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

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NOY1827453039
District RP	1RP-5218
Facility ID	
Application ID	pOY1827452324

Release Notification

Responsible Party

Responsible Party XTO Energy, Inc.	OGRID 5380
Contact Name Shelby Pennington, Environmental Supervisor	Contact Telephone (281) 723-9353
Contact email shelby_pennington@xtoenergy.com	Incident # *(assigned by OCD)* NOY1827453039
Contact mailing address 6401 Holiday Hill Road, Midland, TX 79707	

Location of Release Source

Latitude 32.41861°N Longitude -103.27083°W

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Seven Rivers Queen	Site Type Injection line
Date Release Discovered September 13, 2018	API# *(if applicable)* 30-025-08773

Unit Letter	Section	Township	Range	County
K	4	22S	36E	Lea

State minerals

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) Est. 865 bbl	Volume Recovered (bbls) 660 bbl
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☒ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
The release was caused when a Fiberflex injection line developed a leak. The exact cause is unknown at this time.

State of New Mexico
Oil Conservation Division

Incident ID	NOY1827453039
District RP	1RP-5218
Facility ID	
Application ID	pOY1827452324

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? The volume of the release was estimated to be 865 bbl, with a recovered volume of 660 bbl, and a net loss of 205 bbl.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc.)?
Mr. Shelby Pennington, Environmental Supervisor with XTO Energy, made immediate initial release notification via email on 09-13-2018 to Ms. Olivia Yu, NMOCD. Mr. Jim Griswold, NMOCD Environmental Bureau Chief was also notified via email on 09-13-2018 due to the release size.

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.
☐ The impacted area has been secured to protect human health and the environment.
☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

XTO Energy has performed initial response measures inclusive of leak isolation and recovery of all free fluids utilizing vacuum trucks.

A Hydrovac was utilized to locate the leak so XTO could move forward with line repairs. Excavated area has been fenced as a precautionary safety measure.

The release flowed to the topographic depression (i.e. caliche pit closure) resulting in its containment.

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Shelby Pennington Title: Environmental Supervisor

Signature: Shelby G Pennington Date: 09-27-2018

email: shelby_pennington@xtoenergy.com Telephone: (281) 723-9353

OCD Only

Received by: RECEIVED By Olivia Yu at 2:35 pm, Oct 01, 2018 Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: _____ Title: _____

Signature:_____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date**:** _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☐ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

XTO Energy, Inc.
Seven Rivers Queen – Injection Line Release 09-13-2018
32.41861°N, -103.27083°W

