

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

RECEIVED

JUN 22 2010

NMOCD ARTESIA

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 BOPCO, L.P. 260731 Contact Tony Savoie  
Address 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 Telephone No. 432-556-8730  
Facility Name: Golden 8 Federal Battery #1 Facility Type E&P

Surface Owner Federal Mineral Owner Federal Lease No.

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
<b>K</b>	8	21S	29E					Eddy

Latitude N 32.491438 Longitude W 104.008147

## NATURE OF RELEASE

Type of Release: Crude oil	Volume of Release: 90 Bbls of Crude oil	Volume Recovered: 80 bbls of crude oil
Source of Release: Drain line connection on the back of a 500 bbl. tank	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 6/14/10 8:56 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Randy NMOCD on call operator	
By Whom? Tony Savoie	Date and Hour 6/14/10 9:24 a.m.	
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.\* The drain line connection on the back of the tank failed due to internal corrosion, the remaining oil in the tank was removed, the tank was cleaned, inspected and repaired by replacing the connections and coating the tank internally.

Describe Area Affected and Cleanup Action Taken.\* The released fluid affected an area of approximately 2,000 sq. ft inside the earthen containment around the tanks. The free standing fluids were removed. The heavily saturated soil is in the process of being removed and placed on plastic. The area inside the containment area will be sampled to determine vertical extent; a remediation plan along with a new containment plan will be submitted. The Site remediation for the crude oil spill will follow the NMOCD guidelines for leaks and spills.

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

Signature: Tony Savoie

Printed Name: Tony Savoie

Title: Waste Mgmt. &amp; Remediation Specialist

E-mail Address: TASavoie@BassPet.com

Date: 6/22/10

Phone: 432-556-8730

## OIL CONSERVATION DIVISION

Approved by District Supervisor:

Signed By Mike BrannanApproval Date: 3/3/11

Expiration Date:

Conditions of Approval:

Attached ☐

Remediation per OCD Rules &  
Guidelines. **SUBMIT REMEDIATION  
PROPOSAL NOT LATER THAN:**

4/3/112 RP-521

\* Attach Additional Sheets If Necessary





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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	
District RP	2RP-521
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # (assigned by OCD)
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

### Location of Release Source

Latitude 32.491438 \_\_\_\_\_ Longitude -104.008147 \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Golden 8 Federal Battery #1	Site Type Exploration and Production
Date Release Discovered 06/14/2010	API# (if applicable) 30-015-26931

Unit Letter	Section	Township	Range	County
K	8	21S	29E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: BLM \_\_\_\_\_)

### Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 90	Volume Recovered (bbls) 80
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

#### Cause of Release

The fire tube on the heater-treater developed a leak, the production was switched out of the vessel, a vacuum truck was dispatched to the site to recover the free product. The spill impacted approximately 900 sq. ft. of the tank battery earthen containment area. The spill impacted an area that had been cleaned up as far as practical in the area around the vessels and lines during a remediation at the facility in August of 2011, reference spill report date d2/6/2011. The area will be re-addressed, cleaned up as required, and a new closure report will be submitted including data from the previous spill.

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Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Volume of release is greater than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Tony Savoie (XTO) contacted the on-call NMOCD operator (Randy) on 06/14/2010 at 9:24 am.	

**Initial Response**

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: N/A	
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: _____ Kyle Littrell _____	Title: _____ SH&E Supervisor _____
Signature: _____	Date: _____ 12/31/2019 _____
email: _____ Kyle_Littrell@xtoenergy.com _____	Telephone: _____ 432-221-7331 _____
<b><u>OCD Only</u></b>  Received by: _____ Date: _____	

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State of New Mexico  
Oil Conservation Division

Incident ID	
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**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?	<u>    &gt;100    </u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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.



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Oil Conservation Division

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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: \_\_\_\_\_ Kyle Littrell \_\_\_\_\_ Title: \_\_\_\_\_ SH&amp;E Supervisor \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ 12/31/2019 \_\_\_\_\_

email: \_\_\_\_\_ Kyle\_Littrell@xtoenergy.com \_\_\_\_\_ Telephone: \_\_\_\_\_ 432-221-7331 \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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State of New Mexico

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Oil Conservation Division

Incident ID	
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## 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.

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Printed Name: \_\_\_\_\_ Kyle Littrell \_\_\_\_\_ Title: \_\_\_\_\_ SH&E Supervisor \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ 12/31/2019 \_\_\_\_\_

email: \_\_\_\_\_ Kyle\_Littrell@xtoenergy.com \_\_\_\_\_ Telephone: \_\_\_\_\_ 432-221-7331 \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
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with Rule 116 on back  
side of form

30-015-26931  
nKmlw/1106629393

**Release Notification and Corrective Action**

**OPERATOR** ☒ Initial Report ☐ Final Report

Name of Company BOPCO, L.P.	260737	Contact Tony Savoie
Address 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220		Telephone No. 432-556-8730
Facility Name: Golden 8 Federal Battery #1		Facility Type E&P

Surface Owner Federal	Mineral Owner Federal	Lease No.
-----------------------	-----------------------	-----------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	8	21S	29E					Eddy

Latitude N 32.491352 Longitude W 104.008223

**NATURE OF RELEASE**

Type of Release: Crude Oil	Volume of Release: 310 Bbls Crude oil	Volume Recovered: 290
Source of Release: 500 bbl tank overflow	Date and Hour of Occurrence 2/16/11 hour not known	Date and Hour of Discovery 2/16/11 10:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? NMOCD emergency reporting. Left message with details.	
By Whom? Tony Savoie	Date and Hour 2/16/11 1:30 p.m.	
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.\* A 500 bbl. Oil product tank overflowed due to a heater-treater malfunction. The heater-treater was repaired and put back in service.

