



AE Order Number Banner

Report Description

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App Number: pEEM0112359909

NM2 - 8

XTO ENERGY, INC.

3/7/2018

68

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: James McDaniel	
Address: 382 Road 3100, Aztec, New Mexico 87410	Telephone No.: (505) 333-3701	
Facility Name: Central Evaporation Pond #1 (Permit NM-2-008)	Facility Type: Evaporation Pond	
Surface Owner: Federal	Mineral Owner:	Lease No.:

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	31	32N	8W					San Juan

Latitude: 36.947107 Longitude: -107.717228

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: Unknown	Volume Recovered: None
Source of Release: Evaporation Pond	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: NA
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	OIL CONS. DIV DIST. 3 MAR 11 2013
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*



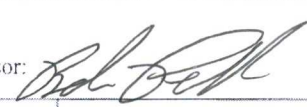
On May 13, 2011, I.T Environmental collected closure samples beneath the liner of Central Evaporation Pond #1 as outlined in the attached *Soil Sampling Results Report*. The samples were analyzed for each of the constituents outlined in the closure procedures for a centralized waste facility. Chloride results for samples collected in sections F,G,H and I returned results above the 250 mg/kg Spill Confirmation results outlined in the attached *Approved Closure Plan*. This confirmed that a release had occurred at this location. The chlorides found in sections F,G,H and I was the results of overspray, and not a result of a leak in the pond liner. Chlorides collected from sections A, B C and D, which were beneath the pond liner, returned results below the 250 mg/kg standard for the determination of a release. The site was ranked a 10 according to the NMOCD Guidelines for the Remediation of Leaks, Spills and Releases due to a drainage at less than 1,000 feet from the location. This set the closure standard to 1,000 ppm TPH, 10 ppm benzene and 50 ppm total BTEX.

Describe Area Affected and Cleanup Action Taken.*

The analytical results are attached in the *Soil Sampling Results Report*. All results are below the regulatory standards outlined in the NMOCD Guidelines for the Remediation of Leaks, Spills and Releases. The NMOCD Guidelines for the Remediation of Leaks, Spills and Releases does not cite a closure standard for chlorides, and based on a depth to groundwater of over 100 feet at this location, the chloride levels present will not pose a threat to human health and the environment.

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.

OIL CONSERVATION DIVISION

Signature: 		Approved by District Supervisor: 
Printed Name: James McDaniel, CHMM #15676		Approval Date: <u>3/20/13</u>
Title: EH&S Supervisor	Conditions of Approval:	Attached <input type="checkbox"/>
E-mail Address: James_McDaniel@xtoenergy.com	Date: <u>3/11/2013</u>	Phone: <u>505-333-3701</u>

n JK 1307953427

SITE NAME:

CENTRALIZED EVAPORATION POND #1
SECTION 31, TOWNSHIP 32N, RANGE 8W
SAN JUAN COUNTY, NEW MEXICO
OCD PERMIT NO. NM-02-0008

SUBMITTED TO:

MR. BRAD JONES
NEW MEXICO OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87505
(505) 476-3487

SUBMITTED BY:

XTO ENERGY, INC.
SAN JUAN DIVISION
382 ROAD 3100
AZTEC, NEW MEXICO 87410
(505) 333-3100

MARCH 11, 2013

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Attachment #2 Reclamation Plan
Attachment #3 Photo Documentation
Attachment #4 LT Environmental Sampling Report

INTRODUCTION

The Centralized Evaporation Pond #1 (Pond #1) was originally permitted by the New Mexico Oil Conservation Division (OCD) for Koch Exploration in July of 1998, OCD Permit No. NM-02-0008. The pond lease and permit was acquired by XTO Energy, Inc. (XTO) in 2009 from El Paso Exploration and Production Company, and approval to transfer the permit was issued in March of 2009. The evaporation pond was used to dispose of produced water from the Gardner C #2, Gardner C #3, Gardner C #4 and Gardner C #6 well sites by previous operators. These wells are now owned and operated by XTO, however Pond #1 has not been used for disposal by XTO. XTO notified OCD in April 2009 of plans for evaporating the fluid in the pond in order to clean and inspect the liner as part of our routine operations and maintenance program. During inspection and maintenance, obsolete, damaged and non-operational equipment was removed from the location. Based on completion of this process XTO has decided to close Pond #1. A closure plan for this evaporation pond was submitted to your office and approved on February 17, 2011.

SCOPE OF CLOSURE ACTIVITIES

The purpose of this closure report is to provide details of the closure activities performed by XTO for Evaporation Pond #1 located in Section 31, Township 32N, Range 8W.

- 1) *XTO notified the division's environmental bureau on April 28, 2009 of the cessation of operations at Pond #1 as part of our plans for evaporating the fluid in the pond in order to clean and inspect the liner. This closure plan and proposed schedule has been submitted to the division for adequacy in accordance with Paragraph 1 of Subsection A of NMAC 19.15.36.18.*

This closure plan was approved by the OCD on February 17, 2011.

- 2) *XTO is requesting an exception to Paragraph 2 of Subsection A of NMAC 19.15.36.18, the division's 60 days for notification of modifications of the closure plan and proposed schedule, based on the time of year and expected weather impediments. Winter precipitation, snow melt and Federal area closures will hinder closure operations.*

Closure activities occurred at this site from April 4, 2011 through October 9, 2012

- 3) *However, if the division does not notify XTO of additional closure requirements within 60 days as provided, the operator may proceed with closure in accordance with the approved closure plan; provided that the director, for good cause, extend the time for the division's response for an additional period not to exceed 60 days by written notice to XTO in accordance with Paragraph 3 of Subsection A of NMAC 19.15.36.18.*

XTO is in receipt of the additional closure requirements outlined in the February 17, 2011 letter from the OCD. This letter is enclosed as Attachment #1.

- 4) *XTO shall be entitled to a hearing concerning a modification or additional requirement the division seeks to impose if it files an application for a hearing within 10 days after*

receipt of written notice of the proposed modifications or additional requirements in accordance with Paragraph 4 of Subsection A of NMAC 19.15.36.18.

A hearing was not requested by XTO Energy, Inc.

- 5) *Closure shall proceed in accordance with the approved closure plan and schedule and modifications or additional requirements the division imposes. During closure operations XTO shall maintain the surface waste management facility to protect fresh water, public health, safety and the environment in accordance with Paragraph 5 of Subsection A of NMAC 19.15.36.18.*

Closure activities were performed in accordance with the approved closure plan.

- 6) *Upon completion of closure, XTO shall re-vegetate the site in accordance with the included Reclamation Plan. The surface owner of this site is the Bureau of Land Management (BLM) and the included Reclamation Plan conforms to BLM requirements and is in accordance with Paragraph 6 of Subsection A of NMAC 19.15.36.18.*

XTO has reclaimed the pond in accordance with BLM standards and as outlined in, Attachment #2.

- 7) *All water and sediment in the pond has been removed and disposed of at an OCD permitted disposal facility in order to inspect the liner as per our agreement with OCD dated April 2009 and in accordance with Paragraph 1 Subsection E of NMAC 19.15.36.18.*

All water in Evaporation Pond #1 was removed and disposed of at Agua Moss' OCD permitted injection facility, OCD permit number NMOCD-07-162. Approximately 285 yards of sediments and 1150 barrels of sludge were disposed of at CRI's OCD permitted landfill, OCD permit number NM-01-006.

- 8) *All liners and bedding material will be inspected for re-use in other Oil and Gas operations (with OCD approval). Portions of the liner and bedding material that are deemed unusable will be properly cleaned and disposed of per 19.15.9.712 NMAC at the Bondad Landfill, located in La Plata County, Colorado (due to location) or the San Juan County Landfill, located in San Juan County, New Mexico. Concrete used to make up the leak detection system footer will be broken up and screened for Naturally Occurring Radioactive Material before being hauled to the Bondad Landfill for disposal.*

All liner and bedding material was removed and disposed of at the Bondad Landfill. Upon removal of the sump area, it was discovered that there was no concrete in the leak detection area. The leak detection was made up of an 8" PVC connected to the 1" leak detection piping running beneath the pond liner. Please see the photographs presented in Attachment #3.

- 9) *The soil beneath the evaporation pond liner, pond sidewalls, liquids receiving and treatment area, leak detection area, and area outside the berm will be sampled, by a third party contractor, into 4-ounce glass jars, capped headspace free, and analyzed for BTEX via USEPA Method 8021B, and for total petroleum hydrocarbons (TPH) via USEPA*

Method 418.1, total chlorides, and 3103 Subsection A and Subsection B constituents in accordance with NMAC 20.6.2.3103AB. Samples will also be collected from the natural background (for comparative purposes), to be analyzed for metals, and other inorganics listed in Subsections A and B of NMAC 20.6.2.3103. Standard metals will be analyzed via USEPA Method 6010B, Mercury will be analyzed via USEPA Method 7470 and cyanide will be analyzed via USEPA Method 9012B. Fluoride, Nitrate, Sulfate and Chlorides will be analyzed via USEPA Method 9056. Polychlorinated Biphenyls (PCB) will be analyzed via USEPA Method 8082, Volatile Organic Compounds (VOCs) will be analyzed via USEPA Method 8260B, Poly Aromatic Hydrocarbons (PAH) will be analyzed via USEPA Method 8310, Ethylene Dibromide (EDB) will be analyzed via USEPA Method 8011, Phenols will be analyzed via USEPA Method 9066, Total Dissolved Solids (TDS) will be analyzed via USEPA Method 2540C, Uranium will be analyzed via USEPA Method 200.8, and Radium 226/228 will be analyzed via USEPA Method 7500.

Individual grab samples will be obtained from any areas (beneath the evaporation pond liner, pond sidewalls, liquids receiving and treatment area, leak detection area, and area outside the berm) with visually obvious staining or moist soil. If the liner is obviously damaged, or there is any indication of a release, a subsurface investigation will be conducted.

Please see attached closure sampling report from LT Environmental (LTE) as Attachment #4. The metals results presented in Attachment #4 were analyzed using the RCRA 8 metals procedure for total metals. As a typical rule of thumb, TCLP metals are typically 1/20th of the metals found during total metals analysis.

- 10) Samples will be collected in accordance with the USEPA SW-846 protocols. Four (4) soil samples will be collected from beneath the pond and along the pond sidewalls, one in each quadrant of a grid pattern. Each sample will be a 10 point composite as shown on Figure 3. Each grid will measure approximately 160' x 160'. The evaporation pond is approximately 315' x 315'. One additional composite sample will be collected beneath the concrete footer of the leak detection system as well. One background sample of virgin, undisturbed soil will be analyzed for comparative purposes. The sample results will be submitted to the OCD Santa Fe office in accordance with Paragraphs 4-5 of Subsection E of NMAC 19.15.36.18.*

A sample grid map is included in the LTE Sampling Report, Attachment #4, as Figure #2.

- 11) Considerations: This site has an OCD Hazard Ranking of 10 based on depth to groundwater of over 100 feet, distance to a water well of over 1,000 feet, and horizontal distance to surface water of over 200 feet; see **Figure 1, Vicinity Map**. Sample results above 100 mg/kg TPH, 10 mg/kg benzene and 50 mg/kg BTEX standards will be excavated and a new sample collected as per OCD Guidelines for the Remediation of Leaks, Spills and Releases. Should all closure samples return results below the closure*


standards determined for this site, no excavation will be required. Soil samples will be collected and analyzed for a chloride standard of 250 mg/kg or background to determine if a release has occurred.

Each of the Evaporation Pond closure samples were found in the laboratory to be below the closure standards outlined in the OCD Guidelines for the Remediation of Leaks, Spills and Releases.

- 12) Once laboratory analysis indicates closure standards have been achieved for the site, the evaporation pond will be backfilled using non-waste containing soil, and re-contoured and re-vegetated pursuant to the attached **Grading Plan** and **Reclamation Plan**. These plans conform to NMAC 19.15.36.18 and BLM requirements.*
- 13) The facility has been reclaimed pursuant to the attached Grading plan and Reclamation Plan. The reclamation plan includes soil amendments approved by the BLM to facilitate growth at this location. The site has been seeded with a seed mixture containing a minimum of three (3) native plant species, including at least one (1) native grass, not including noxious weeds. The seed mixture analysis and the invoice for seeding from Ridgeline Seeding and Reclamation, Inc. have been attached for your reference.**
- 14) The post-closure care period for the evaporation pond closure shall be three years if XTO has achieved clean closure. During that period XTO or another responsible entity shall regularly inspect and maintain the required re-vegetation. If there has been a release to the vadose zone or to groundwater, then XTO shall comply with applicable requirements of 19.15.29 and 19.15.30 NMAC in accordance with Subsection F on NMAC 19.15.36.18.*
- No release has been confirmed in the Vadose Zone.**
- 15) Once all closure activities have been completed, a report detailing on-site activities and sampling results will be prepared and submitted to OCD environmental bureau in Santa Fe.*

This report is intended to be the above mentioned closure report.

XTO Energy, Inc. has completed closure activities at Evaporation Pond #1 located in Section 31, Township 32N, Range 8W, San Juan County, New Mexico. Pending approval of this closure report, Evaporation Pond #1 will no longer be permitted as a Centralized Waste Facility regulated by the OCD.


James McDaniel, CHMM #15676
EH&S Supervisor
XTO Energy, Inc.





