R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

December 5, 2013

Mr. Mike Bratcher
NMOCD District 2
811 South First Street
Artesia, New Mexico 88210

RE: Nash Draw #29 modular impoundment final spill report. API No: 30-015-29434
2RP-1674

Mr. Bratcher:

R.T. Hicks Consultants is pleased to submit the enclosed Form C-141 "Release Notification and Correction Action" final report on the behalf of XTO Energy.

On September 23 - 27th, 2013; we performed reclamation activities in accordance with our remediation plan outline in the March 15 report. The remediation plan states:

> *XTO Energy proposes to excavate and dispose of the western third (30%) of the caliche pad that was in contact with the modular impoundment. The 30% area includes the release area and out beyond to the edge of the caliche pad. Plate 2 identifies the area proposed for remediation. The excavated material will be transported to R360 or equivalent for proper disposal.*
>
> *The remediated area will be contoured and seeded using BLM Seed Mixture Type 4 with Giant Sacaton seed added to the mixture. The excavated area is also subject to BLM's interim reclamation plan.*

Appendix A contains the C-141 Initial Report, dated March 15, 2013; which includes our remediation plan. Appendix B is a discussion on sampling and analysis during remedial activites. Appendix C contains the laboratory Certificate of Analysis. Photo documentation of remedial activities is located in Appendix D.

If you have any questions please contact me at 970-570-9535.

Sincerely,
R.T. Hicks Consultants
Durango Field Office

Andrew Parker

Cc: David Luna, XTO Energy, via email

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 David Luna
Address 200 N. Loraine, Ste 800 Midland TX, 79701	Telephone No. 432-620-6742
Facility Name Nash Draw #29	Facility Type Treated produced water modular impoundment

Surface Owner BLM	Mineral Owner	API No. 30-015-29434

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	13	23S	29E	1980	South	2310	East	Eddy

Latitude N. 32.30322 Longitude W. 103.93719

NATURE OF RELEASE

Type of Release: Treated and non-treated produced water	Volume of Release	Volume Recovered
Source of Release: Modular impoundment - western edge	Date and Hour of Occurrence	Date and Hour of Discovery: 08/27/2012
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom? NA	
By Whom? NA	Date and Hour NA	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.*

NA

Describe Cause of Problem and Remedial Action Taken.*

On August 27th, 2012 the modular impoundment liner detached from the top of the tank along the western edge releasing approximately 3 barrels of treated produced water. Mr. Randy Green of XTO Energy mobilized water haul trucks to the site and lowered the water level to prevent further leakage and reattached the liner to the top of the tank. The water was transferred to Nash Draw 49 Hand Nash Draw Unit# 57 H for use in well stimulation. Soil sampling was conducted per C-144 closure requirements.

Describe Area Affected and Cleanup Action Taken.*

The release affected the southwest corner of the production pad, adjacent to the modular impoundment. The area of impact was approximately 15 X15 square feet. No cleanup action was taken due to limited access caused by the location of the modular impoundment along the edge of the production pad; beyond the modular impoundment heavy mesquite vegetation exists. On October 23 - 27, 2013; remedial activities were performed according to spill report submitted on March 15, 2013 (Release ID: 2RP-1674). Appendix B discusses remedial activities.

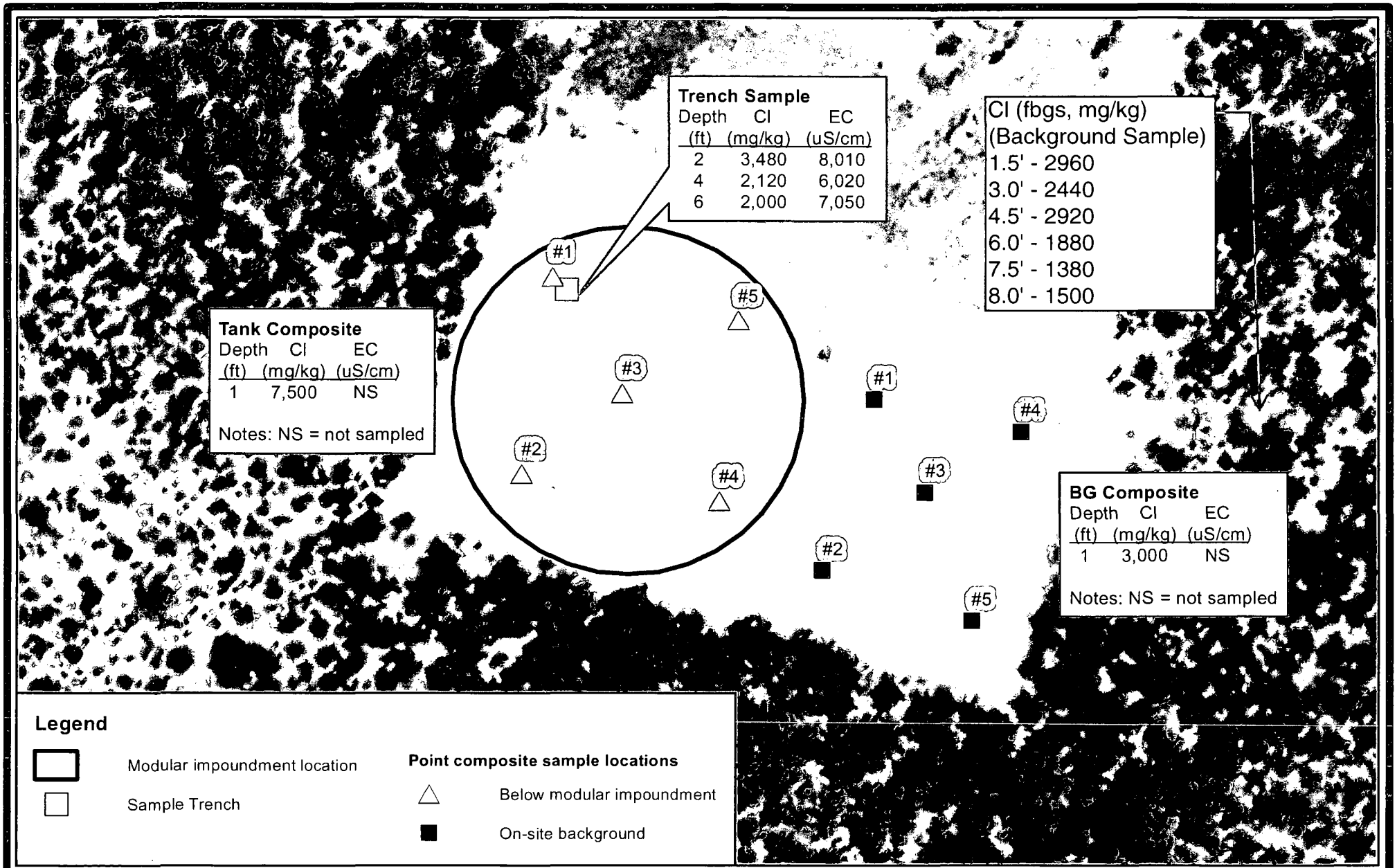
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger 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: David Luna	OIL CONSERVATION DIVISION
Printed Name: David Luna	Approved by Environmental Specialist:
Title: Operations Engineer	Approval Date: / Expiration Date:
E-mail Address: David_Luna@xtoenergy.com	Conditions of Approval: / Attached ☐
Date: 12/05/2013 Phone: 432-620-6742	