Describe Area Affected and Cleanup Action Taken.\* An area inside the earthen tank containment measuring approximately 14,100 sq. ft. and an area of pasture land outside the containment measuring approximately 400 sq. ft. The area outside the containment had been affected by a previous flow line spill reported to the NMOCD on 10/6/10. The oil saturated soil outside the containment was removed by Basin Env. using a hydro-vac. Approximately 290 bbls of crude oil was recovered from inside the containment. The area inside the containment was covered with soil to absorb small areas of free product. The Site remediation for the crude oil spill will follow the NMOCD guidelines for leaks and spills.

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

Signature: <u>Tony Savoie</u>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Tony Savoie	Approved by District Supervisor: Signed By: <u>Mike Brannon</u>	
Title: Waste Mgmt. & Remediation Specialist	Approval Date: <u>3/7/11</u>	Expiration Date:
E-mail Address: TASavoie@BassPet.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 3/3/11 Phone: 432-556-8730	Remediation per OCD Rules & Guidelines. <b>SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:</b> <u>4/7/11</u>	

\* Attach Additional Sheets If Necessary

2 RP 633



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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	
District RP	2RP-0633
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # (assigned by OCD)
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

### Location of Release Source

Latitude 32.491352 Longitude -104.008223  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Golden 8 Federal Battery #1	Site Type Exploration and Production
Date Release Discovered 02/16/2011	API# (if applicable) 30-015-26931

Unit Letter	Section	Township	Range	County
K	8	21S	29E	Eddy

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

### Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 310	Volume Recovered (bbls) 290
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

#### Cause of Release

A 500 bbl oil tank overflowed due to a heater-treater malfunction. The heater treater was repaired and put back into service. An area inside the earthen tank containment measuring approximately 14,100 sq. ft. and an area of pasture land outside the containment measuring approximately 400 sq. ft. was affected. The area outside the containment had been affected by a previous flow line spill reported to the NMOCD on 10/06/2010. The oil saturated soil outside the containment was removed by Basin Env. Using a hydro-vac. Approximately 290 bbls of crude oil was recovered from inside the containment.

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Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Release volume was greater than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, Tony Savoie contacted the NMOCD on 2/16/2011 via telephone (NMOCD emergency reporting).	

**Initial Response**

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: N/A	
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: _____ Kyle Littrell _____	Title: _____ SH&E Supervisor _____
Signature: _____	Date: _____ 12/31/2019 _____
email: _____ Kyle_Littrell@xtoenergy.com _____	Telephone: _____ 432-221-7331 _____
<b><u>OCD Only</u></b>  Received by: _____ Date: _____	

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State of New Mexico  
Oil Conservation Division

Incident ID	
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**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?	<u>    &gt;100    </u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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.



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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: \_\_\_\_\_ Kyle Littrell \_\_\_\_\_ Title: \_\_\_\_\_ SH&amp;E Supervisor \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ 12/31/2019 \_\_\_\_\_

email: \_\_\_\_\_ Kyle\_Littrell@xtoenergy.com \_\_\_\_\_ Telephone: \_\_\_\_\_ 432-221-7331 \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Form C-141

State of New Mexico

Page 5

Oil Conservation Division

Incident ID	
District RP	2RP-0633
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: \_\_\_\_\_ Kyle Littrell \_\_\_\_\_ Title: \_\_\_\_\_ SH&amp;E Supervisor \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ 12/31/2019 \_\_\_\_\_

email: \_\_\_\_\_ Kyle\_Littrell@xtoenergy.com \_\_\_\_\_ Telephone: \_\_\_\_\_ 432-221-7331 \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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

**RECEIVED** State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505  
NOV 26 2013  
MOCD ARTESIA

Form C-141  
Revised August 8, 2011

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

### Release Notification and Corrective Action

Name of Company: BOPCO, L.P. 260737		OPERATOR	<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220		Contact: Tony Savoie		
Facility Name: Golden 8 Federal Battery #1, the Well #1 was P&A 2011		Telephone No. 575-887-7329		
		Facility Type: Exploration and Production		
Surface Owner: Federal		Mineral Owner: Federal	API No. 30-015-26931	

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	8	21S	29E	1650	South	2180	West	Eddy