June 21, 2011

Mr. James McDaniel
XTO Energy, Inc.
382 CR 3100
Aztec, NM 87410

**RE: Soil Sampling Results
XTO Energy, Inc.
Centralized Evaporation Pond #1 Permit NM-02-0008
San Juan County, New Mexico**

Dear Mr. McDaniel:

LT Environmental, Inc. (LTE) is pleased to provide XTO Energy, Inc. (XTO) with this letter summarizing the results of soil sampling activities at the Centralized Evaporation Pond #1, permit number NM-02-0008 (Site). The Site is located in the northeast $\frac{1}{4}$ of the northwest $\frac{1}{4}$ of Section 31 in Township 32 North, Range 8 West, San Juan County, New Mexico (Figure 1). LTE collected soil samples for closure of the evaporation pond, which was used by previous operators to dispose of produced water generated at nearby natural gas wells.

SOIL SAMPLING

XTO removed all water and sediment from the pond, the pond liner, and any other facility equipment prior to sampling. On May 12 and May 16, 2011, LTE collected ten composite soil samples and one background soil sample from locations specified in the January 13, 2011 closure plan submitted by XTO to the New Mexico Oil Conservation Division (NMOCD) and approved by the NMOCD on February 17, 2011. LTE conducted a visual investigation of the Site and did not observe any stained or moist soil from which to collect additional samples.

Composite soil sample locations are shown in Figure 2. Four ten-point composite samples were collected from beneath the former pond liner including the bottom and side walls of the pond (Samples A, B, C, and D). Five-point composite samples were collected beneath the former leak detection sump (Sample E), beneath the former liquids receiving and treatment area (Sample F), and from four areas outside of the former berm (Samples G, H, I, and J). A discrete background sample was collected from the ground surface outside of the facility perimeter in the estimated up-gradient direction (north). For each composite soil sample, LTE deposited the appropriate number of aliquots of soil into plastic bags, thoroughly mixed the contents and sampled into 4-ounce glass jars. The soil samples were stored on ice and shipped in a cooler to Environmental Science Corporation in Mt. Juliet, Tennessee, and Hall Environmental Analysis Laboratory in Albuquerque, New Mexico following strict chain of custody procedures. The soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes by United States Environmental Protection Agency (USEPA) Method 8021B and total petroleum hydrocarbons by USEPA Method 418.1. Additionally, the following constituents listed in Subsections A and B of



20.6.2.3103 of the New Mexico Administrative Code were analyzed based on knowledge of process: arsenic, barium, cadmium, chromium, cyanide, fluoride, lead, total mercury, nitrate, selenium, silver, uranium, combined radioactivity, copper, iron, manganese, chloride, sulfate, total dissolved solids, zinc, and pH.

RESULTS

Table 1 lists the soil analytical results determined in the background sample and composite closure samples. The complete laboratory analytical reports are attached as Appendix A.

LTE appreciates the opportunity to provide environmental services to XTO. If you have any questions regarding this report, please contact us at (970) 385-1096.

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink, reading 'Ashley L. Ager'.

Ashley L. Ager, M.S.
Senior Geologist/Office Manager

A handwritten signature in black ink, reading 'Brooke Herb'.

Brooke Herb
Staff Geologist

Attachments (4)

Figure 1 – Site Location Map

Figure 2 – Soil Sampling Location Map

Table 1 – Soil Analytical Results

Appendix A – Laboratory Analytical Reports

FIGURES





IMAGE COURTESY OF USGS/NRCS, VARIOUS DATES

LEGEND

 SITE LOCATION

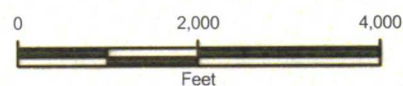
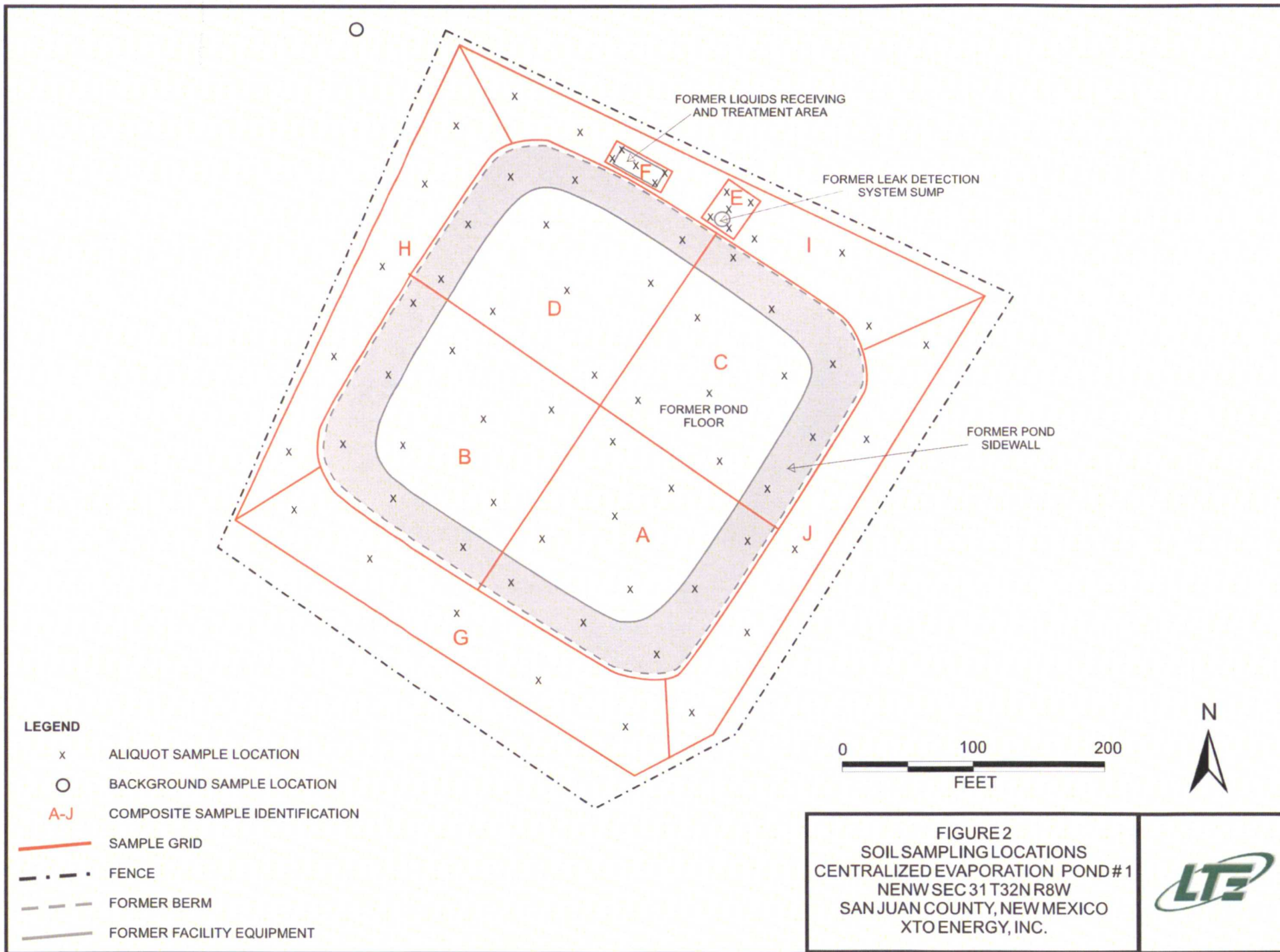


FIGURE 1
SITE LOCATION MAP
CENTRALIZED EVAPORATION POND #1
NENW SEC 31 T32N R8W
SAN JUAN COUNTY, NEW MEXICO
XTO ENERGY, INC.





TABLE



TABLE 1
SOIL SAMPLE RESULTS
CENTRALIZED EVAPORATION POND #1
XTO ENERGY, INC.

Sample ID		Background	A	B	C	D	E	F	G	H	I	J
Sample Date		5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/16/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011
Analyte	Units											
Benzene	mg/kg	<0.0026	<0.0027	<0.0028	<0.0027	<0.0026	<0.0026	<0.0026	<0.0026	<0.0027	<0.0026	<0.0027
Toluene	mg/kg	<0.026	<0.027	<0.028	<0.027	<0.026	<0.026	<0.026	<0.026	<0.027	<0.026	<0.027
Ethylbenzene	mg/kg	<0.0026	<0.0027	<0.0028	<0.0027	<0.0026	<0.0026	<0.0026	<0.0026	<0.0027	<0.0026	<0.0027
Total Xylene	mg/kg	<0.0080	<0.0080	<0.0083	<0.0080	<0.0080	<0.0079	<0.0077	<0.0078	<0.0080	<0.0078	<0.0081
Total Petroleum Hydrocarbons	mg/kg	<20	<20	<20	<20	<20	<20	35	<20	46	39	<20
pH	S.U.	7.4	8.8	8.5	8.8	8.5	7.5	9.2	10.0	9.0	7.1	7.7
Total Dissolved Solids	%	94	94	91	94	94	95	97	96	93	96	93
Sulfate	mg/kg	<53	220	400	250	380	540	680	260	340	270	280
Nitrate	mg/kg	<1.1	1.1	9.1	2.3	20.0	4.7	20.0	18.0	27.0	26.0	15.0
Chloride	mg/kg	42	91	240	190	180	150	310	560	330	420	210
Uranium	mg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Arsenic	mg/kg	4.0	1.8	3.3	3.6	2.7	19.0	7.1	7.0	5.3	4.2	1.3
Barium	mg/kg	180	130	250	250	350	380	510	370	220	390	130
Cadmium	mg/kg	<0.26	<0.27	<0.28	<0.27	<0.26	0.76	<0.26	<0.26	<0.27	<0.26	<0.27
Chromium	mg/kg	11.0	5.1	5.2	5.3	5.4	6.2	5.9	5.5	5.6	6.6	5.2
Cyanide	mg/kg	<0.26	<0.27	<0.28	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.26	<0.27
Fluoride	mg/kg	4.9	16.0	18.0	7.7	9.1	6.7	4.1	11.0	8.2	13.0	11.0
Lead	mg/kg	11.0	8.0	7.9	9.0	9.3	15.0	9.2	9.8	10.0	9.2	8.4
Mercury	mg/kg	0.033	0.022	0.037	0.041	0.039	0.043	0.023	0.037	0.034	0.026	<0.022
Selenium	mg/kg	<1.1	<1.1	<1.1	<1.1	<1.1	7.5	<1.0	<1.0	<1.1	<1.0	<1.1
Silver	mg/kg	<0.53	<0.53	<0.55	<0.53	<0.53	<0.53	<0.51	<0.52	<0.54	<0.52	<0.54
Copper	mg/kg	8.2	13.0	14.0	14.0	15.0	9.3	12.0	14.0	18.0	18.0	17.0
Iron	mg/kg	13,000	10,000	12,000	11,000	12,000	10,000	11,000	12,000	12,000	12,000	12,000
Manganese	mg/kg	240	110	130	100	170	130	160	110	120	180	120
Zinc	mg/kg	37	31	40	42	35	33	31	40	34	41	43
Radium-226	pCi/g	0.889	1.060	0.793	1.080	0.933	1.000	0.600	0.842	0.849	0.943	0.865
Radium -228	pCi/g	0.905	0.871	0.878	1.410	1.340	0.967	1.100	2.010	0.801	1.420	0.953
Combined Radioactivity	pCi/g	1.794	1.931	1.671	2.490	2.273	1.967	1.700	2.852	1.650	2.363	1.818

Notes:

% - percent

mg/kg - milligram per kilogram

pCi/g - PicoCurries per gram

S.U. - Standard unit

APPENDIX A
LABORATORY ANALYTICAL REPORTS





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 Road 3100
Aztec, NM 87410

Report Summary

Monday May 23, 2011

Report Number: L516328

Samples Received: 05/17/11

Client Project:

Description: CORONADO POND #1

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:

Daphne Richards, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

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.