* Attach Additional Sheets If Necessary

Plates

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104



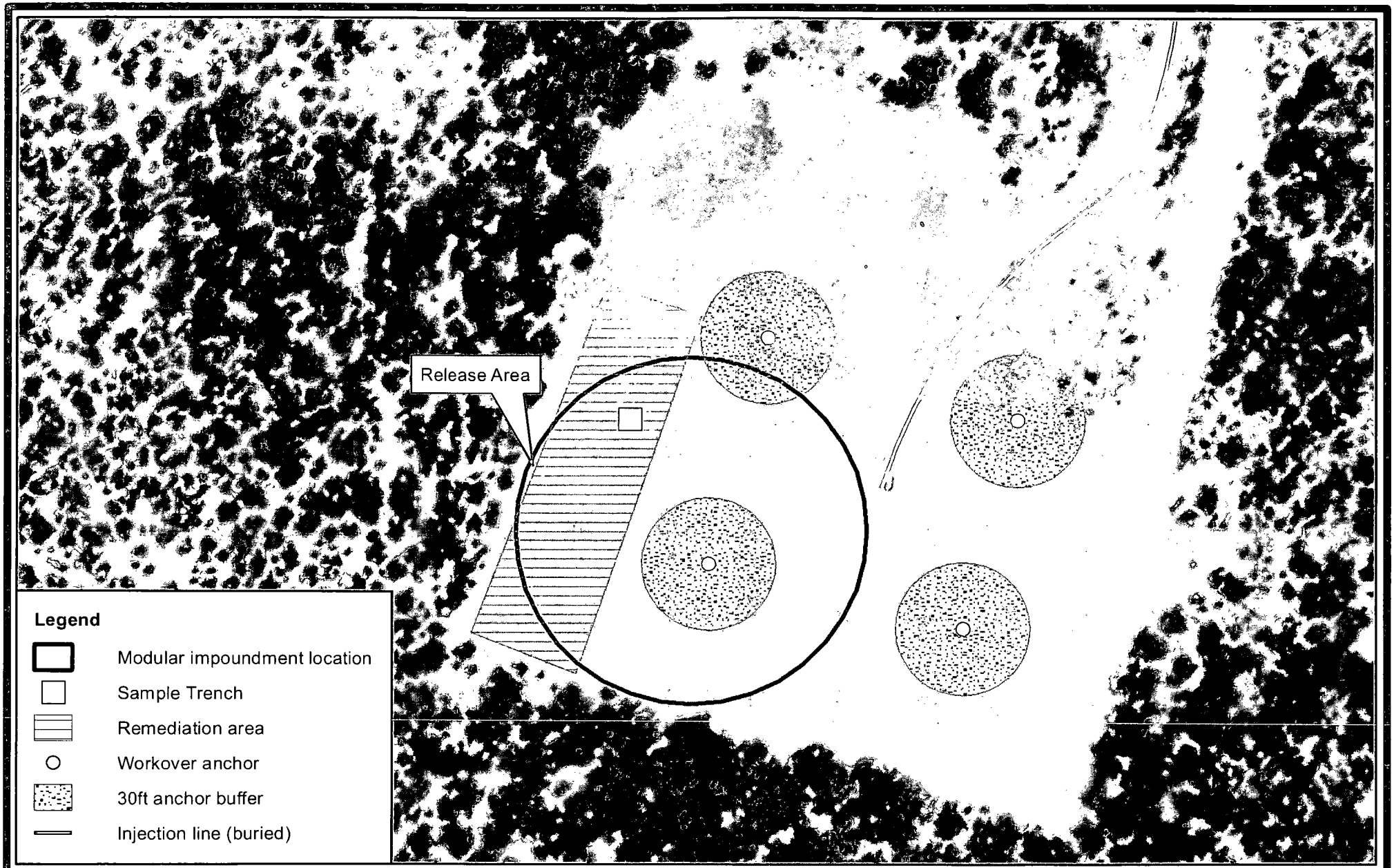
R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

Chloride Concentrations in Soil

XTO Energy: Nash Unit 29
API: 30-015-29434

Plate 1

March 2013



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Reclamation Area	Plate 2
	XTO Energy: Nash Unit 29 API: 30-015-29434	March 2013

Appendix A

C-141 Initial Report

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

March 15, 2013

Mr. Mike Bratcher
NMOCD District 2
811 South First Street
Artesia, New Mexico 88210

Mr. Brad Jones
NMOCD
1220 S. St. Francis Drive
Santa Fe, NM

RE: Nash Draw Unit #29 modular impoundment spill report. API No: 30-015-29434

Dear Sirs:

R.T. Hicks Consultants is pleased to submit the enclosed Form C-141 Release Notification and Correction Action on the behalf of XTO Energy.

The release from the modular impoundment was brought to our attention during the submittal of the C-144 Closure Report submitted to Mr. Bratcher, via email, on December 17, 2012.

We will revise the C-144 closure report to include results of the remediation plan that is the subject of this spill report. Included in the revision, per request of Mr. Jones, will be the inclusion of the entire C-144 permit application and correction to applicable dates and signatures.

We will submit the report to Mr. Jones with a copy to Mr. Bratcher. Both submittals will be delivered via certified mail/return receipt.

If you have any questions please contact me at 970-570-9535.

Sincerely,
R.T. Hicks Consultants
Durango Field Office

Andrew Parker

Cc: David Luna, XTO Energy, via email
Jennifer Van Curen, BLM - Carlsbad Field Office, via certified mail/return receipt

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 David Luna
Address 200 N. Loraine, Suite 800 Midland, TX 79701	Telephone No. 432-620-6742
Facility Name Nash Unit #29	Facility Type Treated produced water modular impoundment

Surface Owner BLM	Mineral Owner	API No. 30-015-29434

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	13	23S	29E	1980	SOUTH	2310	EAST	EDDY

Latitude N 32.30322 **Longitude** W 103.93719

NATURE OF RELEASE

Type of Release Treated and non-treated produced water	Volume of Release < 5 bbls	Volume Recovered None
Source of Release Modular impoundment - western edge	Date and Hour of Occurrence 8/27/12	Date and Hour of Discovery 8/27/12
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom? NA	
By Whom? NA	Date and Hour NA	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.*

NA

Describe Cause of Problem and Remedial Action Taken.*

On August 27th, 2012 the modular impoundment liner detached from the top of the tank along the western edge releasing approximately 3 barrels of treated produced water. Mr. Randy Green of XTO Energy mobilized water haul trucks to the site and lowered the water level to prevent further leakage and reattached the liner to the top of the tank. The water was transferred to Nash Draw 49 H and Nash Draw Unit # 57 H. Soil sampling was conducted per C-144 closure requirements. The attached document presents the sampling results and proposes a remediation plan.

Describe Area Affected and Cleanup Action Taken.*

The release affected the southwest corner of the production pad, adjacent to the modular impoundment. The area of impact was approximately 15 X15 square feet. No cleanup action was taken due to limited access caused by the location of the modular impoundment along the edge of the production pad; beyond the modular impoundment heavy mesquite vegetation exists.

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: David Luna	OIL CONSERVATION DIVISION	
Printed Name: David Luna	Approved by Environmental Specialist:	
Title: Operations Engineer	Approval Date:	Expiration Date:
E-mail Address: David_Luna@xtoenergy.com	Conditions of Approval:	Attached ☐
Date: 3/15/13 Phone: 432-620-6742		

* Attach Additional Sheets If Necessary

Soil Chemistry

On November 13, 2012, Hicks Consultants collected two 5-point soil samples on location for closure of the modular impoundment employed for hydraulic fracturing of five wells in 2012. On February 11, 2013 Hicks Consultants performed additional characterization to determine the vertical extent of chloride in soil near the western edge of the former modular impoundment, near the area of the reported release.

The location and chloride chemistry of the samples are presented on Plate 1. The chemistry is summarized in Table 1, below. Table 2 shows the lithology of the "Trench Sample". The laboratory certificate of analysis is attached.

The point samples for the Tank Composite and BG Composite were collected approximately two inches below the caliche pad/soil interface at a depth of approximately 1-foot. The Trench Sample consisted of discrete samples at 2, 4, and 6 foot depths.

Figure 1: Summary of soil chemistry

Sample ID	Date	Depth (ft)	Chloride mg/kg	EC uS/cm	Benzene mg/kg	BTEX mg/kg	TPH mg/kg	GRO/DRO mg/kg
NMAC 19.15.17.13.B(1).b			500 or background		0.2	50	2,500	500
Tank Composite	11/13/2012	1	7,500	NS	<0.49	ND	<20	<10
BG Composite	11/13/2012	1	3,000	NS	<0.49	ND	<20	<10
Trench Sample	2/11/2013	2	3,480	8,010	NS	NS	NS	NS
Trench Sample	2/11/2013	4	2,120	3,020	NS	NS	NS	NS
Trench Sample	2/11/2013	6	2,000	7,050	NS	NS	NS	NS

Notes

1. ND = non-detect
2 NS = not sampled

Figure 2: Lithology of Trench Sample

Depth (ft)	Description
0 - 1	Caliche pad
1 - 4	Top soil (loamy sand), dark brown, moist
4 - 6	Top soil, reddish brown, moist
6	Medim sand w/caliche, hard, brown, moist

Note: native hard caliche was observed below 6 feet.