Latitude N 32.491141 Longitude W 104.007775

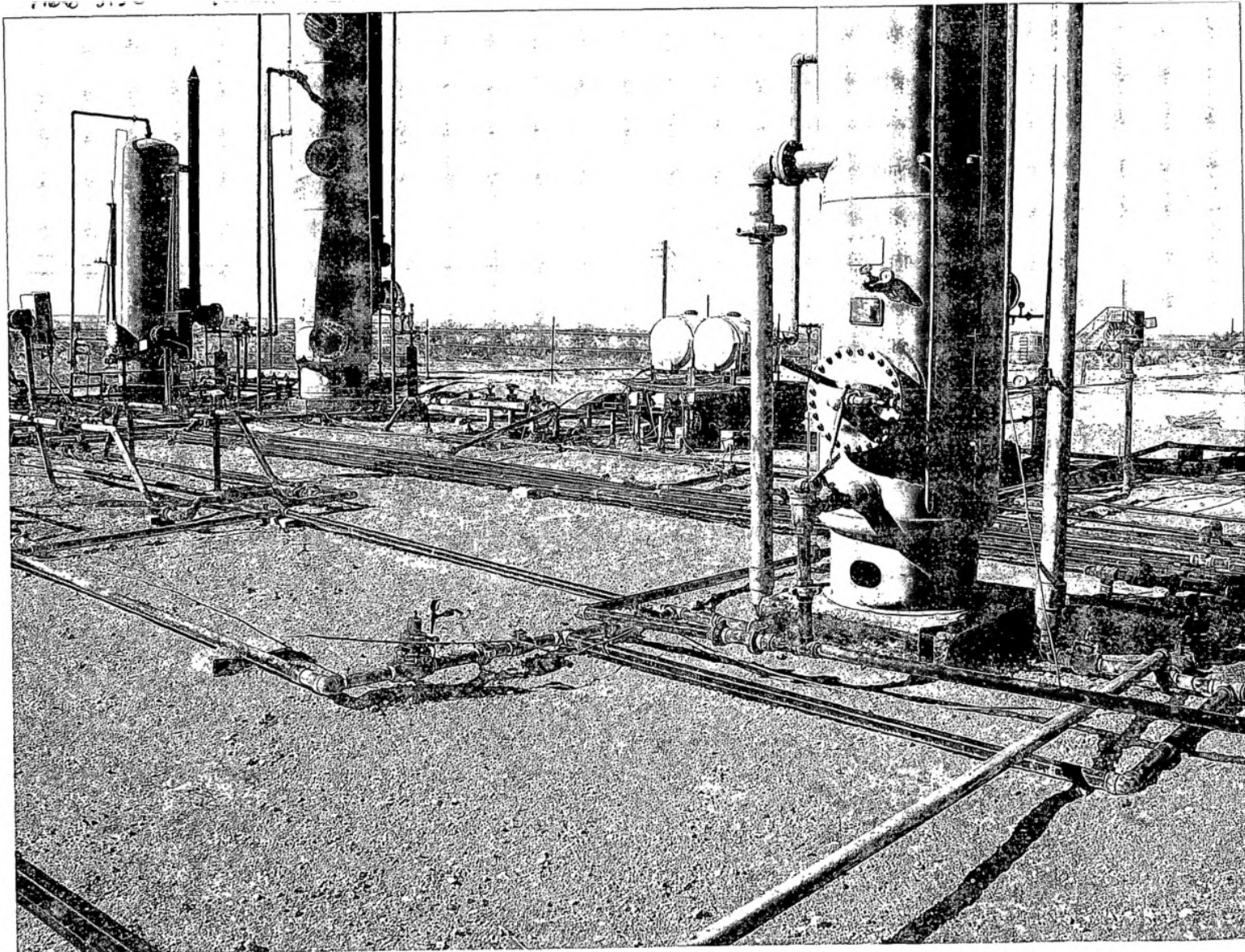
### NATURE OF RELEASE

Type of Release: Crude oil and produced water	Volume of Release: 6 Bbls of crude oil and 15 Bbls water	Volume Recovered: 3 Bbls oil and 2 Bbls water.
Source of Release: Heater-treater fire tube	Date and Hour of Occurrence: Date 11/25/13 Time unknown	Date and Hour of Discovery: Date 11/25/13 Time approximately 9:00 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
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.* The fire tube on the heater-treater developed a leak, the production was switched out of the vessel, a vacuum truck was dispatched to the site to recover the free product.		
Describe Area Affected and Cleanup Action Taken.* The spill impacted approximately 900 sq. ft. of the tank battery earthen containment area. The spill impacted an area that had been cleaned up as far as practicable in the area around the vessels and lines during a remediation at the facility in August of 2011, reference spill report dated 2/16/11. The area will be re-addressed, cleaned up as required and a new closure report will be submitted including data from the previous spill.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC 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 NMOC 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, NMOC acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature: Tony Savoie	OIL CONSERVATION DIVISION	
Printed Name: Tony Savoie	Approved by Environmental Specialist: Signed By Mike Savoie	
Title: Waste Management and Remediation Specialist	Approval Date: NOV 26 2013	Expiration Date:
E-mail Address: tasavoie@basspet.com	Conditions of Approval:	
Date:	Remediation per OCD Rule & Guidelines, & like approval by BLM. SUBMIT REMEDIATION PROPOSAL NO LATER THAN:	Attached <input type="checkbox"/>