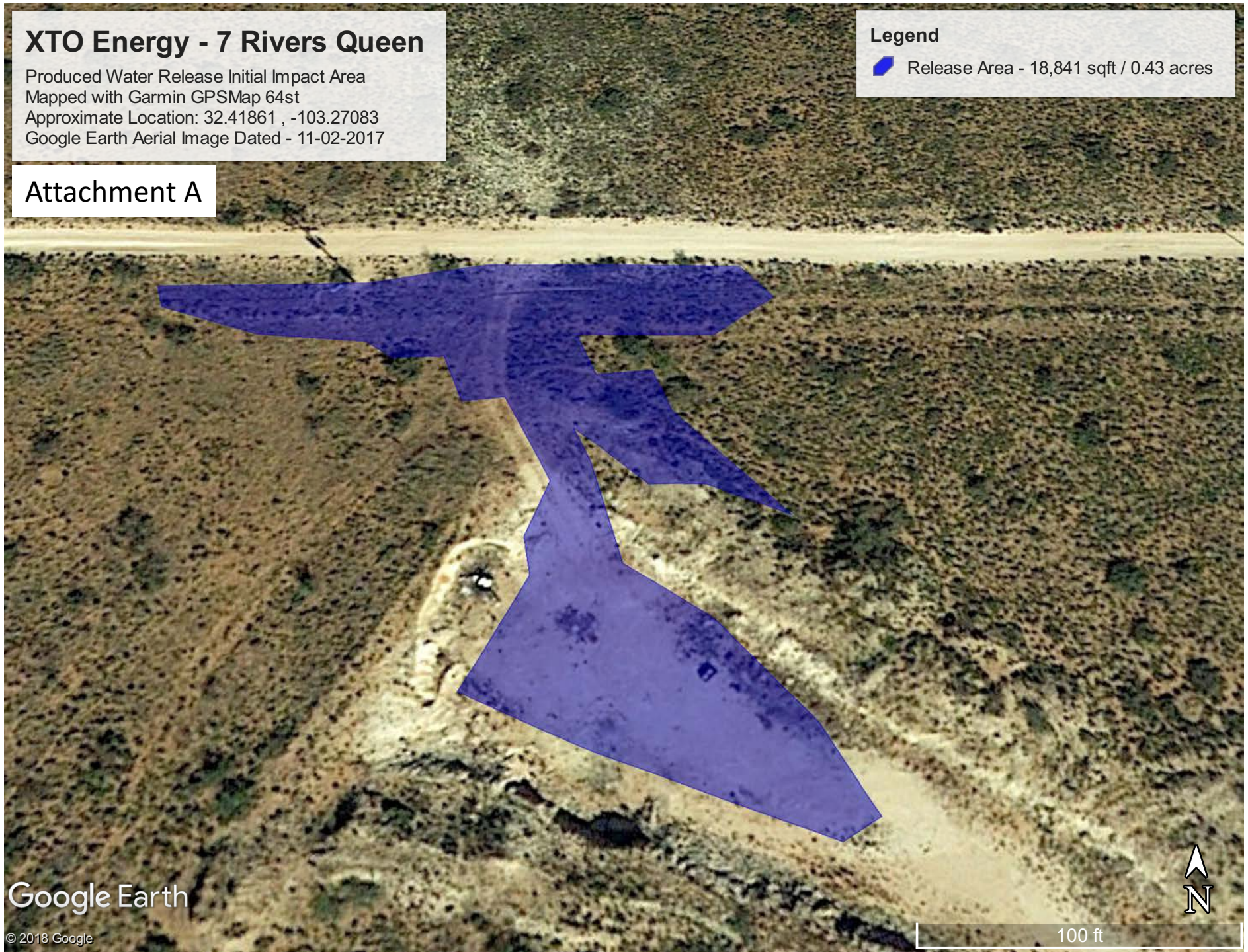
Form C-141 Supplement

The following additional assessment data is being provided as requested on page 2 of the NMOCD's new Form C-141 (rev. 09-2018) - *Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date.*

On behalf of XTO Energy, Sport Environmental Services, LLC (environmental consultant) performed additional assessment efforts at the release site on 09-18-2018. Attached please find a Release Impact Area Map that was generated with Garmin GPSMap 64st. The visual surface impact area was calculated to be 18,841 sq. ft. (0.43 acres) and is demarcated at the release site with white flags. Please refer to **Attachment A.**

In addition, site photographs and drone aerial imagery were also obtained of the release site on 09-18-2018. These images will provide a better understanding of the site and how the release path overlays a reported caliche pit closure consisting of disturbed, homogenous soils. Please refer to **Attachment B.**

Finally, initial site characterization was performed solely for the purpose of determining initial contamination depths and concentrations at the release site. A sample location map and associated analytical results are included within this supplement. Please refer to **Attachment C.**


XTO Energy - 7 Rivers Queen
Produced Water Release Initial Impact Area
Mapped with Garmin GPSMap 64st
Approximate Location: 32.41861 , -103.27083
Google Earth Aerial Image Dated - 11-02-2017
Attachment A
Legend
Release Area - 18,841 sqft / 0.43 acres
Google Earth
© 2018 Google
N
100 ft

Photographic Documentation Confirming Release Containment

Aerial Imagery Captured with DJI Phantom 4 Pro on September 18, 2018 (FAA Registration #: FA33CWXHMA)

Release Point: 32.418682°, -103.270776°

Release has been stopped and the area surrounding the excavation has been marked with caution tape.

XTO Energy, Inc.

Seven Rivers Queen (Produced Water Release)

Attachment B

XTO Energy - 7 Rivers Queen

Produced Water Release - Initial Site Characterization
Approximate Location: 32.41861 , -103.27083
Google Earth Aerial Image Dated - 11-02-2017

Attachment C

Legend

- 7 Rivers Queen - Release Area - 18,841 sqft / 0.43 acres
- North Release Path - 10pt Comp.
- Release Point (4' bgs)
- Release Point EF - 5pt Comp. - (3' bgs)
- South Release Path - 5pt Comp.
- South Release Path Low Spot (10" bgs)