The Tank Composite sample with a chloride concentration of 7,500 mg/kg indicates production activities have impacted the western half of the caliche pad. The BG Composite sample has a chloride concentration comparable to the Trench Sample at the 2 foot depth (3,480 mg/kg). Soil chloride concentrations at the Trench Sample that is within the area of the Tank Composite sample show chloride concentrations are decreasing with depth, from 3,480 mg/kg at 2 feet to 2,000 mg/kg at 6 feet and indicate that the majority of chloride impairment is limited to the production pad surface.

The chemistry and lithology of the Trench Sample suggests that:

- the moist soil at a depth of 6 feet, which exhibits 2,000 mg/kg chloride, is likely impacted by shallow groundwater wicking up from the underlying brine groundwater zone,
- the moist soil near the surface (Trench Sample) is likely from recent precipitation events and past releases at the site, and
- soil at depths from 1 to 5 feet below surface have chloride and EC concentrations that will support vegetation. Re-vegetating the impacted area is included in the remediation plan and also satisfies BLM's request for interim reclamation.

The remediation plan is presented below.

Appendix B

Discussion of Sampling Results

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104

APPENDIX B

SUMMARY OF BACKGROUND SAMPLING RESULTS

Between November 13, 2012 and June 24, 2013, soil samples were obtained to determine the magnitude, extent, and background hydrocarbon and chloride concentrations associated with the reported release. Table 1 summarizes the results of soil sampling. Plate 1 shows the locations of the soil samples.

Table 1: Soil chemistry summary results

Sample ID	Date	Depth (ft)	Chloride mg/kg	EC uS/cm	Benzene mg/kg	BTEX mg/kg	TPH mg/kg	GRO/DRO mg/kg
NMAC 19.15.17.13.B(1).b			500 or background		0.2	50	2,500	500
Tank Composite	11/13/2012	1.0	7,500	NS	<0.49	ND	<20	<10
BG Composite	11/13/2012	1.0	3,000	NS	<0.49	ND	<20	<10
Trench Sample	2/11/2013	2.0	3,480	8,010	NS	NS	NS	NS
Trench Sample	2/11/2013	4.0	2,120	3,020	NS	NS	NS	NS
Trench Sample	2/11/2013	6.0	2,000	7,050	NS	NS	NS	NS
Background Sample	6/24/2013	1.5	2,960	NS	NS	NS	NS	NS
Background Sample	6/24/2013	3.0	2,440	NS	NS	NS	NS	NS
Background Sample	6/24/2013	4.5	2,920	NS	NS	NS	NS	NS
Background Sample	6/24/2013	6.0	1,880	NS	NS	NS	NS	NS
Background Sample	6/24/2013	7.5	1,380	NS	NS	NS	NS	NS
Background Sample	6/24/2013	8.0	1,500	NS	NS	NS	NS	NS

Notes

1. ND = non-detect
2 NS = not sampled

On November 13, 2012, Hicks Consultants collected two on-site 5-point composite soil samples for closure of the modular impoundment employed for hydraulic fracturing of five wells in 2012.

The point samples for the Tank Composite and BG Composite were collected approximately two inches below the caliche pad/soil interface at a depth of approximately 1-foot. The Trench Sample consisted of discrete samples at 2, 4, and 6 foot depths. Table 2 summarizes the lithology of the Trench Sample.

Table 2: Lithology of Trench Sample

Depth (ft)	Description
0 - 1	Caliche pad
1 - 4	Top soil (loamy sand), dark brown, moist
4 - 6	Top soil, reddish brown, moist
6	Medim sand w/caliche, hard, brown, moist

Note: native hard caliche was observed below 6 feet.

The Tank Composite sample with a chloride concentration of 7,500 mg/kg (see Table 1) indicates production activities have impacted the western half of the caliche pad. The BG Composite sample has a chloride concentration comparable to the Trench Sample at the 2 foot depth (3,480 mg/kg).

On February 11, 2013; in support of the C-141 initial report submission, Hicks Consultants performed additional characterization to determine the vertical extent of chloride in soil near the western edge of the former modular impoundment, in proximity of the reported release. The "Trench Sample" identified in Table 1 and on Plate 1 represents the February 2013 sample.

Soil chloride concentrations at the Trench Sample (collected within the area of the Tank Composite sample) show chloride concentrations are decreasing with depth, from 3,480 mg/kg at 2 feet to 2,000 mg/kg at 6 feet and indicate that the majority of chloride impairment is limited to the production pad surface.

On June 24, 2013 we sampled an off-site background location (Background Sample) per C-141/Part 29 approval conditions/stipulations for release event 2RP-1674. The background location was located in an area not impacted by past or current production activities.

Table 3: Chloride concentration comparison between an on-site and off-site (background)

	Chloride (mg/kg)	
Depth (+/- 0.5 ft)	Trench Sample	Background Sample
1.5 - 2	3,480	2,960
4	2,120	2,920
6	2,000	1,880

Comparing the on-site Trench Sample (Table 3) to the off-site Background Sample at depths below 2-feet bgs, the on-site chloride concentrations are either near or lower than off-site background concentrations.

The chemistry and lithology of the trench samples suggest that:

- the moist soil at a depth of 6 feet, which exhibits approximately 2,000 mg/kg chloride, is likely impacted by shallow groundwater wicking up from the underlying brine groundwater zone,
- the moist soil near the surface (Trench Sample) was likely from recent precipitation events and past releases at the site,
- soil at depths from 1 to 5 feet below surface have chloride and EC concentrations that will support vegetation. Re-vegetation of the impacted area is included in the C-141 remediation plan and also satisfies BLM's request for interim reclamation, and
- the eastern portion of the location is not measurably impaired by production activities as the BG sample result (3,000 mg/kg) is not different from the background samples

Removing the upper 2-feet of soil within the remediation area as shown on Plate 2 will remediate the observed higher chlorides and allow for vegetation.

Appendix C

Certificate of Analyses

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

November 29, 2012

Andrew Parker

R.T. Hicks Consultants, LTD
901 Rio Grande Blvd. NW
Suite F-142
Albuquerque, NM 87104
TEL: (505) 266-5004
FAX (505) 266-0745

RE: XTO Energy Nash Unit 29 OrderNo.: 1211653

Dear Andrew Parker:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/14/2012 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 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1211653**
Date Reported: **11/29/2012**