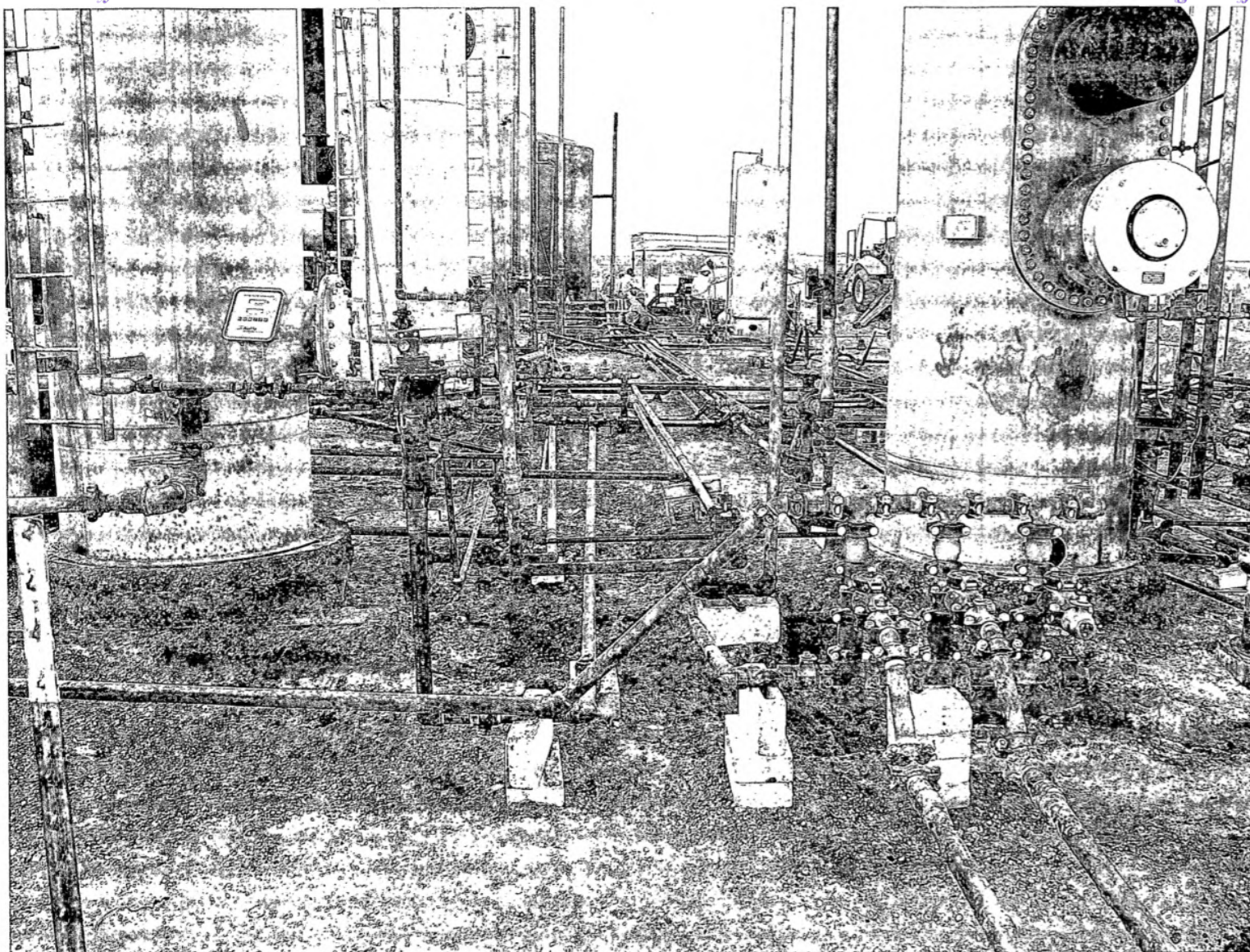
\* Attach Additional Sheets If Necessary