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12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

May 23, 2011

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

ESC Sample # : L516328-01

Date Received : May 17, 2011
Description : CORONADO POND #1

Site ID : CORONADO POND #1

Sample ID : A

Project # :

Collected By : Brooke Herb
Collection Date : 05/13/11 11:23

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Chloride	91.	11.	mg/kg	9056	05/18/11	1
Fluoride	16.	1.1	mg/kg	9056	05/18/11	1
Nitrate	1.1	1.1	mg/kg	9056	05/18/11	1
Sulfate	220	53.	mg/kg	9056	05/18/11	1
Cyanide	BDL	0.27	mg/kg	9012B	05/20/11	1
pH	8.8		su	9045D	05/18/11	1
Total Solids	94.		%	2540G	05/20/11	1
Mercury	0.022	0.021	mg/kg	7471	05/18/11	1
Arsenic	1.8	1.1	mg/kg	6010B	05/18/11	1
Barium	130	0.27	mg/kg	6010B	05/18/11	1
Cadmium	BDL	0.27	mg/kg	6010B	05/18/11	1
Chromium	5.1	0.53	mg/kg	6010B	05/18/11	1
Copper	13.	1.1	mg/kg	6010B	05/18/11	1
Iron	10000	5.3	mg/kg	6010B	05/18/11	1
Lead	8.0	0.27	mg/kg	6010B	05/18/11	1
Manganese	110	0.53	mg/kg	6010B	05/18/11	1
Selenium	BDL	1.1	mg/kg	6010B	05/18/11	1
Silver	BDL	0.53	mg/kg	6010B	05/18/11	1
Zinc	31.	1.6	mg/kg	6010B	05/18/11	1
Benzene	BDL	0.0027	mg/kg	8021B	05/19/11	5
Toluene	BDL	0.027	mg/kg	8021B	05/19/11	5
Ethylbenzene	BDL	0.0027	mg/kg	8021B	05/19/11	5
Total Xylene	BDL	0.0080	mg/kg	8021B	05/19/11	5
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	106.		% Rec.	8021B	05/19/11	5

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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L516328-01 (PH) - 8.8@21.2c



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REPORT OF ANALYSIS

May 23, 2011

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

Date Received : May 17, 2011
Description : CORONADO POND #1

Sample ID : B

Collected By : Brooke Herb
Collection Date : 05/13/11 11:37

ESC Sample # : L516328-02

Site ID : CORONADO POND #1

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Chloride	240	11.	mg/kg	9056	05/18/11	1
Fluoride	18.	1.1	mg/kg	9056	05/18/11	1
Nitrate	9.1	1.1	mg/kg	9056	05/18/11	1
Sulfate	400	55.	mg/kg	9056	05/18/11	1
Cyanide	BDL	0.28	mg/kg	9012B	05/20/11	1
pH	8.5		su	9045D	05/18/11	1
Total Solids	91.		%	2540G	05/20/11	1
Mercury	0.037	0.022	mg/kg	7471	05/18/11	1
Arsenic	3.3	1.1	mg/kg	6010B	05/18/11	1
Barium	250	0.28	mg/kg	6010B	05/18/11	1
Cadmium	BDL	0.28	mg/kg	6010B	05/18/11	1
Chromium	5.2	0.55	mg/kg	6010B	05/18/11	1
Copper	14.	1.1	mg/kg	6010B	05/18/11	1
Iron	12000	5.5	mg/kg	6010B	05/18/11	1
Lead	7.9	0.28	mg/kg	6010B	05/18/11	1
Manganese	130	0.55	mg/kg	6010B	05/18/11	1
Selenium	BDL	1.1	mg/kg	6010B	05/18/11	1
Silver	BDL	0.55	mg/kg	6010B	05/18/11	1
Zinc	40.	1.6	mg/kg	6010B	05/18/11	1
Benzene	BDL	0.0028	mg/kg	8021B	05/19/11	5
Toluene	BDL	0.028	mg/kg	8021B	05/19/11	5
Ethylbenzene	BDL	0.0028	mg/kg	8021B	05/19/11	5
Total Xylene	BDL	0.0083	mg/kg	8021B	05/19/11	5
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene (PID)	107.		% Rec.	8021B	05/19/11	5

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

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L516328-02 (PH) - 8.5@21.2c



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REPORT OF ANALYSIS

May 23, 2011

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

ESC Sample # : L516328-03

Date Received : May 17, 2011
Description : CORONADO POND #1

Site ID : CORONADO POND #1

Sample ID : C

Project # :

Collected By : Brooke Herb
Collection Date : 05/13/11 11:30

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Chloride	190	11.	mg/kg	9056	05/18/11	1
Fluoride	7.7	1.1	mg/kg	9056	05/18/11	1
Nitrate	2.3	1.1	mg/kg	9056	05/18/11	1
Sulfate	250	53.	mg/kg	9056	05/18/11	1
Cyanide	BDL	0.27	mg/kg	9012B	05/20/11	1
pH	8.8		su	9045D	05/18/11	1
Total Solids	94.		%	2540G	05/20/11	1
Mercury	0.041	0.021	mg/kg	7471	05/18/11	1
Arsenic	3.6	1.1	mg/kg	6010B	05/18/11	1
Barium	250	0.27	mg/kg	6010B	05/18/11	1
Cadmium	BDL	0.27	mg/kg	6010B	05/18/11	1
Chromium	5.3	0.53	mg/kg	6010B	05/18/11	1
Copper	14.	1.1	mg/kg	6010B	05/18/11	1
Iron	11000	5.3	mg/kg	6010B	05/18/11	1
Lead	9.0	0.27	mg/kg	6010B	05/18/11	1
Manganese	100	0.53	mg/kg	6010B	05/18/11	1
Selenium	BDL	1.1	mg/kg	6010B	05/18/11	1
Silver	BDL	0.53	mg/kg	6010B	05/18/11	1
Zinc	42.	1.6	mg/kg	6010B	05/18/11	1
Benzene	BDL	0.0027	mg/kg	8021B	05/19/11	5
Toluene	BDL	0.027	mg/kg	8021B	05/19/11	5
Ethylbenzene	BDL	0.0027	mg/kg	8021B	05/19/11	5
Total Xylene	BDL	0.0080	mg/kg	8021B	05/19/11	5
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	107.		% Rec.	8021B	05/19/11	5

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

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REPORT OF ANALYSIS

May 23, 2011

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

Date Received : May 17, 2011
Description : CORONADO POND #1

Sample ID : D

Collected By : Brooke Herb
Collection Date : 05/13/11 11:15

ESC Sample # : L516328-04

Site ID : CORONADO POND #1

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Chloride	180	11.	mg/kg	9056	05/18/11	1
Fluoride	9.1	1.1	mg/kg	9056	05/18/11	1
Nitrate	20.	1.1	mg/kg	9056	05/18/11	1
Sulfate	380	53.	mg/kg	9056	05/18/11	1
Cyanide	BDL	0.26	mg/kg	9012B	05/20/11	1
pH	8.5		su	9045D	05/18/11	1
Total Solids	94.		%	2540G	05/20/11	1
Mercury	0.039	0.021	mg/kg	7471	05/18/11	1
Arsenic	2.7	1.1	mg/kg	6010B	05/18/11	1
Barium	350	0.26	mg/kg	6010B	05/18/11	1
Cadmium	BDL	0.26	mg/kg	6010B	05/18/11	1
Chromium	5.4	0.53	mg/kg	6010B	05/18/11	1
Copper	15.	1.1	mg/kg	6010B	05/18/11	1
Iron	12000	5.3	mg/kg	6010B	05/18/11	1
Lead	9.3	0.26	mg/kg	6010B	05/18/11	1
Manganese	170	0.53	mg/kg	6010B	05/18/11	1
Selenium	BDL	1.1	mg/kg	6010B	05/18/11	1
Silver	BDL	0.53	mg/kg	6010B	05/18/11	1
Zinc	35.	1.6	mg/kg	6010B	05/18/11	1
Benzene	BDL	0.0026	mg/kg	8021B	05/19/11	5
Toluene	BDL	0.026	mg/kg	8021B	05/19/11	5
Ethylbenzene	BDL	0.0026	mg/kg	8021B	05/19/11	5
Total Xylene	BDL	0.0080	mg/kg	8021B	05/19/11	5
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	106.		% Rec.	8021B	05/19/11	5

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

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REPORT OF ANALYSIS

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

May 23, 2011

Date Received : May 17, 2011
Description : CORONADO POND #1
Sample ID : F
Collected By : Brooke Herb
Collection Date : 05/13/11 10:49

ESC Sample # : L516328-05

Site ID : CORONADO POND #1

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Chloride	310	10.	mg/kg	9056	05/18/11	1
Fluoride	4.1	1.0	mg/kg	9056	05/18/11	1
Nitrate	20.	1.0	mg/kg	9056	05/18/11	1
Sulfate	680	51.	mg/kg	9056	05/18/11	1
Cyanide	BDL	0.26	mg/kg	9012B	05/20/11	1
pH	9.2		su	9045D	05/18/11	1
Total Solids	97.		%	2540G	05/20/11	1
Mercury	0.023	0.020	mg/kg	7471	05/18/11	1
Arsenic	7.1	1.0	mg/kg	6010B	05/18/11	1
Barium	510	0.26	mg/kg	6010B	05/18/11	1
Cadmium	BDL	0.26	mg/kg	6010B	05/18/11	1
Chromium	5.9	0.51	mg/kg	6010B	05/18/11	1
Copper	12.	1.0	mg/kg	6010B	05/18/11	1
Iron	11000	5.1	mg/kg	6010B	05/18/11	1
Lead	9.2	0.26	mg/kg	6010B	05/18/11	1
Manganese	160	0.51	mg/kg	6010B	05/18/11	1
Selenium	BDL	1.0	mg/kg	6010B	05/18/11	1
Silver	BDL	0.51	mg/kg	6010B	05/18/11	1
Zinc	31.	1.5	mg/kg	6010B	05/18/11	1
Benzene	BDL	0.0026	mg/kg	8021B	05/19/11	5
Toluene	BDL	0.026	mg/kg	8021B	05/19/11	5
Ethylbenzene	BDL	0.0026	mg/kg	8021B	05/19/11	5
Total Xylene	BDL	0.0077	mg/kg	8021B	05/19/11	5
Surrogate Recovery(%) a,a,a-Trifluorotoluene (PID)	107.		% Rec.	8021B	05/19/11	5

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

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L516328-05 (PH) - 9.2@21.2c



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REPORT OF ANALYSIS

May 23, 2011

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

ESC Sample # : L516328-06

Date Received : May 17, 2011
Description : CORONADO POND #1

Site ID : CORONADO POND #1

Sample ID : G

Project # :

Collected By : Brooke Herb
Collection Date : 05/13/11 11:46

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Chloride	560	10.	mg/kg	9056	05/18/11	1
Fluoride	11.	1.0	mg/kg	9056	05/18/11	1
Nitrate	18.	1.0	mg/kg	9056	05/18/11	1
Sulfate	260	52.	mg/kg	9056	05/18/11	1
Cyanide	BDL	0.26	mg/kg	9012B	05/20/11	1
pH	10.		su	9045D	05/18/11	1
Total Solids	96.		%	2540G	05/20/11	1
Mercury	0.037	0.021	mg/kg	7471	05/18/11	1
Arsenic	7.0	1.0	mg/kg	6010B	05/18/11	1
Barium	370	0.26	mg/kg	6010B	05/18/11	1
Cadmium	BDL	0.26	mg/kg	6010B	05/18/11	1
Chromium	5.5	0.52	mg/kg	6010B	05/18/11	1
Copper	14.	1.0	mg/kg	6010B	05/18/11	1
Iron	12000	5.2	mg/kg	6010B	05/18/11	1
Lead	9.8	0.26	mg/kg	6010B	05/18/11	1
Manganese	110	0.52	mg/kg	6010B	05/18/11	1
Selenium	BDL	1.0	mg/kg	6010B	05/18/11	1
Silver	BDL	0.52	mg/kg	6010B	05/18/11	1
Zinc	40.	1.6	mg/kg	6010B	05/18/11	1
Benzene	BDL	0.0026	mg/kg	8021B	05/19/11	5
Toluene	BDL	0.026	mg/kg	8021B	05/19/11	5
Ethylbenzene	BDL	0.0026	mg/kg	8021B	05/19/11	5
Total Xylene	BDL	0.0078	mg/kg	8021B	05/19/11	5
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	106.		% Rec.	8021B	05/19/11	5

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

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L516328-06 (PH) - 10@21.2c



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REPORT OF ANALYSIS

May 23, 2011

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

Date Received : May 17, 2011
Description : CORONADO POND #1

Sample ID : H

Collected By : Brooke Herb
Collection Date : 05/13/11 11:42

ESC Sample # : L516328-07

Site ID : CORONADO POND #1

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Chloride	330	11.	mg/kg	9056	05/18/11	1
Fluoride	8.2	1.1	mg/kg	9056	05/18/11	1
Nitrate	27.	1.1	mg/kg	9056	05/18/11	1
Sulfate	340	54.	mg/kg	9056	05/18/11	1
Cyanide	BDL	0.27	mg/kg	9012B	05/20/11	1
pH	9.0		su	9045D	05/18/11	1
Total Solids	93.		%	2540G	05/20/11	1
Mercury	0.034	0.021	mg/kg	7471	05/18/11	1
Arsenic	5.3	1.1	mg/kg	6010B	05/20/11	1
Barium	220	0.27	mg/kg	6010B	05/20/11	1
Cadmium	BDL	0.27	mg/kg	6010B	05/20/11	1
Chromium	5.6	0.54	mg/kg	6010B	05/20/11	1
Copper	18.	1.1	mg/kg	6010B	05/20/11	1
Iron	12000	5.4	mg/kg	6010B	05/20/11	1
Lead	10.	0.27	mg/kg	6010B	05/20/11	1
Manganese	120	0.54	mg/kg	6010B	05/20/11	1
Selenium	BDL	1.1	mg/kg	6010B	05/20/11	1
Silver	BDL	0.54	mg/kg	6010B	05/20/11	1
Zinc	34.	1.6	mg/kg	6010B	05/20/11	1
Benzene	BDL	0.0027	mg/kg	8021B	05/19/11	5
Toluene	BDL	0.027	mg/kg	8021B	05/19/11	5
Ethylbenzene	BDL	0.0027	mg/kg	8021B	05/19/11	5
Total Xylene	BDL	0.0080	mg/kg	8021B	05/19/11	5
Surrogate Recovery(%) a,a,a-Trifluorotoluene(PID)	107.		% Rec.	8021B	05/19/11	5