CLIENT: R.T. Hicks Consultants, LTD
Client Sample ID: Tank Composite
Project: XTO Energy Nash Unit 29
Collection Date: 11/13/2012
Lab ID: 1211653-001
Matrix: SOIL
Received Date: 11/14/2012 10:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/20/2012 6:22:22 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/20/2012 6:22:22 AM
Surr: DNOP	102	77.6-140		%REC	1	11/20/2012 6:22:22 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/16/2012 2:32:25 PM
Surr: BFB	108	84-116		%REC	1	11/16/2012 2:32:25 PM
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	7500	300		mg/Kg	200	11/20/2012 6:54:44 PM
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Toluene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,2,4-Trimethylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,3,5-Trimethylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,2-Dichloroethane (EDC)	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,2-Dibromoethane (EDB)	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Naphthalene	ND	0.097		mg/Kg	1	11/21/2012 7:19:43 PM
1-Methylnaphthalene	ND	0.19		mg/Kg	1	11/21/2012 7:19:43 PM
2-Methylnaphthalene	ND	0.19		mg/Kg	1	11/21/2012 7:19:43 PM
Acetone	ND	0.73		mg/Kg	1	11/21/2012 7:19:43 PM
Bromobenzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Bromodichloromethane	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Bromoform	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Bromomethane	ND	0.15		mg/Kg	1	11/21/2012 7:19:43 PM
2-Butanone	ND	0.49		mg/Kg	1	11/21/2012 7:19:43 PM
Carbon disulfide	ND	0.49		mg/Kg	1	11/21/2012 7:19:43 PM
Carbon tetrachloride	ND	0.097		mg/Kg	1	11/21/2012 7:19:43 PM
Chlorobenzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Chloroethane	ND	0.097		mg/Kg	1	11/21/2012 7:19:43 PM
Chloroform	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Chloromethane	ND	0.15		mg/Kg	1	11/21/2012 7:19:43 PM
2-Chlorotoluene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
4-Chlorotoluene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
cis-1,2-DCE	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
cis-1,3-Dichloropropene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,2-Dibromo-3-chloropropane	ND	0.097		mg/Kg	1	11/21/2012 7:19:43 PM
Dibromochloromethane	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Dibromomethane	ND	0.097		mg/Kg	1	11/21/2012 7:19:43 PM
1,2-Dichlorobenzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 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: R.T. Hicks Consultants, LTD
Client Sample ID: Tank Composite
Project: XTO Energy Nash Unit 29
Collection Date: 11/13/2012
Lab ID: 1211653-001
Matrix: SOIL
Received Date: 11/14/2012 10:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**
1,3-Dichlorobenzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,4-Dichlorobenzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Dichlorodifluoromethane	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,1-Dichloroethane	ND	0.097		mg/Kg	1	11/21/2012 7:19:43 PM
1,1-Dichloroethene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,2-Dichloropropane	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,3-Dichloropropane	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
2,2-Dichloropropane	ND	0.097		mg/Kg	1	11/21/2012 7:19:43 PM
1,1-Dichloropropene	ND	0.097		mg/Kg	1	11/21/2012 7:19:43 PM
Hexachlorobutadiene	ND	0.097		mg/Kg	1	11/21/2012 7:19:43 PM
2-Hexanone	ND	0.49		mg/Kg	1	11/21/2012 7:19:43 PM
Isopropylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
4-Isopropyltoluene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
4-Methyl-2-pentanone	ND	0.49		mg/Kg	1	11/21/2012 7:19:43 PM
Methylene chloride	ND	0.15		mg/Kg	1	11/21/2012 7:19:43 PM
n-Butylbenzene	ND	0.15		mg/Kg	1	11/21/2012 7:19:43 PM
n-Propylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
sec-Butylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Styrene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
tert-Butylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,1,1,2-Tetrachloroethane	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,1,2,2-Tetrachloroethane	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Tetrachloroethene (PCE)	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
trans-1,2-DCE	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
trans-1,3-Dichloropropene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,2,3-Trichlorobenzene	ND	0.097		mg/Kg	1	11/21/2012 7:19:43 PM
1,2,4-Trichlorobenzene	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,1,1-Trichloroethane	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,1,2-Trichloroethane	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Trichloroethene (TCE)	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Trichlorofluoromethane	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
1,2,3-Trichloropropane	ND	0.097		mg/Kg	1	11/21/2012 7:19:43 PM
Vinyl chloride	ND	0.049		mg/Kg	1	11/21/2012 7:19:43 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/21/2012 7:19:43 PM
Surr: 1,2-Dichloroethane-d4	93.2	70-130		%REC	1	11/21/2012 7:19:43 PM
Surr: 4-Bromofluorobenzene	92.4	70-130		%REC	1	11/21/2012 7:19:43 PM
Surr: Dibromofluoromethane	90.7	70-130		%REC	1	11/21/2012 7:19:43 PM
Surr: Toluene-d8	101	70-130		%REC	1	11/21/2012 7:19:43 PM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	11/21/2012

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: R.T. Hicks Consultants, LTD
Client Sample ID: BG Composite
Project: XTO Energy Nash Unit 29
Collection Date: 11/13/2012
Lab ID: 1211653-002
Matrix: SOIL
Received Date: 11/14/2012 10:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/20/2012 8:28:08 AM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	11/20/2012 8:28:08 AM
Surr: DNOP	98.6	77.6-140		%REC	1	11/20/2012 8:28:08 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/16/2012 3:01:11 PM
Surr: BFB	101	84-116		%REC	1	11/16/2012 3:01:11 PM
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	3000	150		mg/Kg	100	11/20/2012 7:07:09 PM
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Toluene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,2,4-Trimethylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,3,5-Trimethylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,2-Dichloroethane (EDC)	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,2-Dibromoethane (EDB)	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Naphthalene	ND	0.099		mg/Kg	1	11/21/2012 7:48:47 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	11/21/2012 7:48:47 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	11/21/2012 7:48:47 PM
Acetone	ND	0.74		mg/Kg	1	11/21/2012 7:48:47 PM
Bromobenzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Bromodichloromethane	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Bromoform	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Bromomethane	ND	0.15		mg/Kg	1	11/21/2012 7:48:47 PM
2-Butanone	ND	0.49		mg/Kg	1	11/21/2012 7:48:47 PM
Carbon disulfide	ND	0.49		mg/Kg	1	11/21/2012 7:48:47 PM
Carbon tetrachloride	ND	0.099		mg/Kg	1	11/21/2012 7:48:47 PM
Chlorobenzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Chloroethane	ND	0.099		mg/Kg	1	11/21/2012 7:48:47 PM
Chloroform	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Chloromethane	ND	0.15		mg/Kg	1	11/21/2012 7:48:47 PM
2-Chlorotoluene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
4-Chlorotoluene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
cis-1,2-DCE	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
cis-1,3-Dichloropropene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,2-Dibromo-3-chloropropane	ND	0.099		mg/Kg	1	11/21/2012 7:48:47 PM
Dibromochloromethane	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Dibromomethane	ND	0.099		mg/Kg	1	11/21/2012 7:48:47 PM
1,2-Dichlorobenzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 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: R.T. Hicks Consultants, LTD
Client Sample ID: BG Composite
Project: XTO Energy Nash Unit 29
Collection Date: 11/13/2012
Lab ID: 1211653-002
Matrix: SOIL
Received Date: 11/14/2012 10:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**
1,3-Dichlorobenzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,4-Dichlorobenzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Dichlorodifluoromethane	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,1-Dichloroethane	ND	0.099		mg/Kg	1	11/21/2012 7:48:47 PM
1,1-Dichloroethene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,2-Dichloropropane	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,3-Dichloropropane	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
2,2-Dichloropropane	ND	0.099		mg/Kg	1	11/21/2012 7:48:47 PM
1,1-Dichloropropene	ND	0.099		mg/Kg	1	11/21/2012 7:48:47 PM
Hexachlorobutadiene	ND	0.099		mg/Kg	1	11/21/2012 7:48:47 PM
2-Hexanone	ND	0.49		mg/Kg	1	11/21/2012 7:48:47 PM
Isopropylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
4-Isopropyltoluene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
4-Methyl-2-pentanone	ND	0.49		mg/Kg	1	11/21/2012 7:48:47 PM
Methylene chloride	ND	0.15		mg/Kg	1	11/21/2012 7:48:47 PM
n-Butylbenzene	ND	0.15		mg/Kg	1	11/21/2012 7:48:47 PM
n-Propylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
sec-Butylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Styrene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
tert-Butylbenzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,1,1,2-Tetrachloroethane	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,1,2,2-Tetrachloroethane	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Tetrachloroethene (PCE)	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
trans-1,2-DCE	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
trans-1,3-Dichloropropene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,2,3-Trichlorobenzene	ND	0.099		mg/Kg	1	11/21/2012 7:48:47 PM
1,2,4-Trichlorobenzene	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,1,1-Trichloroethane	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,1,2-Trichloroethane	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Trichloroethene (TCE)	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Trichlorofluoromethane	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
1,2,3-Trichloropropane	ND	0.099		mg/Kg	1	11/21/2012 7:48:47 PM
Vinyl chloride	ND	0.049		mg/Kg	1	11/21/2012 7:48:47 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/21/2012 7:48:47 PM
Surr: 1,2-Dichloroethane-d4	94.2	70-130		%REC	1	11/21/2012 7:48:47 PM
Surr: 4-Bromofluorobenzene	87.7	70-130		%REC	1	11/21/2012 7:48:47 PM
Surr: Dibromofluoromethane	91.6	70-130		%REC	1	11/21/2012 7:48:47 PM
Surr: Toluene-d8	105	70-130		%REC	1	11/21/2012 7:48:47 PM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	11/21/2012

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211653**

29-Nov-12

Client: R.T. Hicks Consultants, LTD

Project: XTO Energy Nash Unit 29

Sample ID	**MB-4894**	SampType:	**MBLK**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**4894**		RunNo:	**7001**				
Prep Date:	**11/19/2012**	Analysis Date:	**11/19/2012**		SeqNo:	**202928**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-4894**	SampType:	**LCS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**4894**		RunNo:	**7001**				
Prep Date:	**11/19/2012**	Analysis Date:	**11/19/2012**		SeqNo:	**202929**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.0	90	110			