December 26, 2013 ZRP-2082

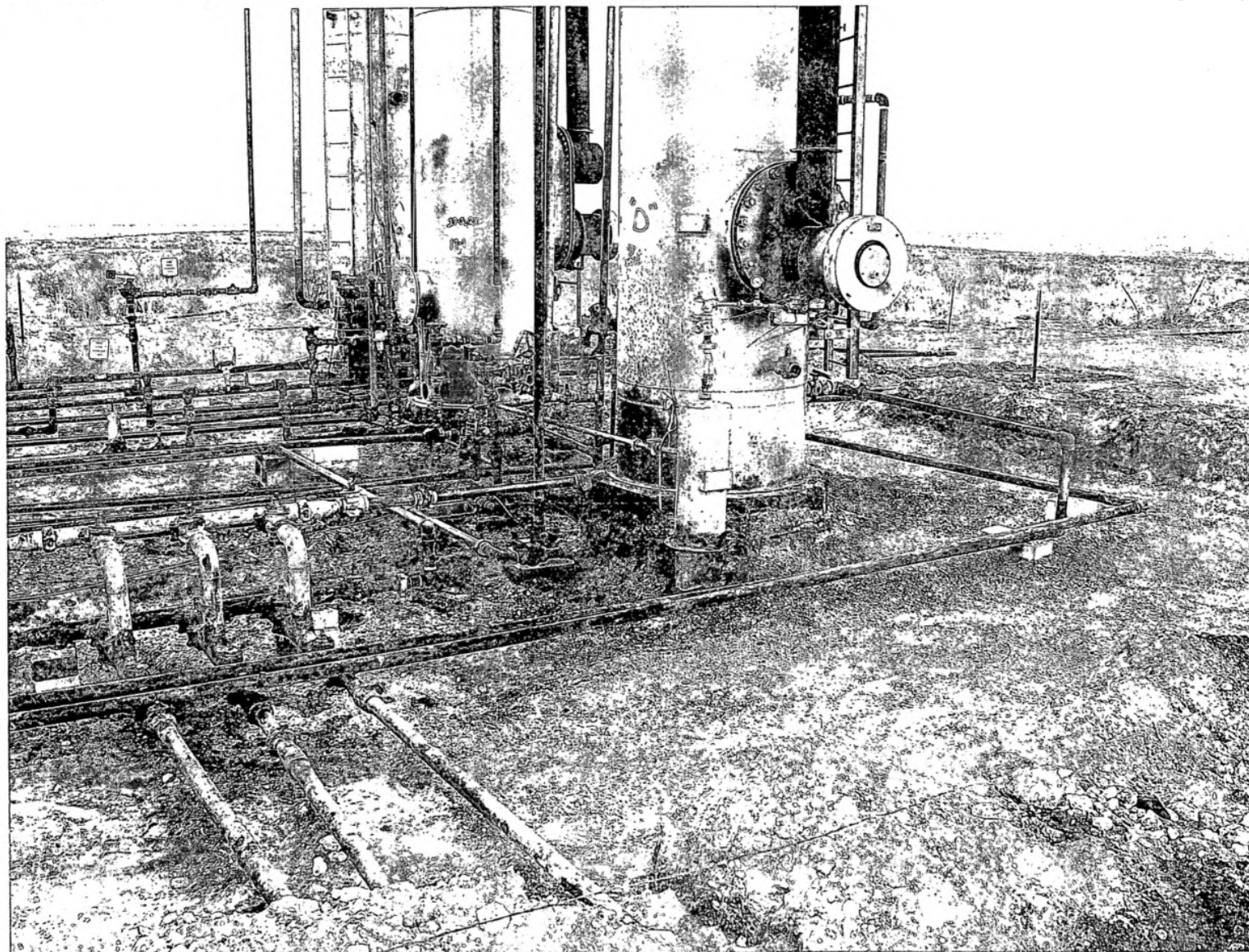




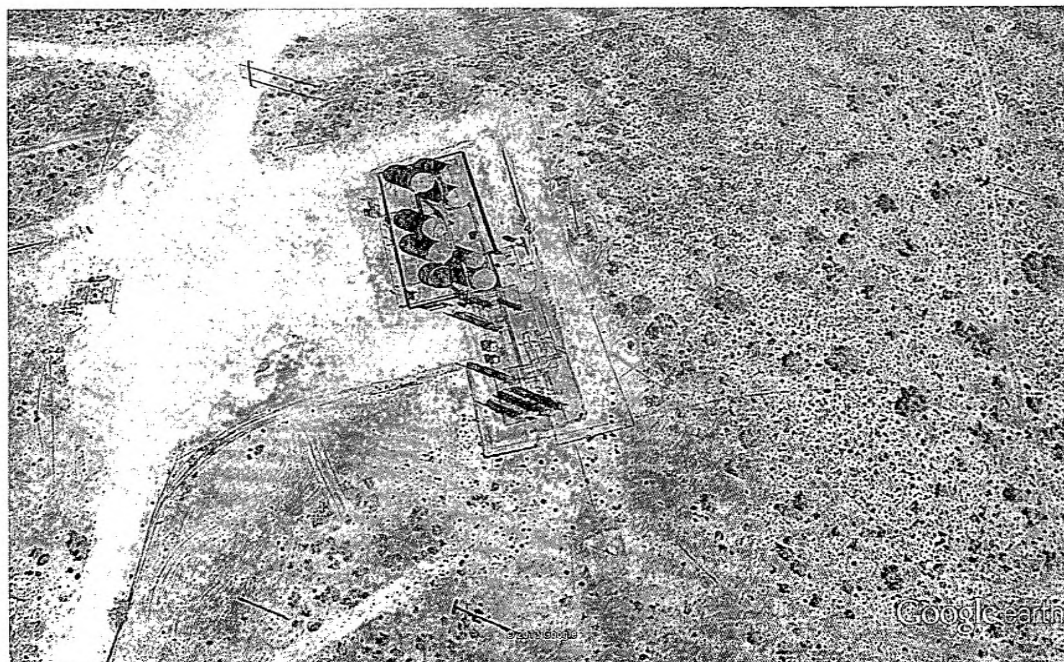












Google earth

feet 200  
meters 80



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	
District RP	2RP-2082
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # (assigned by OCD)
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