Analysis Requested		Lab Id:	599523-001		599523-002		599523-003		599523-004		599523-005	
		Field Id:	Release Point EF-3' bgs- (Sp		Release Point- 4' bgs- (Grab		North Release Path-(10pt Co		South Release Path-(10pt Co		South Release Path Low Spo	
		Depth:	3- ft		4- ft		0-4 In		0-4 In		10- In	
		Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
		Sampled:	Sep-18-18 08:25		Sep-18-18 09:05		Sep-18-18 08:40		Sep-18-18 09:15		Sep-18-18 09:25	
BTEX by EPA 8021	Extracted:		Sep-20-18 09:15		Sep-20-18 09:15		Sep-20-18 09:15		Sep-20-18 09:15		Sep-20-18 09:15	
	Analyzed:		Sep-20-18 21:03		Sep-20-18 21:24		Sep-20-18 22:25		Sep-20-18 21:44		Sep-20-18 22:04	
	Units/RL:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene			<0.000386	0.00200	<0.000387	0.00201	<0.000383	0.00199	<0.000388	0.00202	<0.000386	0.00201
Toluene			<0.000457	0.00200	<0.000458	0.00201	0.000667 J	0.00199	<0.000459	0.00202	<0.000457	0.00201
Ethylbenzene			<0.000566	0.00200	<0.000568	0.00201	0.00206	0.00199	<0.000569	0.00202	<0.000567	0.00201
m,p-Xylenes			<0.00102	0.00401	<0.00102	0.00402	0.00608	0.00398	<0.00102	0.00405	<0.00102	0.00402
o-Xylene			0.00284	0.00200	<0.000346	0.00201	0.00222	0.00199	<0.000347	0.00202	<0.000346	0.00201
Total Xylenes			0.00284	0.00200	<0.000346	0.00201	0.00830	0.00199	<0.000347	0.00202	<0.000346	0.00201
Total BTEX			0.00284	0.00200	<0.000346	0.00201	0.0110	0.00199	<0.000347	0.00202	<0.000346	0.00201
Inorganic Anions by EPA 300	Extracted:		Sep-24-18 09:00		Sep-24-18 09:00		Sep-24-18 09:00		Sep-24-18 09:00		Sep-24-18 09:00	
	Analyzed:		Sep-24-18 11:02		Sep-24-18 14:29		Sep-24-18 14:35		Sep-24-18 14:40		Sep-24-18 14:46	
	Units/RL:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride			808	4.95	589	4.99	3250	24.9	6790	49.8	461	5.03
TPH by SW8015 Mod	Extracted:		Sep-21-18 09:00		Sep-21-18 09:00		Sep-21-18 09:00		Sep-21-18 09:00		Sep-21-18 09:00	
	Analyzed:		Sep-21-18 14:19		Sep-21-18 14:39		Sep-21-18 14:59		Sep-21-18 15:19		Sep-21-18 15:38	
	Units/RL:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons			<7.99	15.0	<7.97	14.9	13.1 J	15.0	9.05 J	15.0	<7.98	15.0
Diesel Range Organics			13.8 J	15.0	25.4	14.9	612	15.0	211	15.0	9.27 J	15.0
Oil Range Hydrocarbons			<8.11	15.0	<8.10	14.9	14.0 J	15.0	<8.11	15.0	<8.10	15.0
Total TPH			13.8 J	15.0	25.4	14.9	639	15.0	220	15.0	9.27 J	15.0

Google Earth

N

100 ft

Certificate of Analysis Summary 599523

Sport Environmental Services, LLC, Midland, TX

Project Name: XTO Energy-7 Rivers Queen- Initial Release Characterization

Project Id: 8015
Contact: Debi Moore
Project Location: Lea County, New Mexico

Date Received in Lab: Wed Sep-19-18 09:35 am
Report Date: 27-SEP-18
Project Manager: Brandi Ritcherson

Analysis Requested											
	Lab Id:	599523-001		599523-002		599523-003		599523-004		599523-005	
	Field Id:	Release Point EF-3' bgs- (5p		Release Point- 4' bgs- (Grab		North Release Path-(10pt Co		South Release Path-(10pt Co		South Release Path Low Spo	
	Depth:	3- ft		4- ft		0-4 In		0-4 In		10- In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-18-18 08:25		Sep-18-18 09:05		Sep-18-18 08:40		Sep-18-18 09:15		Sep-18-18 09:25	
BTEX by EPA 8021	*Extracted:*	Sep-20-18 09:15		Sep-20-18 09:15		Sep-20-18 09:15		Sep-20-18 09:15		Sep-20-18 09:15	
	Analyzed:	Sep-20-18 21:03		Sep-20-18 21:24		Sep-20-18 22:25		Sep-20-18 21:44		Sep-20-18 22:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.000386	0.00200	<0.000387	0.00201	<0.000383	0.00199	<0.000388	0.00202	<0.000386	0.00201
Toluene		<0.000457	0.00200	<0.000458	0.00201	0.000667 J	0.00199	<0.000459	0.00202	<0.000457	0.00201
Ethylbenzene		<0.000566	0.00200	<0.000568	0.00201	0.00206	0.00199	<0.000569	0.00202	<0.000567	0.00201
m,p-Xylenes		<0.00102	0.00401	<0.00102	0.00402	0.00608	0.00398	<0.00102	0.00403	<0.00102	0.00402
o-Xylene		0.00284	0.00200	<0.000346	0.00201	0.00222	0.00199	<0.000347	0.00202	<0.000346	0.00201
Total Xylenes		0.00284	0.00200	<0.000346	0.00201	0.00830	0.00199	<0.000347	0.00202	<0.000346	0.00201
Total BTEX		0.00284	0.00200	<0.000346	0.00201	0.0110	0.00199	<0.000347	0.00202	<0.000346	0.00201
Inorganic Anions by EPA 300	*Extracted:*	Sep-24-18 09:00		Sep-24-18 09:00		Sep-24-18 09:00		Sep-24-18 09:00		Sep-24-18 09:00	
	Analyzed:	Sep-24-18 11:02		Sep-24-18 14:29		Sep-24-18 14:35		Sep-24-18 14:40		Sep-24-18 14:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		808	4.95	589	4.99	3250	24.9	6790	49.8	461	5.03
TPH by SW8015 Mod	*Extracted:*	Sep-21-18 09:00		Sep-21-18 09:00		Sep-21-18 09:00		Sep-21-18 09:00		Sep-21-18 09:00	
	Analyzed:	Sep-21-18 14:19		Sep-21-18 14:39		Sep-21-18 14:59		Sep-21-18 15:19		Sep-21-18 15:38	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons		<7.99	15.0	<7.97	14.9	13.1 J	15.0	9.05 J	15.0	<7.98	15.0
Diesel Range Organics		13.8 J	15.0	25.4	14.9	612	15.0	211	15.0	9.27 J	15.0
Oil Range Hydrocarbons		<8.11	15.0	<8.10	14.9	14.0 J	15.0	<8.11	15.0	<8.10	15.0
Total TPH		13.8 J	15.0	25.4	14.9	639	15.0	220	15.0	9.27 J	15.0