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#: **1211653**

29-Nov-12

Client: R.T. Hicks Consultants, LTD

Project: XTO Energy Nash Unit 29

Sample ID **MB-4901** SampType: **MBLK** TestCode: **EPA Method 418.1: TPH**

Client ID: **PBS** Batch ID: **4901** RunNo: **7021**

Prep Date: **11/19/2012** Analysis Date: **11/21/2012** SeqNo: **203589** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID **LCS-4901** SampType: **LCS** TestCode: **EPA Method 418.1: TPH**

Client ID: **LCSS** Batch ID: **4901** RunNo: **7021**

Prep Date: **11/19/2012** Analysis Date: **11/21/2012** SeqNo: **203590** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	100.0	0	104	80	120			

Sample ID **LCSD-4901** SampType: **LCSD** TestCode: **EPA Method 418.1: TPH**

Client ID: **LCSS02** Batch ID: **4901** RunNo: **7021**

Prep Date: **11/19/2012** Analysis Date: **11/21/2012** SeqNo: **203591** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.0	0	106	80	120	1.28	20	

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#: **1211653**

29-Nov-12

Client: R.T. Hicks Consultants, LTD

Project: XTO Energy Nash Unit 29

Sample ID **MB-4900** SampType: **MBLK** TestCode: **EPA Method 8015B: Diesel Range Organics**

Client ID: **PBS** Batch ID: **4900** RunNo: **6989**

Prep Date: **11/19/2012** Analysis Date: **11/20/2012** SeqNo: **202423** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.9		10.00		98.8	77.6	140			

Sample ID **LCS-4900** SampType: **LCS** TestCode: **EPA Method 8015B: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **4900** RunNo: **6989**

Prep Date: **11/19/2012** Analysis Date: **11/20/2012** SeqNo: **202424** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	47.4	122			
Surr: DNOP	4.0		5.000		80.2	77.6	140			

Sample ID **1211653-001AMS** SampType: **MS** TestCode: **EPA Method 8015B: Diesel Range Organics**

Client ID: **Tank Composite** Batch ID: **4900** RunNo: **6989**

Prep Date: **11/19/2012** Analysis Date: **11/20/2012** SeqNo: **202426** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.97	0	106	12.6	148			
Surr: DNOP	4.8		5.097		94.6	77.6	140			

Sample ID **1211653-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015B: Diesel Range Organics**

Client ID: **Tank Composite** Batch ID: **4900** RunNo: **6989**

Prep Date: **11/19/2012** Analysis Date: **11/20/2012** SeqNo: **202569** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	51.18	0	104	12.6	148	0.773	22.5	
Surr: DNOP	5.1		5.118		98.8	77.6	140	0	0	

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#: **1211653**

29-Nov-12

Client: R.T. Hicks Consultants, LTD

Project: XTO Energy Nash Unit 29

Sample ID **MB-4851** SampType: **MBLK** TestCode: **EPA Method 8015B: Gasoline Range**

Client ID: **PBS** Batch ID: **4851** RunNo: **6951**

Prep Date: **11/15/2012** Analysis Date: **11/16/2012** SeqNo: **202014** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		99.3	84	116			

Sample ID **LCS-4851** SampType: **LCS** TestCode: **EPA Method 8015B: Gasoline Range**

Client ID: **LCSS** Batch ID: **4851** RunNo: **6951**

Prep Date: **11/15/2012** Analysis Date: **11/16/2012** SeqNo: **202015** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.3	74	117			
Surr: BFB	1000		1000		104	84	116			

Sample ID **1211653-001AMS** SampType: **MS** TestCode: **EPA Method 8015B: Gasoline Range**

Client ID: **Tank Composite** Batch ID: **4851** RunNo: **6951**

Prep Date: **11/15/2012** Analysis Date: **11/16/2012** SeqNo: **202020** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.9	24.63	0	118	70	130			
Surr: BFB	1100		985.2		109	84	116			

Sample ID **1211653-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015B: Gasoline Range**

Client ID: **Tank Composite** Batch ID: **4851** RunNo: **6951**

Prep Date: **11/15/2012** Analysis Date: **11/16/2012** SeqNo: **202021** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	24.75	0	118	70	130	0.0876	22.1	
Surr: BFB	1100		990.1		109	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#: **1211653**

29-Nov-12

Client: R.T. Hicks Consultants, LTD

Project: XTO Energy Nash Unit 29

Sample ID **mb-4851** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **PBS** Batch ID: **4851** RunNo: **7060**

Prep Date: **11/15/2012** Analysis Date: **11/21/2012** SeqNo: **204634** Units: **mg/Kg**

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								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.10								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.10								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.10								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								

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#: **1211653**

29-Nov-12

Client: R.T. Hicks Consultants, LTD

Project: XTO Energy Nash Unit 29

Sample ID **mb-4851** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **PBS** Batch ID: **4851** RunNo: **7060**

Prep Date: **11/15/2012** Analysis Date: **11/21/2012** SeqNo: **204634** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.2	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		89.4	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		92.3	70	130			
Surr: Toluene-d8	0.52		0.5000		103	70	130			

Sample ID **lcs-4851** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **LCSS** Batch ID: **4851** RunNo: **7060**

Prep Date: **11/15/2012** Analysis Date: **11/21/2012** SeqNo: **204635** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	101	70	130			
Toluene	1.1	0.050	1.000	0	108	80	120			
Chlorobenzene	1.0	0.050	1.000	0	101	70	130			
1,1-Dichloroethene	1.1	0.050	1.000	0	110	74	124			
Trichloroethene (TCE)	0.88	0.050	1.000	0	87.9	70	130			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.4	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		86.1	70	130			

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#: **1211653**

29-Nov-12

Client: R.T. Hicks Consultants, LTD

Project: XTO Energy Nash Unit 29

Sample ID **lcs-4851** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **LCSS** Batch ID: **4851** RunNo: **7060**

Prep Date: **11/15/2012** Analysis Date: **11/21/2012** SeqNo: **204635** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.47		0.5000		93.7	70	130			
Surr: Toluene-d8	0.51		0.5000		103	70	130			

Sample ID **1211653-002ams** SampType: **MS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **BG Composite** Batch ID: **4851** RunNo: **7060**

Prep Date: **11/15/2012** Analysis Date: **11/21/2012** SeqNo: **204638** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.049	0.9804	0	92.9	80.9	118			
Toluene	0.95	0.049	0.9804	0	97.4	69.5	119			
Chlorobenzene	0.87	0.049	0.9804	0	88.9	75.7	115			
1,1-Dichloroethene	0.99	0.049	0.9804	0.01122	100	68.6	126			
Trichloroethene (TCE)	0.81	0.049	0.9804	0	82.4	68.7	115			
Surr: 1,2-Dichloroethane-d4	0.47		0.4902		96.4	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.4902		85.6	70	130			
Surr: Dibromofluoromethane	0.47		0.4902		95.4	70	130			
Surr: Toluene-d8	0.50		0.4902		102	70	130			

Sample ID **1211653-002amsd** SampType: **MSD** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **BG Composite** Batch ID: **4851** RunNo: **7060**

Prep Date: **11/15/2012** Analysis Date: **11/21/2012** SeqNo: **204639** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.049	0.9891	0	93.3	80.9	118	1.30	20	
Toluene	0.98	0.049	0.9891	0	98.8	69.5	119	2.28	20	
Chlorobenzene	0.88	0.049	0.9891	0	89.3	75.7	115	1.32	20	
1,1-Dichloroethene	1.0	0.049	0.9891	0.01122	99.6	68.6	126	0.357	24.8	
Trichloroethene (TCE)	0.82	0.049	0.9891	0	83.3	68.7	115	1.99	20	
Surr: 1,2-Dichloroethane-d4	0.47		0.4946		95.9	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.41		0.4946		83.4	70	130	0	0	
Surr: Dibromofluoromethane	0.48		0.4946		96.6	70	130	0	0	
Surr: Toluene-d8	0.51		0.4946		104	70	130	0	0	

Sample ID **mb-4881** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **PBS** Batch ID: **4881** RunNo: **7060**