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

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REPORT OF ANALYSIS

May 23, 2011

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

Date Received : May 17, 2011
Description : CORONADO POND #1
Sample ID : I
Collected By : Brooke Herb
Collection Date : 05/13/11 11:57

ESC Sample # : L516328-08

Site ID : CORONADO POND #1

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Chloride	420	10.	mg/kg	9056	05/18/11	1
Fluoride	13.	1.0	mg/kg	9056	05/18/11	1
Nitrate	26.	1.0	mg/kg	9056	05/18/11	1
Sulfate	270	52.	mg/kg	9056	05/18/11	1
Cyanide	BDL	0.26	mg/kg	9012B	05/20/11	1
pH	7.1		su	9045D	05/20/11	1
Total Solids	96.		%	2540G	05/23/11	1
Mercury	0.026	0.021	mg/kg	7471	05/18/11	1
Arsenic	4.2	1.0	mg/kg	6010B	05/20/11	1
Barium	390	0.26	mg/kg	6010B	05/20/11	1
Cadmium	BDL	0.26	mg/kg	6010B	05/20/11	1
Chromium	6.6	0.52	mg/kg	6010B	05/20/11	1
Copper	18.	1.0	mg/kg	6010B	05/20/11	1
Iron	12000	5.2	mg/kg	6010B	05/20/11	1
Lead	9.2	0.26	mg/kg	6010B	05/20/11	1
Manganese	180	0.52	mg/kg	6010B	05/20/11	1
Selenium	BDL	1.0	mg/kg	6010B	05/20/11	1
Silver	BDL	0.52	mg/kg	6010B	05/20/11	1
Zinc	41.	1.6	mg/kg	6010B	05/20/11	1
Benzene	BDL	0.0026	mg/kg	8021B	05/18/11	5
Toluene	BDL	0.026	mg/kg	8021B	05/18/11	5
Ethylbenzene	BDL	0.0026	mg/kg	8021B	05/18/11	5
Total Xylene	BDL	0.0078	mg/kg	8021B	05/18/11	5
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	84.6		% Rec.	8021B	05/18/11	5

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

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L516328-08 (PH) - 7.1@20.9c



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REPORT OF ANALYSIS

May 23, 2011

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

Date Received : May 17, 2011
Description : CORONADO POND #1

Sample ID : J

Collected By : Brooke Herb
Collection Date : 05/13/11 11:51

ESC Sample # : L516328-09

Site ID : CORONADO POND #1

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Chloride	210	11.	mg/kg	9056	05/18/11	1
Fluoride	11.	1.1	mg/kg	9056	05/18/11	1
Nitrate	15.	1.1	mg/kg	9056	05/18/11	1
Sulfate	280	54.	mg/kg	9056	05/18/11	1
Cyanide	BDL	0.27	mg/kg	9012B	05/20/11	1
pH	7.7		su	9045D	05/20/11	1
Total Solids	93.		%	2540G	05/23/11	1
Mercury	BDL	0.022	mg/kg	7471	05/18/11	1
Arsenic	1.3	1.1	mg/kg	6010B	05/20/11	1
Barium	130	0.27	mg/kg	6010B	05/20/11	1
Cadmium	BDL	0.27	mg/kg	6010B	05/20/11	1
Chromium	5.2	0.54	mg/kg	6010B	05/20/11	1
Copper	17.	1.1	mg/kg	6010B	05/20/11	1
Iron	12000	5.4	mg/kg	6010B	05/20/11	1
Lead	8.4	0.27	mg/kg	6010B	05/20/11	1
Manganese	120	0.54	mg/kg	6010B	05/20/11	1
Selenium	BDL	1.1	mg/kg	6010B	05/20/11	1
Silver	BDL	0.54	mg/kg	6010B	05/20/11	1
Zinc	43.	1.6	mg/kg	6010B	05/20/11	1
Benzene	BDL	0.0027	mg/kg	8021B	05/18/11	5
Toluene	BDL	0.027	mg/kg	8021B	05/18/11	5
Ethylbenzene	BDL	0.0027	mg/kg	8021B	05/18/11	5
Total Xylene	BDL	0.0081	mg/kg	8021B	05/18/11	5
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	91.7		% Rec.	8021B	05/18/11	5

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

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The reported analytical results relate only to the sample submitted

Reported: 05/23/11 14:46 Printed: 05/23/11 14:46

L516328-09 (PH) - 7.7@20.6c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

May 23, 2011

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

ESC Sample # : L516328-10

Date Received : May 17, 2011
Description : CORONADO POND #1

Site ID : CORONADO POND #1

Sample ID : BACKGROUND

Project # :

Collected By : Brooke Herb
Collection Date : 05/13/11 13:16

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Chloride	42.	11.	mg/kg	9056	05/18/11	1
Fluoride	4.9	1.1	mg/kg	9056	05/18/11	1
Nitrate	BDL	1.1	mg/kg	9056	05/18/11	1
Sulfate	BDL	53.	mg/kg	9056	05/18/11	1
Cyanide	BDL	0.26	mg/kg	9012B	05/20/11	1
pH	7.4		su	9045D	05/20/11	1
Total Solids	94.		%	2540G	05/23/11	1
Mercury	0.033	0.021	mg/kg	7471	05/18/11	1
Arsenic	4.0	1.1	mg/kg	6010B	05/20/11	1
Barium	180	0.26	mg/kg	6010B	05/20/11	1
Cadmium	BDL	0.26	mg/kg	6010B	05/20/11	1
Chromium	11.	0.53	mg/kg	6010B	05/20/11	1
Copper	8.2	1.1	mg/kg	6010B	05/20/11	1
Iron	13000	5.3	mg/kg	6010B	05/20/11	1
Lead	11.	0.26	mg/kg	6010B	05/20/11	1
Manganese	240	0.53	mg/kg	6010B	05/20/11	1
Selenium	BDL	1.1	mg/kg	6010B	05/20/11	1
Silver	BDL	0.53	mg/kg	6010B	05/20/11	1
Zinc	37.	1.6	mg/kg	6010B	05/20/11	1
Benzene	BDL	0.0026	mg/kg	8021B	05/18/11	5
Toluene	BDL	0.026	mg/kg	8021B	05/18/11	5
Ethylbenzene	BDL	0.0026	mg/kg	8021B	05/18/11	5
Total Xylene	BDL	0.0080	mg/kg	8021B	05/18/11	5
Surrogate Recovery(%) a,a,a-Trifluorotoluene(PID)	90.6		% Rec.	8021B	05/18/11	5

Results listed are dry weight basis.

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L516328-10 (PH) - 7.4@20.7c

Summary of Remarks For Samples Printed
05/23/11 at 14:46:44

TSR Signing Reports: 288
R5 - Desired TAT

drywt

Sample: L516328-01 Account: XTORNM Received: 05/17/11 09:00 Due Date: 05/24/11 00:00 RPT Date: 05/23/11 14:46
Sample: L516328-02 Account: XTORNM Received: 05/17/11 09:00 Due Date: 05/24/11 00:00 RPT Date: 05/23/11 14:46
Sample: L516328-03 Account: XTORNM Received: 05/17/11 09:00 Due Date: 05/24/11 00:00 RPT Date: 05/23/11 14:46
Sample: L516328-04 Account: XTORNM Received: 05/17/11 09:00 Due Date: 05/24/11 00:00 RPT Date: 05/23/11 14:46
Sample: L516328-05 Account: XTORNM Received: 05/17/11 09:00 Due Date: 05/24/11 00:00 RPT Date: 05/23/11 14:46
Sample: L516328-06 Account: XTORNM Received: 05/17/11 09:00 Due Date: 05/24/11 00:00 RPT Date: 05/23/11 14:46
Sample: L516328-07 Account: XTORNM Received: 05/17/11 09:00 Due Date: 05/24/11 00:00 RPT Date: 05/23/11 14:46
Sample: L516328-08 Account: XTORNM Received: 05/17/11 09:00 Due Date: 05/24/11 00:00 RPT Date: 05/23/11 14:46
Sample: L516328-09 Account: XTORNM Received: 05/17/11 09:00 Due Date: 05/24/11 00:00 RPT Date: 05/23/11 14:46
Sample: L516328-10 Account: XTORNM Received: 05/17/11 09:00 Due Date: 05/24/11 00:00 RPT Date: 05/23/11 14:46



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Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Mercury	< .02	mg/kg			WG536047	05/18/11 10:25
pH	4.30	su			WG536090	05/18/11 15:36
Arsenic	< 1	mg/kg			WG536025	05/18/11 16:46
Barium	< .25	mg/kg			WG536025	05/18/11 16:46
Cadmium	< .25	mg/kg			WG536025	05/18/11 16:46
Chromium	< .5	mg/kg			WG536025	05/18/11 16:46
Copper	< 1	mg/kg			WG536025	05/18/11 16:46
Iron	< 5	mg/kg			WG536025	05/18/11 16:46
Lead	< .25	mg/kg			WG536025	05/18/11 16:46
Manganese	< .5	mg/kg			WG536025	05/18/11 16:46
Selenium	< 1	mg/kg			WG536025	05/18/11 16:46
Silver	< .5	mg/kg			WG536025	05/18/11 16:46
Zinc	< 1.5	mg/kg			WG536025	05/18/11 16:46
Chloride	< 10	mg/kg			WG536120	05/18/11 10:38
Fluoride	< 1	mg/kg			WG536120	05/18/11 10:38
Nitrate	< 1	mg/kg			WG536120	05/18/11 10:38
Sulfate	< 50	mg/kg			WG536120	05/18/11 10:38
Benzene	< .0005	mg/kg			WG536259	05/18/11 19:15
Ethylbenzene	< .0005	mg/kg			WG536259	05/18/11 19:15
Toluene	< .005	mg/kg			WG536259	05/18/11 19:15
Total Xylene	< .0015	mg/kg			WG536259	05/18/11 19:15
a,a,a-Trifluorotoluene (PID)		% Rec.	94.62	54-144	WG536259	05/18/11 19:15
Benzene	< .0005	mg/kg			WG536389	05/19/11 05:51
Ethylbenzene	< .0005	mg/kg			WG536389	05/19/11 05:51
Toluene	< .005	mg/kg			WG536389	05/19/11 05:51
Total Xylene	< .0015	mg/kg			WG536389	05/19/11 05:51
a,a,a-Trifluorotoluene (PID)		% Rec.	107.2	54-144	WG536389	05/19/11 05:51
pH	4.30	su			WG536341	05/20/11 08:17
Cyanide	< .25	mg/kg			WG536405	05/20/11 08:11
Total Solids	< .1	%			WG536423	05/20/11 10:57
Arsenic	< 1	mg/kg			WG536040	05/20/11 20:39
Barium	< .25	mg/kg			WG536040	05/20/11 20:39
Cadmium	< .25	mg/kg			WG536040	05/20/11 20:39
Chromium	< .5	mg/kg			WG536040	05/20/11 20:39
Copper	< 1	mg/kg			WG536040	05/20/11 20:39
Iron	< 5	mg/kg			WG536040	05/20/11 20:39
Lead	< .25	mg/kg			WG536040	05/20/11 20:39
Manganese	< .5	mg/kg			WG536040	05/20/11 20:39
Selenium	< 1	mg/kg			WG536040	05/20/11 20:39
Silver	< .5	mg/kg			WG536040	05/20/11 20:39
Zinc	< 1.5	mg/kg			WG536040	05/20/11 20:39

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Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Total Solids	< .1	%			WG536848	05/23/11 08:53

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Mercury	mg/kg	0.0300	0.0340	11.8	20	L516355-01	WG536047
pH	su	6.60	6.60	0	1	L515640-04	WG536090
pH	su	9.00	9.20	2.20*	1	L516328-05	WG536090
Arsenic	mg/kg	0	0.600	NA	20	L516321-04	WG536025
Barium	mg/kg	3.30	2.80	15.8	20	L516321-04	WG536025
Cadmium	mg/kg	0	0.0920	NA	20	L516321-04	WG536025
Chromium	mg/kg	1.90	1.40	31.3*	20	L516321-04	WG536025
Copper	mg/kg	2.20	1.80	17.7	20	L516321-04	WG536025
Iron	mg/kg	1500	1190	23.7*	20	L516321-04	WG536025
Lead	mg/kg	4.20	3.40	20.6*	20	L516321-04	WG536025
Manganese	mg/kg	7.40	5.62	26.9*	20	L516321-04	WG536025
Selenium	mg/kg	0	0.510	NA	20	L516321-04	WG536025
Silver	mg/kg	0	0	0	20	L516321-04	WG536025
Zinc	mg/kg	46.0	34.2	30.1*	20	L516321-04	WG536025
Sulfate	mg/kg	0	6.50	NA	20	L516426-03	WG536120
Sulfate	mg/kg	0	5.30	NA	20	L516426-05	WG536120
pH	su	7.10	7.10	0	1	L516328-08	WG536341
pH	su	9.20	9.20	0	1	L516495-38	WG536341
Cyanide	mg/kg	0	0	0	20	L516328-01	WG536405
Total Solids	%	94.0	93.1	0.486	5	L516328-07	WG536423
Arsenic	mg/kg	6.60	5.60	16.4	20	L516355-01	WG536040
Barium	mg/kg	55.0	51.0	7.37	20	L516355-01	WG536040
Cadmium	mg/kg	5.40	3.40	45.8*	20	L516355-01	WG536040
Chromium	mg/kg	30.0	28.0	6.23	20	L516355-01	WG536040
Copper	mg/kg	28.0	27.3	4.30	20	L516355-01	WG536040
Iron	mg/kg	22000	21800	1.82	20	L516355-01	WG536040
Lead	mg/kg	18.0	16.0	8.96	20	L516355-01	WG536040
Manganese	mg/kg	540.	442.	20.3*	20	L516355-01	WG536040
Selenium	mg/kg	2.00	1.80	13.0	20	L516355-01	WG536040
Silver	mg/kg	1.00	1.00	2.96	20	L516355-01	WG536040
Zinc	mg/kg	100.	85.9	19.1	20	L516355-01	WG536040
Total Solids	%	72.0	73.8	2.60	5	L516971-07	WG536848