Brandi Ritcherson
Project Manager

Analytical Report 599523

for

Sport Environmental Services, LLC

Project Manager: Debi Moore

XTO Energy-7 Rivers Queen- Initial Release Characterization

27-SEP-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-16)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

Table of Contents

27-SEP-18

Project Manager: **Debi Moore**
Sport Environmental Services, LLC
502 North Big Spring Street
Midland, TX 79701

Reference: XENCO Report No(s): **599523**
XTO Energy-7 Rivers Queen- Initial Release Characterization
Project Address: Lea County, New Mexico

Debi Moore:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 599523. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 599523 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brandi Ritcherson
Project Manager

Sample Cross Reference 599523

Sport Environmental Services, LLC, Midland, TX

XTO Energy-7 Rivers Queen- Initial Release Characterization

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Release Point EF-3' bgs- (5pt Comp.)	S	09-18-18 08:25	3 ft	599523-001
Release Point- 4' bgs- (Grab)	S	09-18-18 09:05	4 ft	599523-002
North Release Path-(10pt Comp)	S	09-18-18 08:40	0 - 4 In	599523-003
South Release Path-(10pt Comp)	S	09-18-18 09:15	0 - 4 In	599523-004
South Release Path Low Spot (Grab)	S	09-18-18 09:25	10 In	599523-005

CASE NARRATIVE

Client Name: Sport Environmental Services, LLC

Project Name: XTO Energy-7 Rivers Queen- Initial Release Characterization

Project ID: *8015*
Work Order Number(s): *599523*

Report Date: *27-SEP-18*
Date Received: *09/19/2018*

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

1.001 Corrected sample depth on sample 599523-005 to 10" per COC.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3064013 BTEX by EPA 8021
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 599457-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 599457-001, -002, -003, -004, -005, -006, -007, -008, -009, -010.
The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Ethylbenzene, m,p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.
Samples in the analytical batch are: 599457-001, -002, -003, -004, -005, -006, -007, -008, -009, -010

Certificate of Analytical Results 599523

Sport Environmental Services, LLC, Midland, TX

XTO Energy-7 Rivers Queen- Initial Release Characterization

Sample Id:	**Release Point EF-3' bgs- (5pt Comp.)**	Matrix:	Soil	Date Received:	09.19.18 09.35
Lab Sample Id:	599523-001	Date Collected:	09.18.18 08.25	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	CHE	Date Prep:	09.24.18 09.00	Basis:	Wet Weight
Seq Number:	3064242				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**808**	4.95	0.850	mg/kg	09.24.18 11.02		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.21.18 09.00	Basis:	Wet Weight
Seq Number:	3064205				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<7.99	15.0	7.99	mg/kg	09.21.18 14.19	U	1
Diesel Range Organics	C10C28DRO	**13.8**	15.0	8.11	mg/kg	09.21.18 14.19	J	1
Oil Range Hydrocarbons	PHCG2835	<8.11	15.0	8.11	mg/kg	09.21.18 14.19	U	1
Total TPH	PHC635	**13.8**	15.0	7.99	mg/kg	09.21.18 14.19	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	09.21.18 14.19	
o-Terphenyl	84-15-1	106	%	70-135	09.21.18 14.19	