Prep Date: **11/19/2012** Analysis Date: **11/21/2012** SeqNo: **204640** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.5	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		88.8	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		92.1	70	130			
Surr: Toluene-d8	0.51		0.5000		103	70	130			

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#: **1211653**

29-Nov-12

Client: R.T. Hicks Consultants, LTD

Project: XTO Energy Nash Unit 29

Sample ID **lcs-4881**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**	
Client ID: **LCSS**	Batch ID: **4881**	RunNo: **7060**	
Prep Date: **11/19/2012**	Analysis Date: **11/21/2012**	SeqNo: **204641**	Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.6	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		89.1	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		92.8	70	130			
Surr: Toluene-d8	0.53		0.5000		106	70	130			

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: RT HICKS Work Order Number: 1211653

Received by/date: MG 11/14/12

Logged By: **Anne Thorne** 11/14/2012 10:50:00 AM Anne Thorne

Completed By: **Anne Thorne** 11/19/2012 Anne Thorne

Reviewed By: A 11/19/12

Chain of Custody

1. Were seals intact?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Coolers are present? (see 19. for cooler specific information)	Yes ☐	No ☐	NA ☑
5. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
7. Sample(s) in proper container(s)?	Yes ☑	No ☐	
8. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
10. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
12. Were any sample containers received broken?	Yes ☐	No ☑	
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
14. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15. Is it clear what analyses were requested?	Yes ☑	No ☐	
16. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Not Present			

Chain-of-Custody Record

Client: R.T. Hicks Consultants

Mailing Address: on file

Phone #: 505.266.5004

email or Fax#: andrew@rthicksconsult.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: XTO Energy Nash Unit #29

Project #:

Project Manager: Andrew Parker

Sampler: Andrew Parker

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

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_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
11.13.12	1254	soil	tank # 1 @ 8"	4oz glass	ice	121153			↓	↓				↓		↓						
"	1256	"	tank # 2 @ 8"	"	"																	
"	1259	"	tank # 3 @ 8"	"	"																	
"	1303	"	tank # 4 @ 8"	"	"																	
"	1305	"	tank # 5 @ 8"	"	"																	
"	1311	"	BG # 1 @ 8"	"	"																	
"	1314	"	BG # 2 @ 8"	"	"																	
"	1317	"	BG # 3 @ 8"	"	"																	
"	1325	"	BG # 4 @ 8"	"	"																	
"	1327	"	BG # 5 @ 8"	"	"																	
"			Tank composite*			-001			X	X				X		X						
			Bb composite **			-002			X	X				X		X						

Date	Time	Relinquished by:	Received by:	Date	Time
11/14	10.50	Andrew	Michelle Gee	11/14/12	10:50
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:
* Do not analyze point samples tank #1 - #5
** Do not analize point samples Bb #1 → 5
Lab composite Tank #1-5; Lab composite Bb #1

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

February 18, 2013

ANDREW PARKER

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: XTO NASH UNIT 29

Enclosed are the results of analyses for samples received by the laboratory on 02/13/13 7:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

R T HICKS CONSULTANTS
ANDREW PARKER
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	02/13/2013	Sampling Date:	02/11/2013
Reported:	02/18/2013	Sampling Type:	Soil
Project Name:	XTO NASH UNIT 29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UNIT 'J', SEC. 13, T23S, R29E		

Sample ID: SAMPLE TRENCH @ 2' BGS (H300404-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3480**	16.0	02/18/2013	ND	448	112	400	0.00	

Conductivity 120.1 uS/cm **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Conductivity*	**8010**	1.00	02/15/2013		476	95.2	500	0.752	

Sample ID: SAMPLE TRENCH @ 4' BGS (H300404-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2120**	16.0	02/18/2013	ND	416	104	400	3.77	

Conductivity 120.1 uS/cm **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Conductivity*	**6020**	1.00	02/15/2013		476	95.2	500	0.752	

Sample ID: SAMPLE TRENCH @ 6' BGS (H300404-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2000**	16.0	02/18/2013	ND	416	104	400	3.77	

Conductivity 120.1 uS/cm **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Conductivity*	**7050**	1.00	02/15/2013		476	95.2	500	0.752	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene, Lab Director/Quality Manager

Cardinal Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: R.T. Hicks Consultants	BILL TO
Project Manager: Andrew Parker	P.O. #:
Address:	Company: R.T. Hicks
City: State: Zip:	Attn:
Phone #: Fax #:	Address:
Project #: Project Owner: Murchison	City:
Project Name: XTO Nash Unit 29	State: Zip:
Project Location: Unit 'J', Sec. 13, T23S, R29E	Phone #:
Sampler Name: Kristin Pope	Fax #:

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	Cl-	EC
#300404																
1	Sample trench @ 2' BGS	X	1			X							2.11.13	0840	X	X
2	Sample trench @ 4' BGS	X	1			X							"	0842	X	X
3	Sample trench @ 6' BGS	X	1			X							"	0850	X	X

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates, or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Kristin Pope	Date: 2.13.13 Time: 0900	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
			REMARKS: email analyses to andrew@rthicksconsult.com kristin @ "

Delivered By: (Circle One)	Sample Condition		CHECKED BY:
Sampler - UPS - Bus - Other:	Cool: ☑ Yes ☐ No	Intact: ☐ Yes ☐ No	(Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

5.5° #26

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 28, 2013

KRISTIN POPE

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: XTO NASH UNIT 29

Enclosed are the results of analyses for samples received by the laboratory on 06/26/13 8:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	06/26/2013	Sampling Date:	06/24/2013
Reported:	06/28/2013	Sampling Type:	Soil
Project Name:	XTO NASH UNIT 29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UNIT 'J', SEC. 13, T23S, R29E		

Sample ID: BACKGROUND @ 1.5' (H301491-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2960**	16.0	06/28/2013	ND	448	112	400	3.64	

Sample ID: BACKGROUND @ 3' (H301491-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2440**	16.0	06/28/2013	ND	448	112	400	3.64	

Sample ID: BACKGROUND @ 4.5' (H301491-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2920**	16.0	06/28/2013	ND	448	112	400	3.64	

Sample ID: BACKGROUND @ 6' (H301491-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1880**	16.0	06/28/2013	ND	448	112	400	3.64	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

R T HICKS CONSULTANTS
KRISTIN POPE
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	06/26/2013	Sampling Date:	06/24/2013
Reported:	06/28/2013	Sampling Type:	Soil
Project Name:	XTO NASH UNIT 29	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UNIT 'J', SEC. 13, T23S, R29E		

Sample ID: BACKGROUND @ 7.5' (H301491-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1380**	16.0	06/28/2013	ND	448	112	400	3.64	

Sample ID: BACKGROUND @ 8' (H301491-06)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1500**	16.0	06/28/2013	ND	448	112	400	3.64	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name:	R.T. Hicks Consultants
Project Manager:	Kristin Pope
Address:	
City:	State: Zip:
Phone #:	Fax #:
Project #:	Project Owner: XTO
Project Name:	XTO Nash Draw 29
Project Location:	Eddy County
Sampler Name:	K. Pope

BILL TO

P.O. #:	
Company:	RT Hicks
Attn:	
Address:	
City:	
State: Zip:	
Phone #:	
Fax #:	

ANALYSIS REQUEST

Cl-

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME
H301491														
1	Background @ 1.5'	G	1			X							062413	
2	" 3'		1			X							"	
3	" 4.5'		1			X							"	
4	" 6'		1			X							"	
5	" 7.5'		1			X							"	
6	" 8'		1			X							"	

Relinquished By: Kristin Pope	Date: 062613 Time: 0700	Received By: Douglas Page	
Relinquished By:	Date: Time:	Received By: Jodi Henson	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	5° C	Sample Condition: Cool ☐ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

Email to andrew@rthicksconsult.com
and kristin @ "