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Mercury	mg/kg	8.77	7.48	85.3	71.6-127.7	WG536047

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Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
pH	su	6.3	6.30	100.	97.98-102.02	WG536090
Arsenic	mg/kg	192	181.	94.3	78.6-120.8	WG536025
Barium	mg/kg	420	392.	93.3	78.8-121.4	WG536025
Cadmium	mg/kg	70.1	66.1	94.3	78.5-121.5	WG536025
Chromium	mg/kg	168	162.	96.4	80.4-120.2	WG536025
Copper	mg/kg	122	118.	96.7	81.6-119.7	WG536025
Iron	mg/kg	18100	16800	92.8	50.7-149.7	WG536025
Lead	mg/kg	113	110.	97.3	77.3-122.1	WG536025
Manganese	mg/kg	441	433.	98.2	78.9-120.9	WG536025
Selenium	mg/kg	176	172.	97.7	75.6-125.0	WG536025
Silver	mg/kg	115	99.9	86.9	66-133.9	WG536025
Zinc	mg/kg	437	416.	95.2	78.5-121.7	WG536025
Chloride	mg/kg	200	202.	101.	85-115	WG536120
Fluoride	mg/kg	20	19.7	98.5	85-115	WG536120
Nitrate	mg/kg	20	19.9	99.5	85-115	WG536120
Sulfate	mg/kg	200	202.	101.	85-115	WG536120
Benzene	mg/kg	.05	0.0408	81.5	76-113	WG536259
Ethylbenzene	mg/kg	.05	0.0437	87.4	78-115	WG536259
Toluene	mg/kg	.05	0.0427	85.5	76-114	WG536259
Total Xylene	mg/kg	.15	0.130	86.9	81-118	WG536259
a,a,a-Trifluorotoluene (PID)				92.75	54-144	WG536259
Benzene	mg/kg	.05	0.0550	110.	76-113	WG536389
Ethylbenzene	mg/kg	.05	0.0517	103.	78-115	WG536389
Toluene	mg/kg	.05	0.0518	104.	76-114	WG536389
Total Xylene	mg/kg	.15	0.154	102.	81-118	WG536389
a,a,a-Trifluorotoluene (PID)				106.6	54-144	WG536389
pH	su	6.3	6.30	100.	97.98-102.02	WG536341
Cyanide	mg/kg	28.1	28.3	101.	50-150	WG536405
Total Solids	%	50	50.0	100.	85-155	WG536423
Arsenic	mg/kg	192	170.	88.5	78.6-120.8	WG536040
Barium	mg/kg	420	386.	91.9	78.8-121.4	WG536040
Cadmium	mg/kg	70.1	62.4	89.0	78.5-121.5	WG536040
Chromium	mg/kg	168	160.	95.2	80.4-120.2	WG536040
Copper	mg/kg	122	118.	96.7	81.6-119.7	WG536040
Iron	mg/kg	18100	16600	91.7	50.7-149.7	WG536040
Lead	mg/kg	113	102.	90.3	77.3-122.1	WG536040
Manganese	mg/kg	441	428.	97.1	78.9-120.9	WG536040
Selenium	mg/kg	176	162.	92.0	75.6-125.0	WG536040
Silver	mg/kg	115	113.	98.3	66-133.9	WG536040
Zinc	mg/kg	437	407.	93.1	78.5-121.7	WG536040

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Analyte	Units	Laboratory Control		Sample	% Rec	Limit	Batch	
		Known Val	Result					
Total Solids	%	50	50.0		100.	85-155	WG536848	
Laboratory Control Sample Duplicate								
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
pH	su	6.30	6.30	100.	97.98-102.02	0	20	WG536090
Chloride	mg/kg	207.	202.	104.	85-115	2.44	20	WG536120
Fluoride	mg/kg	20.2	19.7	101.	85-115	2.51	20	WG536120
Nitrate	mg/kg	20.3	19.9	102.	85-115	1.99	20	WG536120
Sulfate	mg/kg	208.	202.	104.	85-115	2.93	20	WG536120
Benzene	mg/kg	0.0465	0.0408	93.0	76-113	13.2	20	WG536259
Ethylbenzene	mg/kg	0.0509	0.0437	102.	78-115	15.2	20	WG536259
Toluene	mg/kg	0.0483	0.0427	97.0	76-114	12.3	20	WG536259
Total Xylene	mg/kg	0.152	0.130	102.	81-118	15.6	20	WG536259
a, a, a-Trifluorotoluene (PID)				89.28	54-144			WG536259
Benzene	mg/kg	0.0542	0.0550	108.	76-113	1.58	20	WG536389
Ethylbenzene	mg/kg	0.0506	0.0517	101.	78-115	2.16	20	WG536389
Toluene	mg/kg	0.0507	0.0518	101.	76-114	2.20	20	WG536389
Total Xylene	mg/kg	0.150	0.154	100.	81-118	2.20	20	WG536389
a, a, a-Trifluorotoluene (PID)				106.8	54-144			WG536389
pH	su	6.30	6.30	100.	97.98-102.02	0	20	WG536341
Cyanide	mg/kg	27.9	28.3	99.0	50-150	1.42	20	WG536405
Matrix Spike								
Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Mercury	mg/kg	0.323	0.0340	.25	116.	70-130	L516355-01	WG536047
Arsenic	mg/kg	48.6	0.600	50	96.0	75-125	L516321-04	WG536025
Barium	mg/kg	50.7	2.80	50	95.8	75-125	L516321-04	WG536025
Cadmium	mg/kg	48.0	0.0920	50	95.8	75-125	L516321-04	WG536025
Chromium	mg/kg	50.6	1.40	50	98.4	75-125	L516321-04	WG536025
Copper	mg/kg	52.5	1.80	50	101.	75-125	L516321-04	WG536025
Iron	mg/kg	1430	1190	50	480.*	75-125	L516321-04	WG536025
Lead	mg/kg	54.6	3.40	50	102.	75-125	L516321-04	WG536025
Manganese	mg/kg	57.1	5.62	50	103.	75-125	L516321-04	WG536025
Selenium	mg/kg	48.1	0.510	50	95.2	75-125	L516321-04	WG536025
Silver	mg/kg	48.2	0	50	96.4	75-125	L516321-04	WG536025
Zinc	mg/kg	84.8	34.2	50	101.	75-125	L516321-04	WG536025
Sulfate	mg/kg	532.	4.00	500	106.	80-120	L516426-01	WG536120
Benzene	mg/kg	0.180	0	.05	72.0	32-137	L516328-08	WG536259
Ethylbenzene	mg/kg	0.185	0	.05	74.0	10-150	L516328-08	WG536259
Toluene	mg/kg	0.187	0	.05	74.7	20-142	L516328-08	WG536259
Total Xylene	mg/kg	0.561	0	.15	74.8	16-141	L516328-08	WG536259

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L516328

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Analyte	Units	MS Res	Matrix Spike			% Rec	Limit	Ref Samp	Batch
			Ref Res	TV					
a,a,a-Trifluorotoluene (PID)						87.43	54-144		
Benzene	mg/kg	0.263	0	.05	105.		32-137	L516467-10	WG536389
Ethylbenzene	mg/kg	0.245	0	.05	98.2		10-150	L516467-10	WG536389
Toluene	mg/kg	0.245	0	.05	98.2		20-142	L516467-10	WG536389
Total Xylene	mg/kg	0.729	0	.15	97.2		16-141	L516467-10	WG536389
a,a,a-Trifluorotoluene (PID)						106.7	54-144		WG536389
Cyanide	mg/kg	3.82	0	3.33	115.		80-120	L516355-04	WG536405
Arsenic	mg/kg	46.3	5.60	50	81.4		75-125	L516355-01	WG536040
Barium	mg/kg	95.2	51.0	50	88.4		75-125	L516355-01	WG536040
Cadmium	mg/kg	46.6	3.40	50	86.4		75-125	L516355-01	WG536040
Chromium	mg/kg	68.9	28.0	50	81.8		75-125	L516355-01	WG536040
Copper	mg/kg	73.1	27.3	50	91.6		75-125	L516355-01	WG536040
Iron	mg/kg	22600	21800	50	1600*		75-125	L516355-01	WG536040
Lead	mg/kg	58.0	16.0	50	84.0		75-125	L516355-01	WG536040
Manganese	mg/kg	627.	442.	50	370.*		75-125	L516355-01	WG536040
Selenium	mg/kg	41.1	1.80	50	78.6		75-125	L516355-01	WG536040
Silver	mg/kg	45.2	1.00	50	88.4		75-125	L516355-01	WG536040
Zinc	mg/kg	138.	85.9	50	104.		75-125	L516355-01	WG536040
Arsenic	mg/kg	52.0	4.10	50	95.8		75-125	L516355-04	WG536040
Barium	mg/kg	76.0	26.0	50	100.		75-125	L516355-04	WG536040
Cadmium	mg/kg	58.4	14.0	50	88.8		75-125	L516355-04	WG536040
Chromium	mg/kg	59.2	8.70	50	101.		75-125	L516355-04	WG536040
Lead	mg/kg	59.8	9.20	50	101.		75-125	L516355-04	WG536040
Selenium	mg/kg	46.4	1.20	50	90.4		75-125	L516355-04	WG536040
Silver	mg/kg	48.8	0.330	50	96.9		75-125	L516355-04	WG536040

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Mercury	mg/kg	0.288	0.323	102.	70-130	11.5	20	L516355-01	WG536047
Arsenic	mg/kg	45.0	48.6	88.8	75-125	7.69	20	L516321-04	WG536025
Barium	mg/kg	47.8	50.7	90.0	75-125	5.89	20	L516321-04	WG536025
Cadmium	mg/kg	45.4	48.0	90.6	75-125	5.57	20	L516321-04	WG536025
Chromium	mg/kg	47.8	50.6	92.8	75-125	5.69	20	L516321-04	WG536025
Copper	mg/kg	48.4	52.5	93.2	75-125	8.13	20	L516321-04	WG536025
Iron	mg/kg	1330	1430	280.*	75-125	7.25	20	L516321-04	WG536025
Lead	mg/kg	50.9	54.6	95.0	75-125	7.01	20	L516321-04	WG536025
Manganese	mg/kg	52.8	57.1	94.4	75-125	7.83	20	L516321-04	WG536025
Selenium	mg/kg	44.6	48.1	88.2	75-125	7.55	20	L516321-04	WG536025
Silver	mg/kg	45.6	48.2	91.2	75-125	5.54	20	L516321-04	WG536025
Zinc	mg/kg	80.4	84.8	92.4	75-125	5.33	20	L516321-04	WG536025
Sulfate	mg/kg	529.	532.	105.	80-120	0.566	20	L516426-01	WG536120
Benzene	mg/kg	0.185	0.180	74.1	32-137	2.91	39	L516328-08	WG536259
Ethylbenzene	mg/kg	0.190	0.185	75.8	10-150	2.38	44	L516328-08	WG536259
Toluene	mg/kg	0.189	0.187	75.6	20-142	1.15	42	L516328-08	WG536259
Total Xylene	mg/kg	0.572	0.561	76.2	16-141	1.95	46	L516328-08	WG536259
a,a,a-Trifluorotoluene (PID)				89.45	54-144				WG536259