### Location of Release Source

Latitude 32.491141 \_\_\_\_\_ Longitude -104.007775 \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Golden 8 Federal Battery #1	Site Type Exploration and Production
Date Release Discovered 11/25/2013	API# (if applicable) 30-015-26931

Unit Letter	Section	Township	Range	County
K	8	21S	29E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: BLM \_\_\_\_\_)

### Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 6	Volume Recovered (bbls) 3
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 15	Volume Recovered (bbls) 2
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

#### Cause of Release

The fire tube on the heater-treater developed a leak, the production was switched out of the vessel, a vacuum truck was dispatched to the site to recover the free product. The spill impacted approximately 900 sq. ft. of the tank battery earthen containment area. The spill impacted an area that had been cleaned up as far as practical in the area around the vessels and lines during a remediation at the facility in August of 2011, reference spill report date d2/6/2011. The area will be re-addressed, cleaned up as required, and a new closure report will be submitted including data from the previous spill.

Form C-141

Page 2

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	2RP-2082
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

**Initial Response**

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: N/A	
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: _____ Kyle Littrell _____	Title: _____ SH&E Supervisor _____
Signature: _____	Date: _____ 12/31/2019 _____
email: _____ Kyle_Littrell@xtoenergy.com _____	Telephone: _____ 432-221-7331 _____
<b><u>OCD Only</u></b>  Received by: _____ Date: _____	



Form C-141

Page 3

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	2RP-2082
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?	<u>    &gt;100    </u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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.

Form C-141

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	
District RP	2RP-2082
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: \_\_\_\_\_ Kyle Littrell \_\_\_\_\_ Title: \_\_\_\_\_ SH&amp;E Supervisor \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ 12/31/2019 \_\_\_\_\_

email: \_\_\_\_\_ Kyle\_Littrell@xtoenergy.com \_\_\_\_\_ Telephone: \_\_\_\_\_ 432-221-7331 \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Form C-141

State of New Mexico

Page 5

Oil Conservation Division

Incident ID	
District RP	2RP-2082
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: \_\_\_\_\_ Kyle Littrell \_\_\_\_\_ Title: \_\_\_\_\_ SH&amp;E Supervisor \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ 12/31/2019 \_\_\_\_\_

email: \_\_\_\_\_ Kyle\_Littrell@xtoenergy.com \_\_\_\_\_ Telephone: \_\_\_\_\_ 432-221-7331 \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

AUG 13 2014

Form C-141  
Revised August 8, 2011

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

## Release Notification and Corrective Action

NAB1422637219 OPERATOR ☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. <u>840737</u>	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: Golden 8 Federal Battery #1, the Well #1 was P&A 2011	Facility Type: Exploration and Production
Surface Owner: Federal	Mineral Owner: Federal
API No. 30-015-26931	

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	8	21S	29E	1650	South	2180	West	Eddy

Latitude N 32.491141 Longitude W 104.007775

## NATURE OF RELEASE

Type of Release: Crude oil and produced water	Volume of Release: 3 Bbls of crude oil and 38 Bbls water	Volume Recovered: 1 Bbl. oil and 17 Bbls water.
Source of Release: Victaulic fitting on the production header.	Date and Hour of Occurrence: Date 8/12/14 Time unknown	Date and Hour of Discovery: Date 8/12/14 Time approximately 10:30 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? NMOCD Emergency #104	
By Whom? Tony Savoie	Date and Hour: 8/12/14 at 12:10 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

## NM OIL CONSERVATION

ARTESIA DISTRICT

AUG 13 2014

RECEIVED

Describe Cause of Problem and Remedial Action Taken.\*

A Victaulic gasket failed on the production header due to a normally open valve was shut causing pressure to build up and blow out the gasket. The gasket was replaced and the valve was returned to normal.

Describe Area Affected and Cleanup Action Taken.\*

The spill impacted approximately 1500 sq. ft. of the tank battery earthen containment area. The spill impacted an area that had been cleaned up as far as practicable in the area around the vessels and lines during a remediation at the facility in August of 2011, reference 2RP-633. And the same are as impacted by spill reference 2RP-2082. The area will be re-addressed, cleaned up as required and a new closure report will be submitted including data from the previous two spills.

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: <u>Tony Savoie</u>	Approved by Environmental Specialist Signed By <u>[Signature]</u>	
Printed Name: Tony Savoie	Approval Date: <u>8/14/14</u>	Expiration Date: <u>N/A</u>
Title: Waste Management and Remediation Specialist	Conditions of Approval: Remediation per OCD Rule & Guidelines. <b>SUBMIT REMEDIATION PROPOSAL NO LATER THAN:</b>	
E-mail Address: <u>tasavoie@basspet.com</u>	Attached <input type="checkbox"/>	
Date: 8/13/14	Phone: 432-556-8730	

\* Attach Additional Sheets If Necessary

2RP 2439



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	
District RP	2RP-2439
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # (assigned by OCD)
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

### Location of Release Source

Latitude 32.491141 Longitude -104.007775  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Golden 8 Federal Battery #1	Site Type Exploration and Production
Date Release Discovered 08/12/2014	API# (if applicable) 30-015-26931

Unit Letter	Section	Township	Range	County
K	8	21S	29E	Eddy

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

### Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 3	Volume Recovered (bbls) 1
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 27	Volume Recovered (bbls) 17
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

#### Cause of Release

A Victaulic gasket failed on the production header due to a normally open valve was shut causing pressure to build up and blow out the gasket. The gasket was replaced and the valve was returned to normal. The spill impacted approximately 1500 sq. ft. of the tank battery earthen containment area. The spill impacted an area that had been cleaned up as far as practical in the area around the vessels and lines during a remediation at the facility in August of 2011, reference 2RP-0633 and the same areas impacted by spill reference 2RP-2082. The area will be re-addressed, cleaned up as required, and a new closure report will be submitted including data from the previous two spills.