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

Appendix D

Photo Documentation

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104

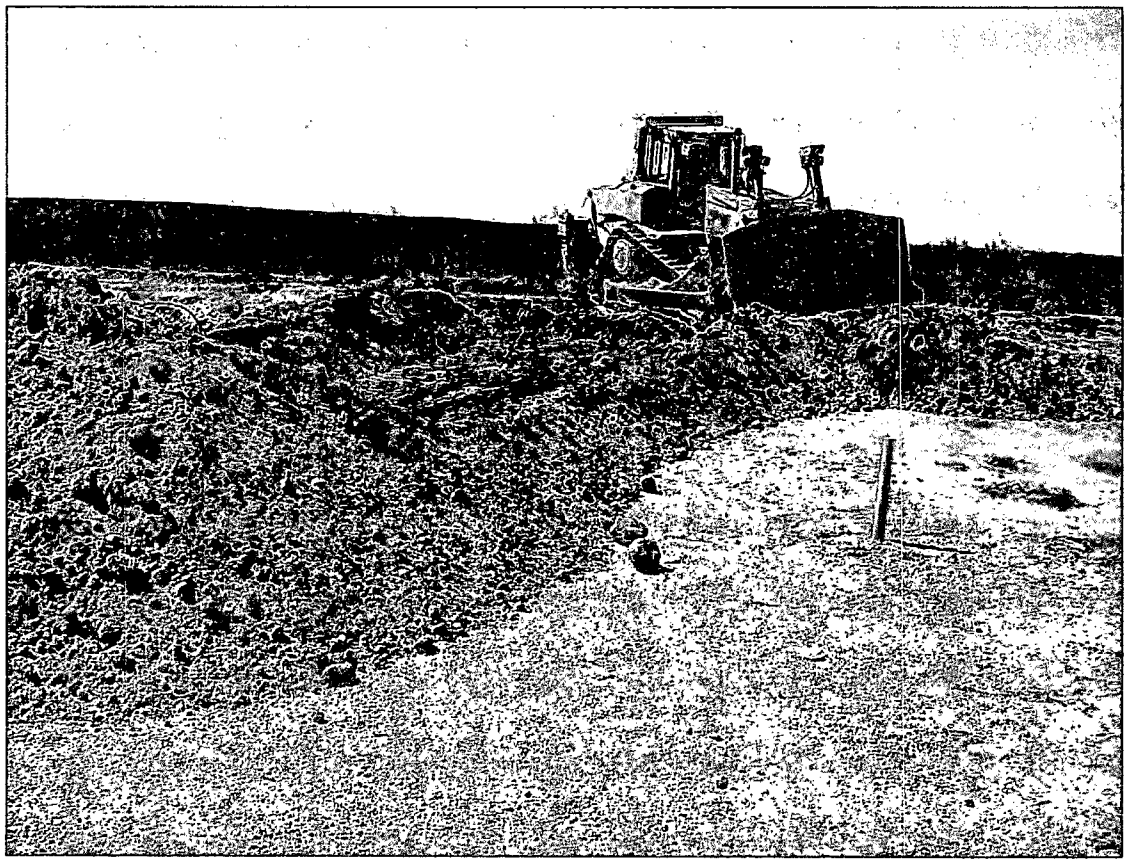


Figure 1: Stockpiling chloride impacted caliche near western 1/3 of location pad.

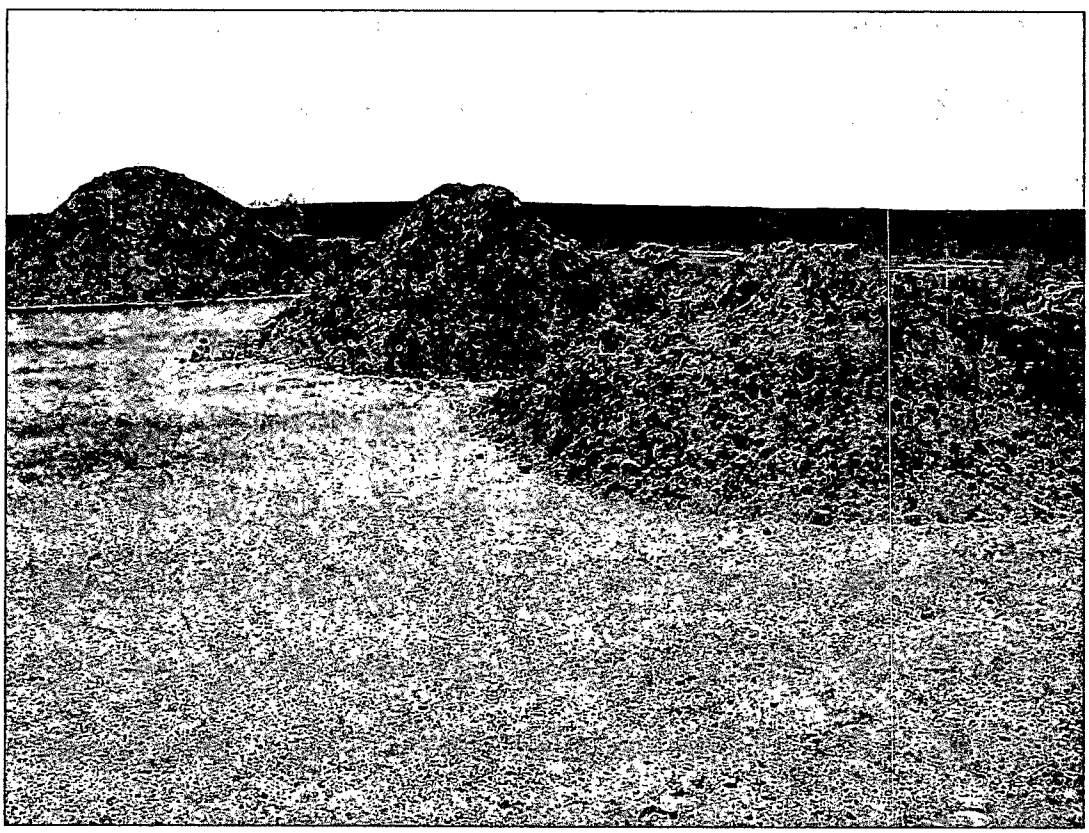


Figure 2: Stockpiled imapcted caclihe (two right soil piles) waiting transport to R360. The far left soil pile (background) is clean soil to be used for BLM interim reclamation activities.

