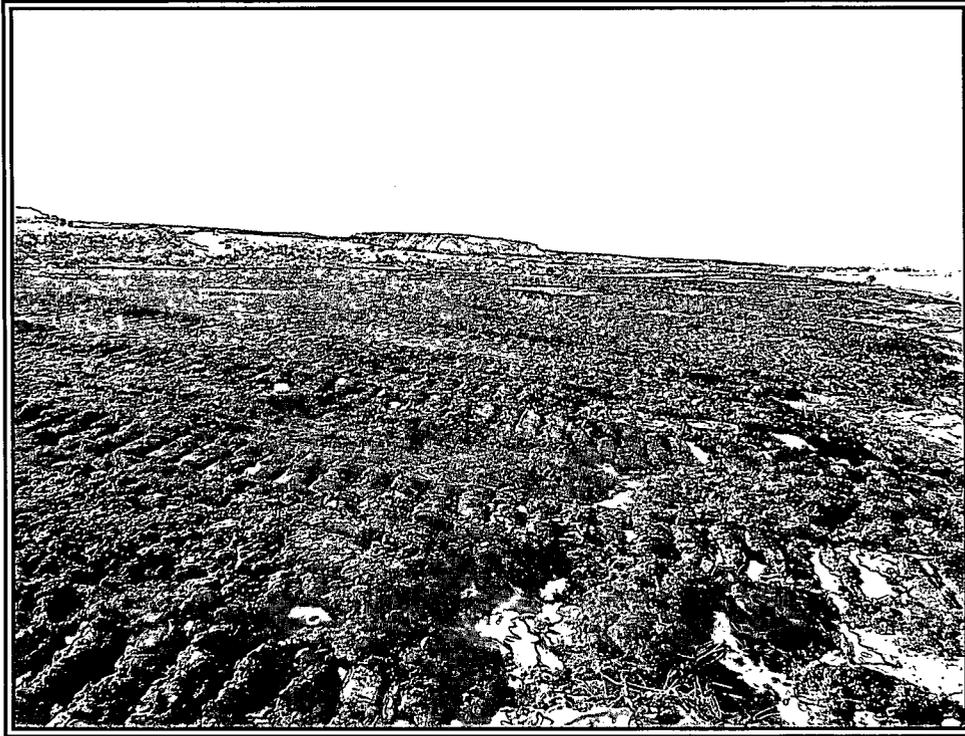


Photo 3: Jicarilla Apache #14 after Reconfigure.

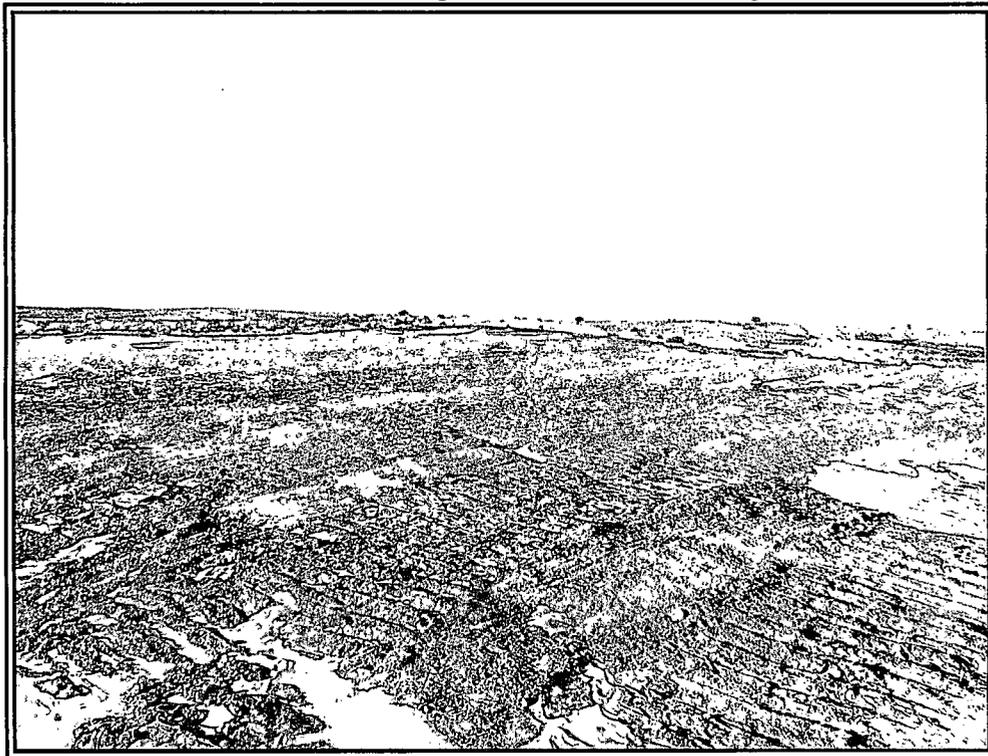


Photo 4: Jicarilla Apache #14 after Reconfigure.