Certificate of Analytical Results 599523

Sport Environmental Services, LLC, Midland, TX

XTO Energy-7 Rivers Queen- Initial Release Characterization

Sample Id:	**Release Point EF-3' bgs- (5pt Comp.)**	Matrix:	Soil	Date Received:	09.19.18 09.35
Lab Sample Id:	599523-001	Date Collected:	09.18.18 08.25	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.20.18 09.15	Basis:	Wet Weight
Seq Number:	3064013				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00200	0.000386	mg/kg	09.20.18 21.03	U	1
Toluene	108-88-3	<0.000457	0.00200	0.000457	mg/kg	09.20.18 21.03	U	1
Ethylbenzene	100-41-4	<0.000566	0.00200	0.000566	mg/kg	09.20.18 21.03	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00401	0.00102	mg/kg	09.20.18 21.03	U	1
o-Xylene	95-47-6	**0.00284**	0.00200	0.000345	mg/kg	09.20.18 21.03		1
Total Xylenes	1330-20-7	**0.00284**	0.00200	0.000345	mg/kg	09.20.18 21.03		1
Total BTEX		**0.00284**	0.00200	0.000345	mg/kg	09.20.18 21.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	154	%	70-130	09.20.18 21.03	**
1,4-Difluorobenzene	540-36-3	94	%	70-130	09.20.18 21.03	

Certificate of Analytical Results 599523

Sport Environmental Services, LLC, Midland, TX

XTO Energy-7 Rivers Queen- Initial Release Characterization

Sample Id:	**Release Point- 4' bgs- (Grab)**	Matrix:	Soil	Date Received:	09.19.18 09.35
Lab Sample Id:	599523-002	Date Collected:	09.18.18 09.05	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	CHE	Date Prep:	09.24.18 09.00	Basis:	Wet Weight
Seq Number:	3064242				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**589**	4.99	0.857	mg/kg	09.24.18 14.29		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.21.18 09.00	Basis:	Wet Weight
Seq Number:	3064205				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<7.97	14.9	7.97	mg/kg	09.21.18 14.39	U	1
Diesel Range Organics	C10C28DRO	**25.4**	14.9	8.10	mg/kg	09.21.18 14.39		1
Oil Range Hydrocarbons	PHCG2835	<8.10	14.9	8.10	mg/kg	09.21.18 14.39	U	1
Total TPH	PHC635	**25.4**	14.9	7.97	mg/kg	09.21.18 14.39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	09.21.18 14.39	
o-Terphenyl	84-15-1	107	%	70-135	09.21.18 14.39	

Certificate of Analytical Results 599523

Sport Environmental Services, LLC, Midland, TX

XTO Energy-7 Rivers Queen- Initial Release Characterization

Sample Id:	**Release Point- 4' bgs- (Grab)**	Matrix:	Soil	Date Received:	09.19.18 09.35
Lab Sample Id:	599523-002	Date Collected:	09.18.18 09.05	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.20.18 09.15	Basis:	Wet Weight
Seq Number:	3064013				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000387	0.00201	0.000387	mg/kg	09.20.18 21.24	U	1
Toluene	108-88-3	<0.000458	0.00201	0.000458	mg/kg	09.20.18 21.24	U	1
Ethylbenzene	100-41-4	<0.000568	0.00201	0.000568	mg/kg	09.20.18 21.24	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	09.20.18 21.24	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	09.20.18 21.24	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	09.20.18 21.24	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	09.20.18 21.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	154	%	70-130	09.20.18 21.24	**
1,4-Difluorobenzene	540-36-3	91	%	70-130	09.20.18 21.24	

Certificate of Analytical Results 599523

Sport Environmental Services, LLC, Midland, TX

XTO Energy-7 Rivers Queen- Initial Release Characterization

Sample Id:	**North Release Path-(10pt Comp)**	Matrix:	Soil	Date Received:	09.19.18 09.35
Lab Sample Id:	599523-003	Date Collected:	09.18.18 08.40	Sample Depth:	0 - 4 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	CHE	Date Prep:	09.24.18 09.00	Basis:	Wet Weight
Seq Number:	3064242				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3250**	24.9	4.27	mg/kg	09.24.18 14.35		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.21.18 09.00	Basis:	Wet Weight
Seq Number:	3064205				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	**13.1**	15.0	8.00	mg/kg	09.21.18 14.59	J	1
Diesel Range Organics	C10C28DRO	**612**	15.0	8.13	mg/kg	09.21.18 14.59		1
Oil Range Hydrocarbons	PHCG2835	**14.0**	15.0	8.13	mg/kg	09.21.18 14.59	J	1
Total TPH	PHC635	**639**	15.0	8.00	mg/kg	09.21.18 14.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	09.21.18 14.59	
o-Terphenyl	84-15-1	120	%	70-135	09.21.18 14.59	