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



XTO Energy - San Juan Division
James McDaniel
382 Road 3100

Aztec, NM 87410

Quality Assurance Report
Level II

L516328

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Tax I.D. 62-0814289

Est. 1970

May 23, 2011

Analyte	Units	Matrix Spike		Duplicate	Limit	RPD	Limit	Ref Samp	Batch
		MSD	Ref	%Rec					
Benzene	mg/kg	0.269	0.263	107.	32-137	2.19	39	L516467-10	WG536389
Ethylbenzene	mg/kg	0.245	0.245	97.8	10-150	0.390	44	L516467-10	WG536389
Toluene	mg/kg	0.250	0.245	99.8	20-142	1.66	42	L516467-10	WG536389
Total Xylene	mg/kg	0.720	0.729	96.0	16-141	1.20	46	L516467-10	WG536389
a,a,a-Trifluorotoluene (PID)				107.9	54-144				WG536389
Cyanide	mg/kg	3.61	3.82	108.	80-120	5.65	20	L516355-04	WG536405
Arsenic	mg/kg	44.1	52.0	80.0	75-125	16.4	20	L516355-04	WG536040
Barium	mg/kg	93.1	76.0	134.*	75-125	20.2*	20	L516355-04	WG536040
Cadmium	mg/kg	41.1	58.4	54.2*	75-125	34.8*	20	L516355-04	WG536040
Chromium	mg/kg	69.6	59.2	122.	75-125	16.1	20	L516355-04	WG536040
Copper	mg/kg	69.4	73.1	84.2	75-125	5.19	20	L516355-01	WG536040
Iron	mg/kg	22900	22600	2200*	75-125	1.32	20	L516355-01	WG536040
Lead	mg/kg	54.8	59.8	91.2	75-125	8.73	20	L516355-04	WG536040
Manganese	mg/kg	444.	627.	4.00*	75-125	34.2*	20	L516355-01	WG536040
Selenium	mg/kg	38.0	46.4	73.6*	75-125	19.9	20	L516355-04	WG536040
Silver	mg/kg	42.6	48.8	84.5	75-125	13.6	20	L516355-04	WG536040
Zinc	mg/kg	119.	138.	66.2*	75-125	14.8	20	L516355-01	WG536040
Arsenic	mg/kg	51.6	52.0	95.0	75-125	0.772	20	L516355-04	WG536040
Barium	mg/kg	76.2	76.0	100.	75-125	0.263	20	L516355-04	WG536040
Cadmium	mg/kg	58.8	58.4	89.6	75-125	0.683	20	L516355-04	WG536040
Chromium	mg/kg	59.0	59.2	101.	75-125	0.338	20	L516355-04	WG536040
Lead	mg/kg	60.8	59.8	103.	75-125	1.66	20	L516355-04	WG536040
Selenium	mg/kg	46.2	46.4	90.0	75-125	0.432	20	L516355-04	WG536040
Silver	mg/kg	49.0	48.8	97.3	75-125	0.409	20	L516355-04	WG536040

Batch number / Run number / Sample number cross reference

WG536047: R1691954: L516328-01 02 03 04 05 06 07 08 09 10
WG536090: R1692249: L516328-01 02 03 04 05 06 07
WG536025: R1692289: L516328-01 02 03 04 05 06
WG536120: R1692610: L516328-01 02 03 04 05 06 07 08 09 10
WG536259: R1692929: L516328-08 09 10
WG536389: R1693090: L516328-01 02 03 04 05 06 07
WG536341: R1694309: L516328-08 09 10
WG536405: R1694549: L516328-01 02 03 04 05 06 07 08 09 10
WG536423: R1694679: L516328-01 02 03 04 05 06 07
WG536040: R1696830 R1696831: L516328-08 07 09 10
WG536848: R1697115: L516328-08 09 10

* * 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.'



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May 23, 2011

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 XTO Energy, Inc. 382 County Road 3100 Aztec, NM 87410				Alternate Billing XTORN031810S Report to: James McDaniel E-mail to: james_mcdaniel@xtoenergy.com				Analysis/Container/Preservative <div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> BTEX (8021) As, Ba, Cd, Cr, CN-, F, Pb, Hg, Se Ag, Cl, Cu, Fe, Mn, Zn SD4, NO3 as N TDS, pH </div> <div></div> </div>				Chain of Custody Page <u>1</u> of <u>2</u> B033 Prepared by: ENVIRONMENTAL Science corp 12065 Lebanon Road Mt. Juliet TN 37122 Phone (615)758-5858 Phone (800) 767-5859 FAX (615)758-5859			
Project Description: CORONADO POND #1				City/State Collected: Sankuan City, NM											
PHONE: 505-333-3701 FAX:		Client Project No. -		Lab Project #											
Collected by: Brooke Herb Collected by (signature):		Site/Facility ID# CORONADO POND #1		P.O.#											
Packed on Ice <u>N</u> <u>Y</u> <u>Y</u>		<input checked="" type="checkbox"/> Rush? (Lab MUST be Notified) _____ Next Day100% _____ Two Day50% _____ Three Day25%		Date Results Needed		No									
				Email? <u>No</u> <u>X</u> Yes		cf									
				FAX? <u>No</u> <u>Yes</u>											
								CoCode (lab use only) XTORNM							
								Template/Prelogin Shipped Via: Fed Ex							
								Remarks/contaminant		Sample # (lab only)					
Sample ID		Comp/Grab		Matrix		Depth		Date		Time					
A		COMP		S/S				5/13/11		11:23					
B										11:37					
C										11:30					
D										11:15					
E										2					
F										10:49					
G										11:46					
H										11:42					
I										11:57					

*Matrix: SS-Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT- Other _____

pH _____ Temp _____

Remarks: "ONLY 1 COC Per Site!!"

Flow _____ Other _____

Relinquisher by (Signature)		Date: 5/13/11 Time: 1430		Received by: (Signature)		Samples returned via: FedEx <u>X</u> UPS <u>Other</u>		Condition OK (lab use only)	
Relinquisher by (Signature)		Date: Time:		Received by: (Signature)		Temp: 3.4 Bottles Received: 20-402			
Relinquisher by (Signature)		Date: Time:		Received for lab by: (Signature)		Date: 5/17/11 Time: 0900		pH Checked: NCF: <input checked="" type="checkbox"/>	



NON-CONFORMANCE FORM

Login No.: LS16324
Date: 5/12/11
Evaluated by: Dustin C
Client: XTORM

Laphoe

Non-Conformance (check applicable items)

- | | |
|---|---|
| <input type="checkbox"/> Parameter(s) past holding time | <input checked="" type="checkbox"/> Login Clarification Needed |
| <input type="checkbox"/> Improper temperature | <input type="checkbox"/> Chain of custody is incomplete |
| <input type="checkbox"/> Improper container type | <input type="checkbox"/> Chain of Custody is missing (see below) |
| <input type="checkbox"/> Improper preservation | <input type="checkbox"/> Broken container(s) (See below) |
| <input type="checkbox"/> Container lid not intact | <input type="checkbox"/> Broken container: sufficient sample
volume remains for analysis requested (See below) |

If no COC: Received by: _____
Date: _____ Time: _____
Temp: _____ Cont. Rec: _____ pH: _____
☐ FedEx ☐ UPS ☐ SWA ☐ Other _____
Tracking # _____

- ☐ Insufficient packing material around container
- ☐ Insufficient packing material inside cooler
- ☐ Improper handling by carrier (FedEx / UPS / Courier)
- ☐ Sample was frozen

Comments: Client wants to run TDS on all samples. All samples
are soil.

Login Instructions:

TSR Initials: DK

Client informed by call / email / fax / voice mail date: 5/17 time: 14:00

Client contact: informed client



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

Report Summary

Tuesday May 24, 2011

Report Number: L516365

Samples Received: 05/17/11

Client Project:

Description: Coronado Pond 1

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:

Daphne Richards , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

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.

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REPORT OF ANALYSIS

May 24, 2011

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

ESC Sample # : L516365-01

Date Received : May 17, 2011
Description : Coronado Pond 1

Site ID : CORONADO POND 1

Sample ID : E

Project # :

Collected By : Brooke Herb
Collection Date : 05/16/11 12:28

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Chloride	150	10.	mg/kg	9056	05/18/11	1
Fluoride	6.7	1.0	mg/kg	9056	05/18/11	1
Nitrate	4.7	1.0	mg/kg	9056	05/18/11	1
Sulfate	540	53.	mg/kg	9056	05/18/11	1
Cyanide	BDL	0.26	mg/kg	9012B	05/24/11	1
pH	7.5		su	9045D	05/20/11	1
Total Solids	95.		%	2540G	05/23/11	1
Mercury	0.043	0.021	mg/kg	7471	05/18/11	1
Arsenic	19.	1.0	mg/kg	6010B	05/18/11	1
Barium	380	0.26	mg/kg	6010B	05/18/11	1
Cadmium	0.76	0.26	mg/kg	6010B	05/18/11	1
Chromium	6.2	0.53	mg/kg	6010B	05/18/11	1
Copper	9.3	1.0	mg/kg	6010B	05/18/11	1
Iron	10000	5.3	mg/kg	6010B	05/18/11	1
Lead	15.	0.26	mg/kg	6010B	05/18/11	1
Manganese	130	0.53	mg/kg	6010B	05/18/11	1
Selenium	7.5	1.0	mg/kg	6010B	05/18/11	1
Silver	BDL	0.53	mg/kg	6010B	05/18/11	1
Zinc	33.	1.6	mg/kg	6010B	05/18/11	1
Benzene	BDL	0.0026	mg/kg	8021B	05/18/11	5
Toluene	BDL	0.026	mg/kg	8021B	05/18/11	5
Ethylbenzene	BDL	0.0026	mg/kg	8021B	05/18/11	5
Total Xylene	BDL	0.0079	mg/kg	8021B	05/18/11	5
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene (PID)	88.9		% Rec.	8021B	05/18/11	5

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

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The reported analytical results relate only to the sample submitted

Reported: 05/24/11 16:43 Printed: 05/24/11 16:43

L516365-01 (PH) - 7.5@20.7c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L516365-01	WG536757	SAMP	Cyanide	R1698973	J3

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J3	The associated batch QC was outside the established quality control range for precision.

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.

Summary of Remarks For Samples Printed
05/24/11 at 16:43:24

TSR Signing Reports: 288
R5 - Desired TAT

drywt

Sample: L516365-01 Account: XTORNM Received: 05/17/11 09:00 Due Date: 05/24/11 00:00 RPT Date: 05/24/11 16:43



L.A.B S.C.I.E.N.C.E.S

YOUR LAB OF CHOICE

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Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Mercury	< .02	mg/kg			WG536048	05/18/11 11:53
Chloride	< 10	mg/kg			WG536120	05/18/11 10:38
Fluoride	< 1	mg/kg			WG536120	05/18/11 10:38
Nitrate	< 1	mg/kg			WG536120	05/18/11 10:38
Sulfate	< 50	mg/kg			WG536120	05/18/11 10:38
Benzene	< .0005	mg/kg			WG536259	05/18/11 19:15
Ethylbenzene	< .0005	mg/kg			WG536259	05/18/11 19:15
Toluene	< .005	mg/kg			WG536259	05/18/11 19:15
Total Xylene	< .0015	mg/kg			WG536259	05/18/11 19:15
a,a,a-Trifluorotoluene (P1D)		% Rec.	94.62	94-144	WG536259	05/18/11 19:15
pH	4.30	su			WG536341	05/20/11 08:17
Total Solids	< .1	%			WG536848	05/23/11 08:53
Cyanide	< .25	mg/kg			WG536757	05/24/11 10:38

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Mercury	mg/kg	0.0150	0.0150	0	20	L516355-04	WG536048
Sulfate	mg/kg	0	6.50	NA	20	L516426-03	WG536120
Sulfate	mg/kg	0	5.30	NA	20	L516426-05	WG536120
pH	su	7.10	7.10	0	1	L516328-08	WG536341
pH	su	9.20	9.20	0	1	L516495-38	WG536341
Total Solids	%	72.0	73.8	2.60	5	L516971-07	WG536848
Cyanide	mg/kg	0.670	0.660	1.20	20	L516441-01	WG536757
Cyanide	mg/kg	2.90	0.780	115.4	20	L516355-06	WG536757

Analyte	Units	Result	Laboratory	Known Val	Control Sample	% Rec	Limit	Batch
Mercury	mg/kg	8.77	7.02	80.0	71.6-127.7			WG536048
Chloride	mg/kg	200	202.	101.	85-115			WG536120
Fluoride	mg/kg	20	19.7	98.5	85-115			WG536120
Nitrate	mg/kg	20	19.9	99.5	85-115			WG536120
Sulfate	mg/kg	200	202.	101.	85-115			WG536120
Benzene	mg/kg	.05	0.0408	81.5	76-113			WG536259
Ethylbenzene	mg/kg	.05	0.0437	87.4	78-115			WG536259
Toluene	mg/kg	.05	0.0427	85.5	76-114			WG536259

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



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Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
Total Xylene	mg/kg	.15	0.130	86.9	81-118	WG536259
a,a,a-Trifluorotoluene (PID)				92.75	54-144	WG536259
pH	su	6.3	6.30	100.	97.98-102.02	WG536341
Total Solids	%	50	50.0	100.	85-155	WG536848
Cyanide	mg/kg	28.1	21.4	76.2	50-150	WG536757

Analyte	Units	Laboratory Control Result	Sample Duplicate Ref	%Rec	Limit	RPD	Limit	Batch
Chloride	mg/kg	207.	202.	104.	85-115	2.44	20	WG536120
Fluoride	mg/kg	20.2	19.7	101.	85-115	2.51	20	WG536120
Nitrate	mg/kg	20.3	19.9	102.	85-115	1.99	20	WG536120
Sulfate	mg/kg	208.	202.	104.	85-115	2.93	20	WG536120
Benzene	mg/kg	0.0465	0.0408	93.0	76-113	13.2	20	WG536259
Ethylbenzene	mg/kg	0.0509	0.0437	102.	78-115	15.2	20	WG536259
Toluene	mg/kg	0.0483	0.0427	97.0	76-114	12.3	20	WG536259
Total Xylene	mg/kg	0.152	0.130	102.	81-118	15.6	20	WG536259
a,a,a-Trifluorotoluene (PID)				89.28	54-144			WG536259
pH	su	6.30	6.30	100.	97.98-102.02	0	20	WG536341
Cyanide	mg/kg	27.7	21.4	98.0	50-150	25.7*	20	WG536757

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Mercury	mg/kg	0.262	0.0150	.25	98.8	70-130	L516355-04	WG536048
Sulfate	mg/kg	532.	4.00	500	106.	80-120	L516426-01	WG536120
Benzene	mg/kg	0.180	0	.05	72.0	32-137	L516328-08	WG536259
Ethylbenzene	mg/kg	0.185	0	.05	74.0	10-150	L516328-08	WG536259
Toluene	mg/kg	0.187	0	.05	74.7	20-142	L516328-08	WG536259
Total Xylene	mg/kg	0.561	0	.15	74.8	16-141	L516328-08	WG536259
a,a,a-Trifluorotoluene (PID)					87.43	54-144		WG536259
Cyanide	mg/kg	3.24	0	3.33	97.3	80-120	L516355-13	WG536757

Analyte	Units	MSD	Matrix Spike Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
Mercury	mg/kg	0.267	0.262	101.	70-130	1.89	20	L516355-04	WG536048
Sulfate	mg/kg	529.	532.	105.	80-120	0.566	20	L516426-01	WG536120

* 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 Road 3100

Aztec, NM 87410

Quality Assurance Report
Level II

L516365

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

May 24, 2011

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Benzene	mg/kg	0.185	0.180	74.1	32-137	2.91	39	L516328-08	WG536259
Ethylbenzene	mg/kg	0.190	0.185	75.8	10-150	2.38	44	L516328-08	WG536259
Toluene	mg/kg	0.189	0.187	75.6	20-142	1.15	42	L516328-08	WG536259
Total Xylene	mg/kg	0.572	0.561	76.2	16-141	1.95	46	L516328-08	WG536259
a,a,a-Trifluorotoluene (PID)				89.45	54-144				WG536259
Cyanide	mg/kg	3.44	3.24	103.	80-120	5.99	20	L516355-13	WG536757

Batch number /Run number / Sample number cross reference

WG536048: R1691955: L516365-01
WG536120: R1692610: L516365-01
WG536070: R1692809: L516365-01
WG536259: R1692929: L516365-01
WG536341: R1694309: L516365-01
WG536848: R1697115: L516365-01
WG536757: R1698973: L516365-01

* * 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.'