Form C-141

State of New Mexico  
Oil Conservation Division

Page 2

Incident ID	
District RP	2RP-2439
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Volume of release is greater than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Tony Savoie (XTO) contacted the NMOCD emergency operator #104 on 08/12/2014 at 12:10 pm.	

**Initial Response**

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: N/A	
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: _____ Kyle Littrell _____	Title: _____ SH&E Supervisor _____
Signature: _____	Date: _____ 12/31/2019 _____
email: _____ Kyle_Littrell@xtoenergy.com _____	Telephone: _____ 432-221-7331 _____
<b><u>OCD Only</u></b>  Received by: _____ Date: _____	

Form C-141

Page 3

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	2RP-2439
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?	____ >100 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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.

Form C-141

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	
District RP	2RP-2439
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: \_\_\_\_\_ Kyle Littrell \_\_\_\_\_ Title: \_\_\_\_\_ SH&amp;E Supervisor \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ 12/31/2019 \_\_\_\_\_

email: \_\_\_\_\_ Kyle\_Littrell@xtoenergy.com \_\_\_\_\_ Telephone: \_\_\_\_\_ 432-221-7331 \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_



Form C-141

State of New Mexico

Page 5

Oil Conservation Division

Incident ID	nAB1422637219
District RP	2RP-2439
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: \_\_\_\_\_ Kyle Littrell \_\_\_\_\_ Title: \_\_\_\_\_ SH&E Supervisor \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ 12/31/2019 \_\_\_\_\_

email: \_\_\_\_\_ Kyle\_Littrell@xtoenergy.com \_\_\_\_\_ Telephone: \_\_\_\_\_ 432-221-7331 \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature: \_\_\_\_\_ Bradford Billings \_\_\_\_\_ Date: \_\_\_\_\_ 07/23/2021 \_\_\_\_\_



LT Environmental, Inc.

3300 North "A" Street  
Building 1, Unit 222  
Midland, Texas 79705  
432.704.5178

January 2, 2020

Mr. Mike Bratcher  
New Mexico Oil Conservation Division  
811 South First Street  
Artesia, New Mexico 88210

**RE: Deferral Request – Addendum to Original Closure Request  
Golden 8 Federal Battery #1  
Remediation Permit Numbers 2RP-521, 2RP-633, 2RP-2082, and 2RP-2439  
Eddy County, New Mexico**

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Deferral Request as an addendum to a previously submitted Closure Request detailing site assessment and soil sampling activities at the Golden 8 Federal Battery #1 (Site) in Unit K, Section 8, Township 21 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The original Closure Request addressed seven historical releases that occurred at the same well pad location. The New Mexico Oil Conservation Division (NMOCD) approved closure of three of the historical releases, but requested additional information for deferral consideration of four releases that occurred around production equipment. The purpose of the site assessment and soil sampling activities documented in this report was to delineate previously identified impacted soil associated with those four historical releases. Based on field observations, field screening, and laboratory analytical results from soil sampling activities, XTO is submitting this Deferral Request, requesting deferral of final remediation for these release events.

## RELEASE BACKGROUND

### 2RP-521

On June 14, 2010 a drain line connection on a tank failed due to internal corrosion releasing 90 barrels (bbls) of crude oil into the lined earthen tank battery containment. The remaining oil in the tank was removed, the tank was cleaned, inspected and repaired. A vacuum truck was dispatched to the Site to recover freestanding fluids; approximately 80 bbls of crude oil were recovered. The heavily saturated soils were removed. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Form C-141 on June 22, 2010, and the NMOCD subsequently issued RP Number 2RP-521.





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### 2RP-633

On February 12, 2011 a heater-treater malfunction caused an oil product tank to overflow releasing 310 bbls of crude oil to the lined earthen containment and pasture outside the containment. A vacuum truck was dispatched to the Site to recover freestanding fluids; approximately 290 bbls of crude oil were recovered.

### 2RP-2082

On November 25, 2013 a fire tube on the heater-treater developed a leak resulting in a release of 6 bbls of crude oil and 15 bbls of produced water to the lined earthen containment. A vacuum truck was dispatched to the Site to recover freestanding fluids; approximately 3 bbls of crude oil and 2 bbls of produced water were recovered.