Certificate of Analytical Results 599523

Sport Environmental Services, LLC, Midland, TX

XTO Energy-7 Rivers Queen- Initial Release Characterization

Sample Id:	**North Release Path-(10pt Comp)**	Matrix:	Soil	Date Received:	09.19.18 09.35
Lab Sample Id:	599523-003	Date Collected:	09.18.18 08.40	Sample Depth:	0 - 4 In
Analytical Method:	BTEX by EPA 8021			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.20.18 09.15	Basis:	Wet Weight
Seq Number:	3064013				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000383	0.00199	0.000383	mg/kg	09.20.18 22.25	U	1
Toluene	108-88-3	**0.000667**	0.00199	0.000454	mg/kg	09.20.18 22.25	J	1
Ethylbenzene	100-41-4	**0.00206**	0.00199	0.000563	mg/kg	09.20.18 22.25		1
m,p-Xylenes	179601-23-1	**0.00608**	0.00398	0.00101	mg/kg	09.20.18 22.25		1
o-Xylene	95-47-6	**0.00222**	0.00199	0.000343	mg/kg	09.20.18 22.25		1
Total Xylenes	1330-20-7	**0.00830**	0.00199	0.000343	mg/kg	09.20.18 22.25		1
Total BTEX		**0.0110**	0.00199	0.000343	mg/kg	09.20.18 22.25		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	86	%	70-130	09.20.18 22.25	
4-Bromofluorobenzene	460-00-4	129	%	70-130	09.20.18 22.25	

Certificate of Analytical Results 599523

Sport Environmental Services, LLC, Midland, TX

XTO Energy-7 Rivers Queen- Initial Release Characterization

Sample Id:	**South Release Path-(10pt Comp)**	Matrix:	Soil	Date Received:	09.19.18 09.35
Lab Sample Id:	599523-004	Date Collected:	09.18.18 09.15	Sample Depth:	0 - 4 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	CHE	Date Prep:	09.24.18 09.00	Basis:	Wet Weight
Seq Number:	3064242				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6790**	49.8	8.55	mg/kg	09.24.18 14.40		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.21.18 09.00	Basis:	Wet Weight
Seq Number:	3064205				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	**9.05**	15.0	7.99	mg/kg	09.21.18 15.19	J	1
Diesel Range Organics	C10C28DRO	**211**	15.0	8.11	mg/kg	09.21.18 15.19		1
Oil Range Hydrocarbons	PHCG2835	<8.11	15.0	8.11	mg/kg	09.21.18 15.19	U	1
Total TPH	PHC635	**220**	15.0	7.99	mg/kg	09.21.18 15.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	09.21.18 15.19	
o-Terphenyl	84-15-1	119	%	70-135	09.21.18 15.19	

Certificate of Analytical Results 599523

Sport Environmental Services, LLC, Midland, TX

XTO Energy-7 Rivers Queen- Initial Release Characterization

Sample Id:	**South Release Path-(10pt Comp)**	Matrix:	Soil	Date Received:	09.19.18 09.35
Lab Sample Id:	599523-004	Date Collected:	09.18.18 09.15	Sample Depth:	0 - 4 In
Analytical Method:	BTEX by EPA 8021			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.20.18 09.15	Basis:	Wet Weight
Seq Number:	3064013				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000388	0.00202	0.000388	mg/kg	09.20.18 21.44	U	1
Toluene	108-88-3	<0.000459	0.00202	0.000459	mg/kg	09.20.18 21.44	U	1
Ethylbenzene	100-41-4	<0.000569	0.00202	0.000569	mg/kg	09.20.18 21.44	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00403	0.00102	mg/kg	09.20.18 21.44	U	1
o-Xylene	95-47-6	<0.000347	0.00202	0.000347	mg/kg	09.20.18 21.44	U	1
Total Xylenes	1330-20-7	<0.000347	0.00202	0.000347	mg/kg	09.20.18 21.44	U	1
Total BTEX		<0.000347	0.00202	0.000347	mg/kg	09.20.18 21.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	09.20.18 21.44	
4-Bromofluorobenzene	460-00-4	153	%	70-130	09.20.18 21.44	**

Certificate of Analytical Results 599523

Sport Environmental Services, LLC, Midland, TX

XTO Energy-7 Rivers Queen- Initial Release Characterization

Sample Id:	**South Release Path Low Spot (Grab)**	Matrix:	Soil	Date Received:	09.19.18 09.35
Lab Sample Id:	599523-005	Date Collected:	09.18.18 09.25	Sample Depth:	10 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	CHE	Date Prep:	09.24.18 09.00	Basis:	Wet Weight
Seq Number:	3064242				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**461**	5.03	0.864	mg/kg	09.24.18 14.46		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.21.18 09.00	Basis:	Wet Weight
Seq Number:	3064205				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<7.98	15.0	7.98	mg/kg	09.21.18 15.38	U	1
Diesel Range Organics	C10C28DRO	**9.27**	15.0	8.10	mg/kg	09.21.18 15.38	J	1
Oil Range Hydrocarbons	PHCG2835	<8.10	15.0	8.10	mg/kg	09.21.18 15.38	U	1
Total TPH	PHC635	**9.27**	15.0	7.98	mg/kg	09.21.18 15.38	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	09.21.18 15.38	
o-Terphenyl	84-15-1	107	%	70-135	09.21.18 15.38	