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May 24, 2011

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.



NON-CONFORMANCE FORM

Login No.: L516365

Date: 05-17-11

Evaluated by: J. Fuller

Client: XTORNm

Non-Conformance (check applicable items)

- | | |
|---|---|
| <input type="checkbox"/> Parameter(s) past holding time | <input checked="" type="checkbox"/> Login Clarification Needed |
| <input type="checkbox"/> Improper temperature | <input type="checkbox"/> Chain of custody is incomplete |
| <input type="checkbox"/> Improper container type | <input type="checkbox"/> Chain of Custody is missing (see below) |
| <input type="checkbox"/> Improper preservation | <input type="checkbox"/> Broken container(s) (See below) |
| <input type="checkbox"/> Container lid not intact | <input type="checkbox"/> Broken container: sufficient sample
volume remains for analysis requested (See below) |

If no COC: Received by _____
Date: _____ Time: _____
Temp: _____ Cont. Rec. _____ pH: _____
☐ Fedex ☐ UPS ☐ SWA ☐ Other _____
Tracking # _____

- ☐ Insufficient packing material around container
- ☐ Insufficient packing material inside cooler
- ☐ Improper handling by carrier (FedEx / UPS / Courier)
- ☐ Sample was frozen

Comments: Don't run TDS from soil.

Login Instructions:

TSR Initials: DM

Client informed by call / jm email / fax / voice mail date: 5/17 time: 14:00

Client contact: informed client



COVER LETTER

Thursday, June 16, 2011

James McDaniell
XTO Energy
382 County Road 3100
Aztec, NM 87410
TEL: (505) 787-0519
FAX: (505) 333-3280

RE: Coronado Pond #1

Dear James McDaniell:


Order No.: 1105695

Hall Environmental Analysis Laboratory, Inc. received 11 samples(s) on 5/17/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. 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.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,



Andy Freeman, Laboratory Manager

NM Lab # NM09425 NM00901
AZ License # AZ0682



Hall Environmental Analysis Laboratory, Inc.

Date: 16-Jan-11
Analytical Report

CLIENT: XTO Energy Client Sample ID: A
Lab Order: 1105695 Collection Date: 5/13/2011 11:23:00 AM
Project: Comrade Pond #1 Date Received: 5/17/2011
Lab ID: 11105695-01 Matrix: SOIL

Analyses:	Result	PQL (Qual Units)	DPF	Date Analyzed
EPA METHOD 8210B: SOIL METALS				Analyst: ELS
Uranium	ND	25 mg/Kg	45	5/20/2011 12:08:13 PM
EPA METHOD 418.1: TPH				Analyst: LRM
Petroleum Hydrocarbons, TR	ND	200 mg/Kg	11	5/20/2011

Qualifiers:

1. Value exceeds Maximum Concentration Level
2. Estimated value
3. Analyte detected below quantization limits
4. Non-Detect
5. PQL, Physical Quantization Limit

3. Analyte detected in the associated Method Blank
4. Holding times for preparation or analysis exceeded
5. MCL, Maximum Concentration Level
6. ND, Not Detected as the Reporting Limit
7. Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 1/6-Jun-11
Analytical Report

CLIENT: XTO Energy Client Sample ID: IB
Lab Order: 11105695 Collection Date: 5/15/2011 11:57:00 AM
Project: Coronado Pond #1 Date Received: 5/17/2011
Lab ID: 11105695-01 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	IDF	Date Analyzed
EPA METHOD: 8210B: SOIL METALS						
Uranium	ND	25	mg/Kg	5		Analyst: ELS 5/20/2011 12:21:04 PM
EPA METHOD: 418.1: TPH						
Petroleum Hydrocarbons, TPH	ND	20	mg/Kg	1		Analyst: LRW 5/20/2011

Qualifiers:

- * Value exceeds Maximum (Contaminant Level)
- IE Estimated Value
- J Analyte detected below quantification limits
- NC Non-Quantified
- PQL Practical Quantification Limit
- B Analyte detected in the associated Method Blank
- IEI Holding times for preparation or analysis exceeded
- MDCL Maximum Contaminant Level
- MDI Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Hill Environmental Analysis Laboratory, Inc.

Date: 1/6-Jan-11
Analytical Report

CLIENT: XTO Energy **Client Sample ID:** C
Lab Order: 1105695 **Collection Date:** 5/13/2011 11:30:00 AM
Project: Concord Pond #1 **Date Received:** 5/17/2011
Lab ID: 1105695-05 **Metric:** SOIL

Analysis	Result	PQL (Qual Units)	DF	Date Analyzed
EPA METHOD 8210B: SOIL METALS				
Uranium	ND	25 mg/kg	5	5/24/2011 12:23:02 PM Analyst: ELS
EPA METHOD 816.1: TPH				
Petroleum Hydrocarbons, TR	ND	20 mg/kg	1	5/24/2011 Analyst: LRPW

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
I Analyte detected below quantification limits
MCL Maximum Contaminant Level
MCL Non-Detected
PQL Practical Quantification Limit

B Analyte Detected in the associated Method Blank
H Holding time for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected after Reporting Limit
5 Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 16-Jan-11
Analytical Report

CLIENT: XTO Energy
Lab Order: 1105695
Project: Colorado Pond #1
Lab ID: 1105695-04
Client Sample ID: D
Collection Date: 5/13/2011 11:15:00 AM
Date Received: 5/17/2011
Metric: SOIL

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8210B: SOIL METALS						
Uranium	ND	25		mg/Kg	5	5/24/2011 12:24:55 PM Analyst: ELS
EPA METHOD 816.1: TPH						
Petroleum Hydrocarbons, TPH	ND	20		mg/Kg	1	5/24/2011 Analyst: LRM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Estimated value
- Analyte detection/identification quantification limits
- Non-Quantified
- Practical Quantification Limit

- Analyte detected in the associated method blank
- Blanking times for preparation/analysis exceeded
- Maximum Contaminant Level
- Not Detected within Reporting Limit
- Spill recovery, volatile, non-volatile recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 11/6/June-11
Analytical Report

CLIENT: XTO Energy Client Sample ID: F
Lab Order: 11105695 Collection Date: 5/13/2011 10:49:00 AM
Project: Colorado Prod #1 Date Received: 5/17/2011
Lab ID: 11105695-05 Matrix: SOIL

Analyses	Result	POL	Qual	Units	DIF	Date Analyzed
EPHA METHNOD18V10B: SOIL METALS						Analyst: EILS
Uranium	NCD	25		mg/kg	5	5/21/2011 12:28:50 PM
EPHA METHNOD18V1B: TPH						Analyst: LRW
Petroleum Hydrocarbons, TPH	365	200		mg/kg	1	5/20/2011

Qualifiers:

11 Value exceeds Maximum Contaminant Level
12 Estimated Value
13 Analyte detected below quantitation limits
NCD Non-Detected
PQL Practical Quantitation Limit

1B Analyte detected in the associated Method Blank
1E Holding Time for preparation or analysis exceeded
MCDL Maximum Contaminant Level
NND Not Detected at the Reporting Limit
1S Spike recovery outside accepted recovery limits:

Hall Environmental Analysis Laboratory, Inc.

Date: 1/6/Jan-11
Analytical Report

CLIENT: XTO Energy
Lab Order: 111056955
Project: Coronado Pond #1
Lab ID: 111056955-06
Offsite Sample ID: G
Collection Date: 5/13/2011 11:46:00 AM
Date Received: 5/17/2011
Matrix: SOIL

Analyses	Result	PQL	Qual Units	DOF	Date Analyzed
EPA METHOD 8210: SOIL METALS Uranium	ND	25	mg/Kg	5	Analyst: ELS 5/18/2011 12:28:50 PM
EPA METHOD 418.1: TPH Petroleum Hydrocarbons, TIR	ND	20	mg/Kg	1	Analyst: LPM 5/20/2011

Qualifiers:

- * Value exceeds Maximum Concentration Level
- E Estimated value
- J Analyte detected below quantitation limits
- INC Non-Chlorinated
- PQL Practical Quantitation Limit
- B Analyte detected in the associated Method Blank
- HI Holding time for preparation or analysis exceeded
- MDL Minimum Concentration Level
- ND Not Detected in the Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 16-June-11
Analytical Report

Client: XTO Energy
Client Sample ID: HI
Lab Order: 11105695
Collection Date: 5/13/2011 11:42:00 AM
Project: Colorado Pond #1
Date Received: 5/17/2011
Lab ID: 11105695-07
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 601/6B: SOIL METALS Uranium	ND	25		mg/Kg	5	5/13/2011 12:30:44 PM Analyst: ELS
EPA METHOD 418.1: TPH (Petroleum Hydrocarbons, TR)	465	20		mg/Kg	1	5/20/2011 Analyst: LRM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E: Estimated value
- J: Analyte detected below quantitation limits
- NC: Non-Quantified
- PQL: Practical Quantitation Limit
- BB: Analyte detected in the unconsolidated Method Blank
- HH: Holding times for preparation or analysis exceeded
- MCL: Maximum Contaminant Level
- ND: Not Detected at the Reporting Limit
- SS: Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 1/5-Jun-11
Analytical Report

CLIENT: XTO Energy
Lab Order: 1105695
Project: Comodoro Pond #1
Lab ID: 1105695-08
Client Sample ID: 1
Collection Date: 5/13/2011 11:57:00 AM
Date Received: 5/17/2011
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EP4 METHOD 8210B: SOIL METALS Uranium	ND	25		mg/kg	5	Analyst: ELS 5/18/2011 12:34:24 PM
EP4 METHOD 418.1: TPH Petroleum Hydrocarbons, TPH	39	20		mg/kg	1	Analyst: LRW 5/20/2011

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit
- B Analyte detected in the associated Method Blank
- III Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spiller recovery outside accepted recovery limits

Hill Environmental Analysis Laboratory, Inc.