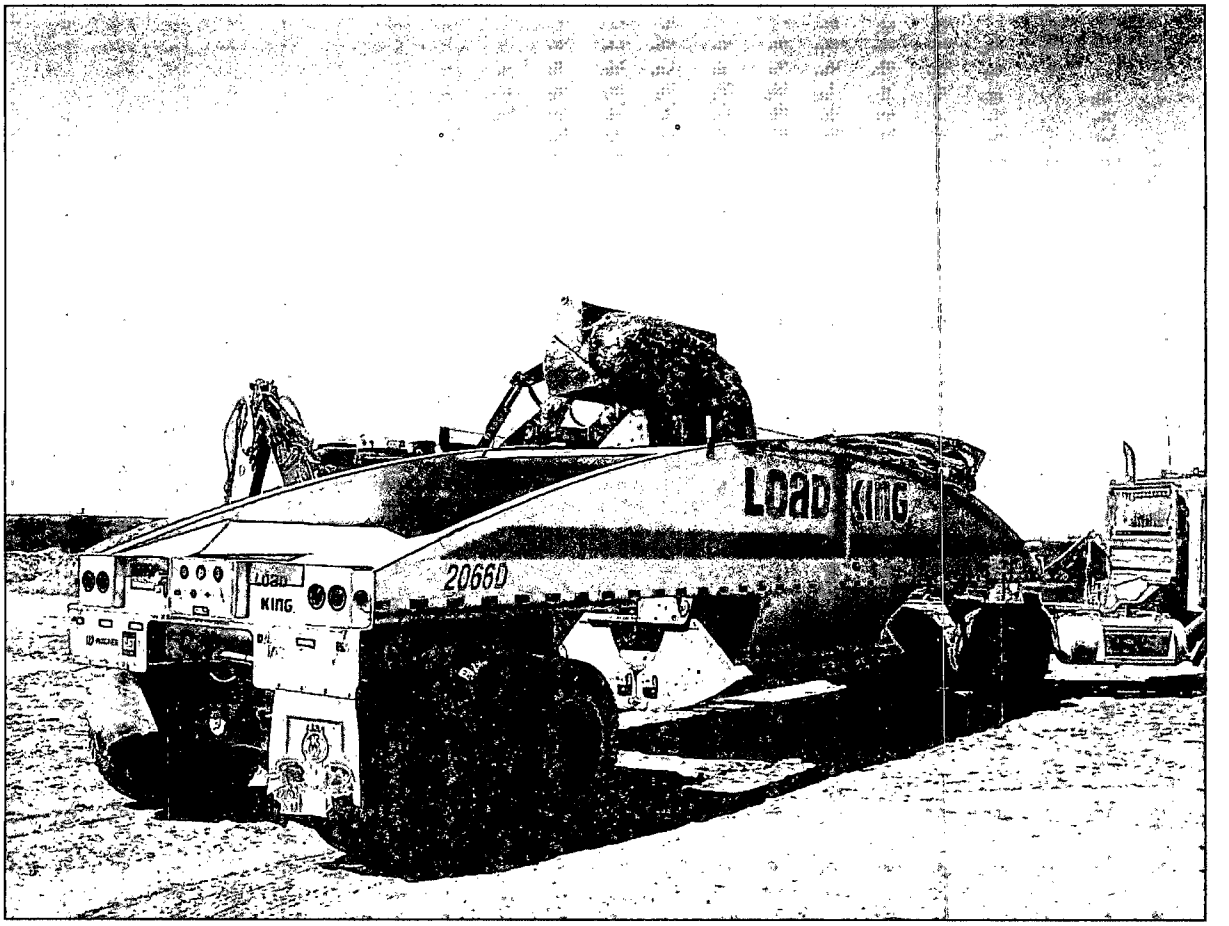


Figure 3: Stockpiled chloride impacted caliche being loaded for trasnport to R360.

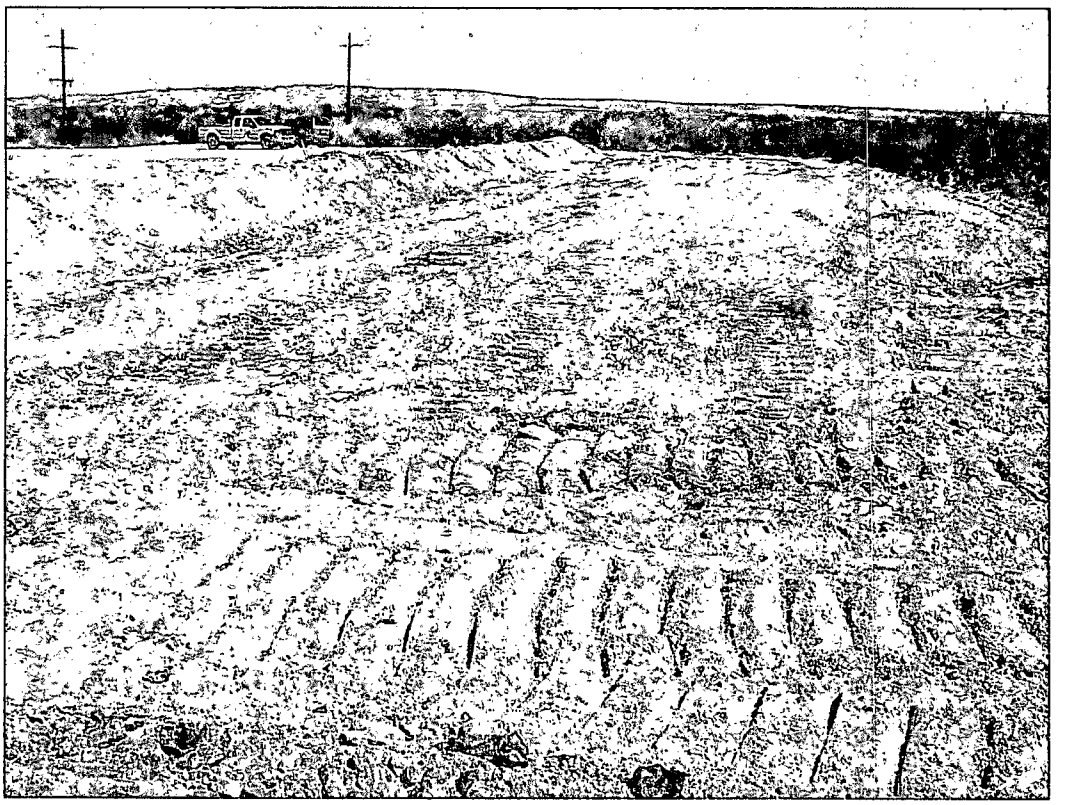


Figure 4: Western 1/3 of caliche pad removed and ready for ripping and seeding. Portions of the caliche pad were included in BLM interim reclamation activities.

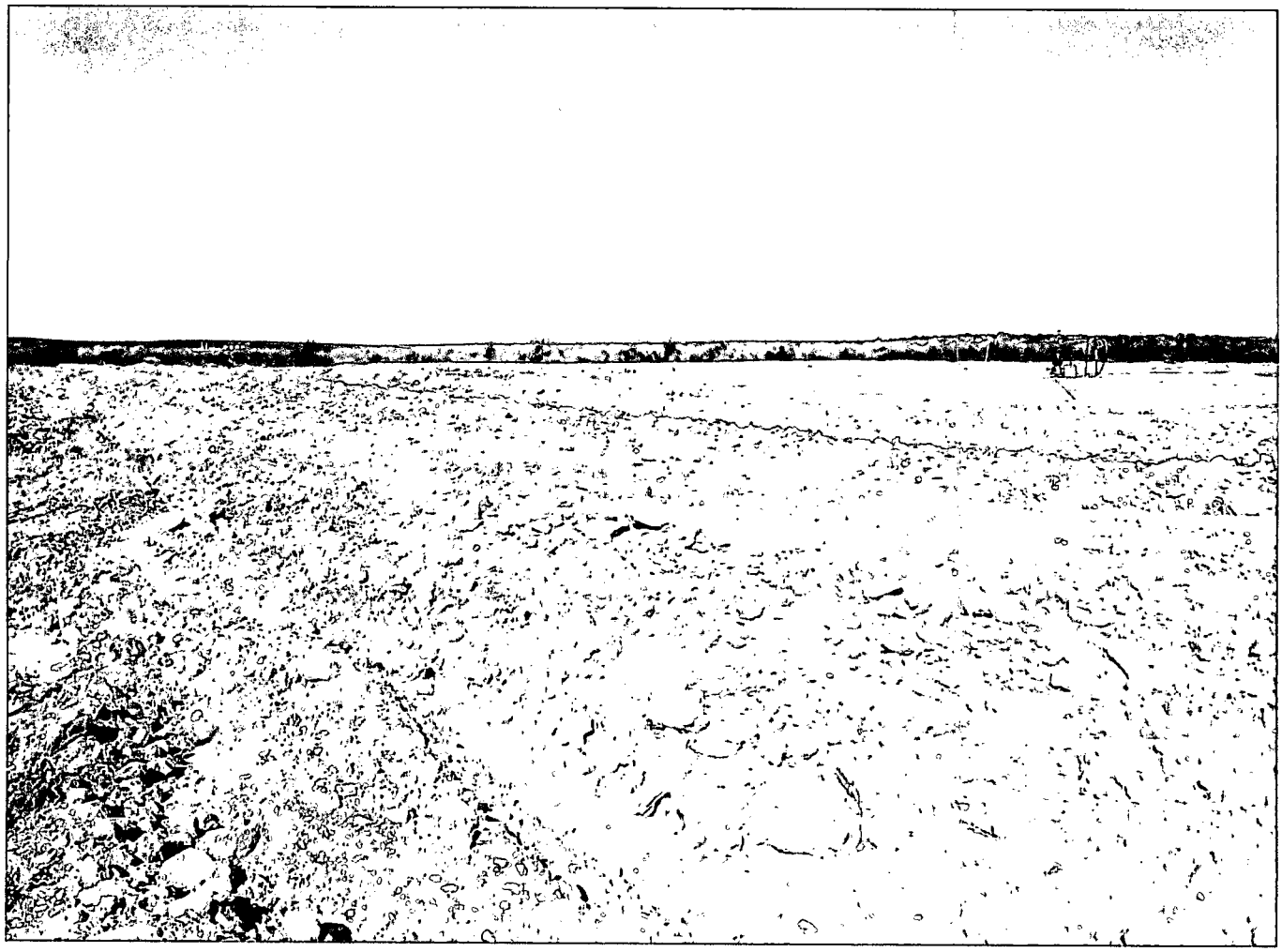


Figure 5: Photo of remediated western 1/3 of caliche pad, viewing north. Area was ripped and seeded with BLM seed mixture #4 and Alkali Sacaton.