Certificate of Analytical Results 599523

Sport Environmental Services, LLC, Midland, TX

XTO Energy-7 Rivers Queen- Initial Release Characterization

Sample Id:	**South Release Path Low Spot (Grab)**	Matrix:	Soil	Date Received:	09.19.18 09.35
Lab Sample Id:	599523-005	Date Collected:	09.18.18 09.25	Sample Depth:	10 In
Analytical Method:	BTEX by EPA 8021			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.20.18 09.15	Basis:	Wet Weight
Seq Number:	3064013				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000386	0.00201	0.000386	mg/kg	09.20.18 22.04	U	1
Toluene	108-88-3	<0.000457	0.00201	0.000457	mg/kg	09.20.18 22.04	U	1
Ethylbenzene	100-41-4	<0.000567	0.00201	0.000567	mg/kg	09.20.18 22.04	U	1
m,p-Xylenes	179601-23-1	<0.00102	0.00402	0.00102	mg/kg	09.20.18 22.04	U	1
o-Xylene	95-47-6	<0.000346	0.00201	0.000346	mg/kg	09.20.18 22.04	U	1
Total Xylenes	1330-20-7	<0.000346	0.00201	0.000346	mg/kg	09.20.18 22.04	U	1
Total BTEX		<0.000346	0.00201	0.000346	mg/kg	09.20.18 22.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	168	%	70-130	09.20.18 22.04	**
1,4-Difluorobenzene	540-36-3	100	%	70-130	09.20.18 22.04	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 599523

Sport Environmental Services, LLC

XTO Energy-7 Rivers Queen- Initial Release Characterization

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3064242 Matrix: Solid Date Prep: 09.24.18
MB Sample Id: 7662842-1-BLK LCS Sample Id: 7662842-1-BKS LCSD Sample Id: 7662842-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	255	102	255	102	90-110	0	20	mg/kg	09.24.18 10:04	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3064242 Matrix: Soil Date Prep: 09.24.18
Parent Sample Id: 599366-001 MS Sample Id: 599366-001 S MSD Sample Id: 599366-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.860	251	249	99	248	99	90-110	0	20	mg/kg	09.24.18 15:03	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3064242 Matrix: Soil Date Prep: 09.24.18
Parent Sample Id: 599515-079 MS Sample Id: 599515-079 S MSD Sample Id: 599515-079 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	47.2	250	325	111	325	111	90-110	0	20	mg/kg	09.24.18 10:29	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3064205 Matrix: Solid Date Prep: 09.21.18
MB Sample Id: 7662829-1-BLK LCS Sample Id: 7662829-1-BKS LCSD Sample Id: 7662829-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<8.00	1000	983	98	929	93	70-135	6	20	mg/kg	09.21.18 11:21	
Diesel Range Organics	<8.13	1000	970	97	914	91	70-135	6	20	mg/kg	09.21.18 11:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		127		118		70-135	%	09.21.18 11:21
o-Terphenyl	112		115		104		70-135	%	09.21.18 11:21

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 599523

Sport Environmental Services, LLC

XTO Energy-7 Rivers Queen- Initial Release Characterization

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3064205 Matrix: Soil Date Prep: 09.21.18
Parent Sample Id: 599389-001 MS Sample Id: 599389-001 S MSD Sample Id: 599389-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<7.98	997	938	94	951	95	70-135	1	20	mg/kg	09.21.18 12:20	
Diesel Range Organics	<8.10	997	960	96	977	98	70-135	2	20	mg/kg	09.21.18 12:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		124		70-135	%	09.21.18 12:20
o-Terphenyl	115		108		70-135	%	09.21.18 12:20

Analytical Method: **BTEX by EPA 8021** Prep Method: SW5030B
Seq Number: 3064013 Matrix: Solid Date Prep: 09.20.18
MB Sample Id: 7662760-1-BLK LCS Sample Id: 7662760-1-BKS LCSD Sample Id: 7662760-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000388	0.101	0.0822	81	0.0881	88	70-130	7	35	mg/kg	09.20.18 09:42	
Toluene	<0.000459	0.101	0.0841	83	0.0889	89	70-130	6	35	mg/kg	09.20.18 09:42	
Ethylbenzene	<0.000569	0.101	0.0910	90	0.0954	95	70-130	5	35	mg/kg	09.20.18 09:42	
m,p-Xylenes	<0.00102	0.202	0.178	88	0.186	93	70-130	4	35	mg/kg	09.20.18 09:42	
o-Xylene	<0.000347	0.101	0.0870	86	0.0913	91	70-130	5	35	mg/kg	09.20.18 09:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		98		94		70-130	%	09.20.18 09:42
4-Bromofluorobenzene	113		119		118		70-130	%	09.20.18 09:42