Date: 1/6-June-11
Analytical Report

CLIENT: XTO Energy Client Sample ID: J
Lab Order: 11005695 Collection Date: 5/13/2011 11:51:00 AM
Project: Commodo Pond #1 Date Received: 5/17/2011
Lab ID: 11005695-09 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DPF	Date Analyzed
EPA METHOD 8210B: SOIL METALS						
Lithium	ND	25		mg/kg	5	5/21/2011 12:58:24 PM Analyst: LRPW
EPA METHOD 418.1: TPH						
Petroleum Hydrocarbons, TPH	ND	200		mg/kg	11	5/20/2011

Qualifiers:

- Value exceeds Maximum Contaminant Level
- 1E: Estimated value
- 11: Analyte detected below government limits
- 11MC: Non-Chlorinated
- 11CL: Practical Quantitation Limit

- 11: Analyte detected in the associated Method Blank
- 11: Holding times for preparation or analysis exceeded
- 11MC: Maximum Contaminant Level
- 11ND: Not Detected at the Reporting Limit
- 11S: Spill recovery outside accepted/recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 15-Jun-11
Analytical Report

CLIENT: XTO/Energy
Lab Order: 11005695
Project: Comrade Pond #1
Lab ID: 11005695-10
Client Sample ID: Background
Collection Date: 5/13/2011 1:16:00 PM
Date Received: 5/17/2011
Matrix: SOIL

Analyses	Result	IPQL	Qual	Units	IDF	Date Analyzed
<p> EPA METHOD 1631B: SOIL METALS Uranium </p>	IND	25		mg/kg	5	Analyst: ELS 5/11/2011 12:45:35 PM
<p> EPA METHOD 418.1: TPH Petroleum Hydrocarbons, TPH </p>	IND	20		mg/kg	1	Analyst: LRWH 5/20/2011

Qualifiers:

- ** Value exceeds Maximum Contaminant Level
- E: Estimated value
- J: Analyte detected below quantitative limits
- NIC: Non-Charitated
- PQL: Practical Quantitation Limit
- B: Analyte detected in the associated Method Blank
- RI: Holding times for preparation or analysis exceeded
- MCL: Maximum Contaminant Level
- IND: Not Detected at the Reporting Limit
- S: Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 106-Jan-17
Analytical Report

CLIENT: XTO Energy
Lab Order: 11005695
Project: Comstock Pond #1
Lab ID: 11005695-111
Client Sample ID: E
Collection Date: 5/13/2011 12:28:00 PM
Date Received: 5/17/2011
Medium: SOIL

Analysis	Result	PQL	Qual Units	DPF	Date Analyzed
EPA METHOD 8210B: SOIL METALS					
Uranium	ND	25	mg/Kg	5	5/24/2011 12:47:57 PM Analyst: ELS
EPA METHOD 418.1: TPH					
Petroleum Hydrocarbons, TPH	ND	200	mg/Kg	1	5/20/2011 Analyst: LRM

Qualifiers:

" Value exceeds Maximum Concentration Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
E Holding times for preparation or analysis exceeded
MCL Maximum Concentration Level
ND Not Detected at the Reporting Limit
5 Spike recovery outside accepted recovery limits



ANALYTICAL RESULTS

Project: 11055845
Pace Project No.: 30470003

Sample: 11055845-01B Lab ID: 3047000301B Collected: 05/13/11 11:23 Received: 05/20/11 10:00 Matrix: Solid
PWS: Site ID:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	1.08 ± 0.237 (0.185)	pCi/g	05/14/11 09:28	10392-53-3	
Radium-228	EPA 901.1m	0.871 ± 0.138 (0.437)	pCi/g	05/14/11 09:28	15252-20-1	

Sample: 11055845-02B

PWS: Lab ID: 3047000302B Collected: 05/13/11 11:37 Received: 05/20/11 10:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	0.793 ± 0.151 (0.181)	pCi/g	05/14/11 10:25	10392-53-3	
Radium-228	EPA 901.1m	0.878 ± 0.259 (0.467)	pCi/g	05/14/11 10:25	15252-20-1	

Sample: 11055845-03B

PWS: Lab ID: 3047000303B Collected: 05/13/11 11:30 Received: 05/20/11 10:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	1.06 ± 0.251 (0.287)	pCi/g	05/14/11 11:09	10392-53-3	
Radium-228	EPA 901.1m	1.41 ± 0.337 (0.251)	pCi/g	05/14/11 11:09	15252-20-1	

Sample: 11055845-04B

PWS: Lab ID: 3047000304B Collected: 05/13/11 11:15 Received: 05/20/11 10:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	0.533 ± 0.198 (0.158)	pCi/g	05/14/11 11:40	10392-53-3	
Radium-228	EPA 901.1m	1.34 ± 0.320 (0.251)	pCi/g	05/14/11 11:40	15252-20-1	

Sample: 11055845-05B

PWS: Lab ID: 3047000305B Collected: 05/13/11 10:49 Received: 05/20/11 10:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	0.916 ± 0.156 (0.185)	pCi/g	05/14/11 12:57	10392-53-3	
Radium-228	EPA 901.1m	1.10 ± 0.345 (0.362)	pCi/g	05/14/11 12:57	15252-20-1	

Sample: 11055845-06B

PWS: Lab ID: 3047000306B Collected: 05/13/11 11:46 Received: 05/20/11 10:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	0.843 ± 0.216 (0.252)	pCi/g	05/14/11 14:08	10392-53-3	
Radium-228	EPA 901.1m	2.81 ± 0.454 (0.218)	pCi/g	05/14/11 14:08	15252-20-1	

Date: 05/16/2011 10:23 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1105595
Pace Project No.: 3047003

Sample: 1105595-01B Lab ID: 3047003017 Collected: 05/13/11 11:42 Received: 05/20/11 10:00 Matrix: Solid
PWS: Site ID:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	0.348 ± 0.252 (0.103)	pCi/g	05/14/11 14:40	15262-43-3	
Radium-228	EPA 901.1m	0.391 ± 0.287 (0.437)	pCi/g	05/14/11 14:40	15262-20-1	

Sample: 1105595-02B Lab ID: 3047003018 Collected: 05/13/11 11:57 Received: 05/20/11 10:00 Matrix: Solid
PWS: Site ID:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	0.334 ± 0.240 (0.178)	pCi/g	05/14/11 15:11	15262-43-3	
Radium-228	EPA 901.1m	1.43 ± 0.332 (0.178)	pCi/g	05/14/11 15:11	15262-20-1	

Sample: 1105595-03B Lab ID: 3047003019 Collected: 05/13/11 11:51 Received: 05/20/11 10:00 Matrix: Solid
PWS: Site ID:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	0.385 ± 0.183 (0.151)	pCi/g	05/14/11 15:42	15262-43-3	
Radium-228	EPA 901.1m	0.583 ± 0.379 (0.458)	pCi/g	05/14/11 15:42	15262-20-1	

Sample: 1105595-04B Lab ID: 3047003018 Collected: 05/13/11 11:55 Received: 05/20/11 10:00 Matrix: Solid
PWS: Site ID:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	0.389 ± 0.218 (0.223)	pCi/g	05/14/11 16:13	15262-43-3	
Radium-228	EPA 901.1m	0.515 ± 0.351 (0.438)	pCi/g	05/14/11 16:13	15262-20-1	

Sample: 1105595-05B Lab ID: 3047003011 Collected: 05/13/11 12:28 Received: 05/20/11 10:00 Matrix: Solid
PWS: Site ID:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	1.000 ± 0.250 (0.185)	pCi/g	05/14/11 16:45	15262-43-3	
Radium-228	EPA 901.1m	0.587 ± 0.257 (0.252)	pCi/g	05/14/11 16:45	15262-20-1	

Date: 05/15/2011 02:32 PM

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1502 Rosemount Road - Suite 204
Greensburg, PA 15601
(724) 850-2600

QUALITY CONTROL DATA

Project: 11105526
Pace Project No.: 30470003

QIC Batch: IR400C18455 Analysis Method: EPA 901.1m
QIC Batch Method: EPA 901.1m Analysis Description: 901.1 Gamma Spec
Associated Lab Samples: 3047000301, 3047000302, 3047000303, 3047000304, 3047000305, 3047000306, 3047000307, 3047000308,
3047000309, 3047000310, 3047000311

METH-HO-BLANK: 302759

Matrix: Solid

Associated Lab Samples: 3047000301, 3047000302, 3047000303, 3047000304, 3047000305, 3047000306, 3047000307, 3047000308,
3047000309, 3047000310, 3047000311

Parameter	Act ± Unc. (MDC)	Units	Assigned	Qualifiers
Radium-226	0.00710 ± 0.1480 (0.2944)	pCi/g	03/15/11 08:50	
Radium-228	-0.0241 ± 1.05 (0.407)	pCi/g	03/15/11 08:50	

Date: 06/15/2011 02:32 PM

REPORT OF LABORATORY ANALYSIS

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QALOC SUMMARY REPORT

Client: XTO Energy
Project: Comanche Pond #1

Work Order: 1105695

Analyte	Result	Units	POL	SPK's	SPK's	Spec Limit	Hg Limit	YRPO	RP Limit	Qual
Method: EPA Method 8210B: Soil Metals										
Sample ID: MB-26872		MEUK				Batch ID: 268072	Analysis Date:			5/20/2011
Petroleum Hydrocarbons, TR	ND	mg/Kg	20			Batch ID: 268072	Analysis Date:			5/20/2011
Sample ID: LCS-26872		LCS				Batch ID: 268072	Analysis Date:			5/20/2011
Petroleum Hydrocarbons, TR	94.20	mg/Kg	20	1000	0	94.2	81.4	118		
Sample ID: LCSO-26872		LCSO				Batch ID: 268072	Analysis Date:			5/20/2011
Petroleum Hydrocarbons, TR	95.54	mg/Kg	20	1000	0	95.5	81.4	118	1.41	18.58
Method: EPA Method 8210B: Soil Metals										
Sample ID: 1105685-011A/MSD		MSO				Batch ID: 268072	Analysis Date:			5/3-10/2011 102-109-110 PM
Uranium	ND	mg/Kg	25	24.85	0	82.0	75	125	0	20
Sample ID: MB-26867		MEUK				Batch ID: 268072	Analysis Date:			5/3-10/2011 111-52-101 AM
Uranium	ND	mg/Kg	5.0			Batch ID: 268072	Analysis Date:			5/3-10/2011 111-54-101 AM
Sample ID: LCS-26867		LCS				Batch ID: 268072	Analysis Date:			5/3-10/2011 111-54-101 AM
Uranium	25.49	mg/Kg	5.0	25.0	9564	98.3	180	120		
Sample ID: 1105685-011A/MS		MS				Batch ID: 268072	Analysis Date:			5/3-10/2011 102-117-101 PM
Uranium	ND	mg/Kg	25	24.85	0	98.1	75	125		

Qualifiers:

E: Estimated value
1: Analyte detected below quantitation limits
ND: Not Detected is the Reporting Limit

H: Holding times for preparation or analysis successful
MC: Non-Compliant
R: RSD outside accepted recovery limits

Ch In-of-Custody Record

Client: James McDaniel
XTO Energy
 Mailing Address: 282 CR 3100
Aztec, NM
 Phone #: 505-787-0519
 email or Fax#:
 QAVQC Package:
☒ Standard ☐ Level 4 (Full Validation)
 Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
 Project Name:
Coronado Pond #1
 Project #:
 Project Manager:
James McDaniel
 Sampler: Brooke Herro
 Date/Time: 5/13/11 10:00
 Sample Temperature: 10



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4801 Hawkins NE - Albuquerque, NM 87109

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

Analyte Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	NO-EL-1	STEX + MTBE	STEX + MTBE	TPH Method	TPH (Method	ED8 (Method	8310 (PMA or	ICRMA 8 Metals	Anions (F, Cl,	8061 Pesticide	8260B (VOCs)	8270 (Semi-V	Uranium	Radioa	(Combined	Air Bubbles (
5/13/11	11:23	Soil	A	4oz/2	NONE	1				✓									✓	✓		
	11:37		B			2				✓									✓	✓		
	11:30		C			3				✓									✓	✓		
	11:15		D			4				✓									✓	✓		
	10:49		E			5				✓									✓	✓		
	11:40		G			6				✓									✓	✓		
	11:42		H			7				✓									✓	✓		
	11:57		I			8				✓									✓	✓		
	11:51		J			9				✓									✓	✓		
5/13/11	13:16	Background				10				✓									✓	✓		

Date: 5/13/11 Time: 14:53 Relinquished by: Brooke Herro
 Date: 5/14/11 Time: 14:12 Relinquished by: Christine Walz
 Received by: Christine Walz Date: 5/13/11 Time: 14:53
 Received by: Melinda Gai Date: 5/17/11 Time: 10:00

Remarks:

Chain-of-Custody Record		Turn-Around Time:	
Client: <u>James McDaniel</u>		<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Rush
<u>XTO Energy</u>		Project Name: <u>Coronado Pond #1</u>	
Mailing Address: <u>382 CR 3100</u>		Project #: _____	
<u>Aztec NM</u>		Project Manager: <u>James McDaniel</u>	
Phone #: <u>505-757-0519</u>		Sampler: <u>Brooke Herb</u>	
email or Fax#: _____		On location: <u>_____</u>	
QA/QC Package:		Sample Temperature: <u>1.0</u>	
<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Level 4 (Full Validation)		
Accreditation			
<input type="checkbox"/> NELAP	<input type="checkbox"/> Other _____		
<input type="checkbox"/> EDD (Type) _____			

Standard **Rough**

Coronado Pond #1

Project #

Project Manager:

James McDaniel

100% **RECYCLED** PAPER
 100% **RECYCLED** PAPER

On leave from _____ until _____

Sample Temperature: 110.00 °C

Container Type and

Preservative
Type

[illegible]

Date:	Time:	Acquisition by:
5/16/11	1422	200 W 16

Date	Time	Relinquished by
------	------	-----------------

5/16/11	16/12	Weather Watch
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RECEIVED BY

NOTE: _____

Received by:

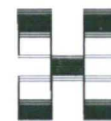
Mahesh Chandra 5/12/11 10:00

— 114 —

Date	Time
------	------

5/12/11 10:00

Remarks:



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4001 Hawkins NE - Albuquerque, NM 87109

Tel. 606-346-3975 Fax 606-346-4107

Analysis Request

	BTEX + MTBE + TMB's (80211)
	BTEX + MTBE + TPH (Gas only)
	TPH Method 8015B (Gas/Diesel)
✓	TPH (Method 418.1)
	ED6 (Method 504.1)
	8310 (PNA or PIAH)
	RCRA 8 Metals
	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)
	8081 Pesticides / 8082 PCB's
	8260B (VOC)
	8270 (Semi-VOC)
✓	SVOC's
✓	Radioactivity (Gamma)
	Radon 220 + 226
	Air Bubbles (Y or N)

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 noted on the analytical report.