Analytical Method: **BTEX by EPA 8021** Prep Method: SW5030B
Seq Number: 3064013 Matrix: Soil Date Prep: 09.20.18
Parent Sample Id: 599457-001 MS Sample Id: 599457-001 S MSD Sample Id: 599457-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0502	50	0.0494	29	70-130	2	35	mg/kg	09.20.18 10:22	X
Toluene	<0.000457	0.100	0.0449	45	0.0363	22	70-130	21	35	mg/kg	09.20.18 10:22	X
Ethylbenzene	<0.000566	0.100	0.0410	41	0.0274	16	70-130	40	35	mg/kg	09.20.18 10:22	XF
m,p-Xylenes	<0.00102	0.200	0.0785	39	0.0521	15	70-130	40	35	mg/kg	09.20.18 10:22	XF
o-Xylene	<0.000345	0.100	0.0387	39	0.0263	16	70-130	38	35	mg/kg	09.20.18 10:22	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		93		70-130	%	09.20.18 10:22
4-Bromofluorobenzene	120		118		70-130	%	09.20.18 10:22

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

CHAIN OF CUSTODY

Page ___ Of ___

XENCO LABORATORIES

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Xenco Quote # | Xenco Job # 549923

Client / Reporting Information

Company Name / Branch: Sport Environmental

Company Address: 502 N Big Spring, Midland, Tx 79701

Email: debi@sportenv.com, clint@sportenv.com, cianna@sportenv.com, dudley@sportenv.com | Phone No: (432) 683-1100

Project Contact: Debi Moore

Samplers's Name: Clint Elliott

Project Information

Project Name/Number: XTO Energy - 7 Rivers Queen - Initial Release Characterization

Project Location: Lea County, New Mexico

Invoice To: Sport Environmental Services, LLC

PO Number:

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: Chlorides (EPA 300)	TPH (8015)	BTEX (8021B)	Field Comments
1	Release Point EF - 3' bgs - (5pt Comp.)	3' bgs	9/18/2018	0825	S	1								1	x	x	x	
2	Release Point - 4' bgs - (Grab)	4' bgs	9/18/2018	0905	S	1								1	x	x	x	
3	North Release Path - (10pt Comp)	0-4" bgs	9/18/2018	0840	S	1								1	x	x	x	
4	South Release Path - (5pt Comp)	0-4" bgs	9/18/2018	0915	S	1								1	x	x	x	
5	South Release Path Low Spot (Grab)	10" bgs	9/18/2018	0925	S	1								1	x	x	x	
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

- [ ] Same Day TAT
- [x] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	CR	9-19-18 0935	1	2		2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: Cooler Temp. 5.8 Thermo. Corr. Factor 0.0 RE

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Sport Environmental Services, LLC

Date/ Time Received: 09/19/2018 09:35:00 AM

Work Order #: 599523

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.8
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**No**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 09/19/2018

Checklist reviewed by: Brandi Ritcherson Date: 09/20/2018

Oil or Water Spill TO SOIL Volume Spreadsheet

Calculator Updated 11/17/2015

INPUT FIELDS
OUTPUT
RESULT

Types of Soil	Porosity Factor
Gravel	0.25
Sand	0.20
Clay/silt/sand Mix	0.15
Clay	0.05
Caliche	0.03
Unknown	0.25

Location:	7 Rivers
GPS Coordinates:	
Spill Date:	9/13/2018
Spill Time:	12:00

Length of Spill=		feet
Width of Spill=		feet
Saturation (or depth) of Spill=		inches

OR

Area=	17,300.00	ft^2
Saturation (or depth) of Spill=	4.00	inches

OR

Soil Volume=		yd^3

STEP 1
USED TO CALCULATE SOAK INTO THE GROUND. ONLY USE ONE METHOD

Oil Cut=	-	% Oil
Porosity Factor=	0.20	

STEP 2
INPUT OIL CUT AND POROSITY FROM ABOVE CHART

Soil Volume=	**213.58**	yd^3
Total Oil in Soil=	**-**	barrels
Total Produced Water in Soil=	**205.41**	barrels

Volume Picked up	660.00	bbls

STEP 3
INPUT VOLUME VAC TRUCK RECOVERED

TOTAL VOLUME OF LEAK (SOAK AND RECOVERED)

Total Oil=	**-**	barrels
Total Produced Water=	**865.41**	barrels

TOTAL VOLUME RECOVERED

Total Oil=	**-**	barrels
Total Produced Water=	**660.00**	barrels

RRC NOTIFICATION REQUIREMENTS

OIL LEAK => 5 BBLS
WATER LEAK =>30 BBLS
Take Photos of spill before cleanup
Make Sketch of Spill Area