### 2RP-2439

On August 12, 2014 a Victaulic gasket failed on the production header due to a blow out on the gasket resulting in a release of 3 bbls of crude oil and 38 bbls of produced water. A vacuum truck was dispatched to the Site to recover freestanding fluids; approximately 1 bbl of crude oil and 17 bbls of water were recovered. The gasket was replaced.

XTO submitted a Closure Request dated May 25, 2018, for this site addressing seven separate historical releases. The NMOCD approved closure of 2RP-3612, 2RP-4017, and 2RP-4601 via email dated June 6, 2018. In consideration of the other historical releases, which were inside the tank battery, NMOCD responded with a recommendation to attempt a delineation, remediate as much as possible, and defer anything left until final plugging and abandonment.

### SITE CLOSURE STANDARDS

The original site work and subsequent sampling occurred prior to promulgation of new spill response requirements listed in Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). As described and approved in the original Closure Request, closure standards were established as follows: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg benzene, toluene, ethylbenzene, and total xylenes (BTEX); and 5,000 mg/kg total petroleum hydrocarbons (TPH). Based on standard practice in this region at the time of sampling and previous reporting, LTE applied a site-specific chloride action level of 600 mg/kg.

### SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On June 7, 2018 LTE evaluated the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected six preliminary soil samples (SS06-SS11) within the lined earthen containment. Soil from the soil sample location was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID)





Bratcher, M.  
Page 3

and Hach® chloride QuanTab® test strips, respectively. The preliminary soil sample locations are depicted on Figure 2. Photographic documentation was conducted during the Site visit. Photographs are included in Attachment 2.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Based on laboratory analytical results for chloride in preliminary soil sample SS09, additional vertical delineation was conducted at that location.

On June 13, 2018 LTE personnel advanced a borehole via hand-auger at one location within the lined tank battery containment on the northeastern side of the caliche well pad. The borehole was advanced at SS09 to delineate the impacted soils. Three soil samples were collected at depths ranging from 7 feet and 12.5 feet bgs (BH01A through BH01C). Soil from the soil sample location was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each sample were documented on a lithologic/soil sampling log and are included as Attachment 1. The borehole was backfilled with the soil removed and LTE personnel repaired the liner. The borehole and vertical delineation soil sample location is depicted on Figure 2.

## ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples SS09 and BH01A, collected at depths ranging from 0.5 feet to 7 feet bgs, indicated that chloride concentrations exceeded 600 mg/kg. Laboratory analytical results indicated benzene, BTEX, TPH, and chloride concentrations were compliant with the documented closure standards in all other soil samples. Laboratory analytical results are presented on Figure 2 and summarized in Table 1. The complete laboratory analytical reports are included as Attachment 3.

## DEFERRAL REQUEST

LTE personnel advanced one borehole in the location of the SS09 in the lined earthen containment. Delineation soil samples BH01A through BH01C were collected from within the lined tank battery containment from depths ranging from 0.5 foot to 12.5 feet bgs to assess for the presence or absence of soil impacts as a result of the four releases in the lined earthen containment. Laboratory analytical results indicated that chloride concentrations exceeded the the previously documented closure standards in soil samples SS09 and BH01A, collected at







Bratcher, M.  
Page 4

depths ranging from 0.5 feet to 7 feet bgs. Laboratory analytical results indicated benzene, BTEX, TPH, and chloride concentrations were compliant with the previously documented closure standards in soil samples SS06 through SS08, SS10, SS11 and BH01B through BH01C at depths of approximately 0.5 feet and 12.5 feet bgs, respectively.

Residual impacted soil in the area of delineation borehole BH01 was left in place under the lined containment in which active operating equipment exists. Vertical delineation was achieved at approximately 10 feet bgs. The lateral extent of impacted soil remaining in place is defined by the other samples documented in this report and the numerous samples collected outside the containment and documented in the original Closure Request. An estimated 555 cubic yards of impacted soil remains in place surrounding borehole BH01 and beneath the lined tank battery containment, assuming a maximum 10-foot depth based on soil sample BH01B collected at a depth of 10 feet bgs.

Because depth to groundwater is estimated to be greater than 200 feet bgs, there no nearby surface features, and the impacted soil exists above and beneath a liner, LTE and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The lined containment was repaired by XTO and will restrict potential vertical migration of residual impacts. XTO requests deferral of final remediation for this release event until final reclamation of the well pad or major construction, whichever comes first. An updated Form C-141 is attached.

If you have any questions or comments, please do not hesitate to contact Ms. Ashley Ager at (970) 385-1096.

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink that reads "Tacoma Morrissey".

Tacoma Morrissey  
Staff Geologist

A handwritten signature in black ink that reads "Ashley L. Ager".

Ashley L. Ager, P.G.  
Senior Geologist

cc: Kyle Littrell, XTO  
United States Bureau of Land Management – New Mexico  
Robert Hamlet, NMOCD  
Victoria Venegas, NMOCD





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Appendices:

- Figure 1 Site Receptor Map
- Figure 2 Delineation Soil Sample Locations
- Table 1 Soil Analytical Results
- Attachment 1 Lithologic/Soil Sampling Logs
- Attachment 2 Photographic Log
- Attachment 3 Laboratory Analytical Reports



FIGURES





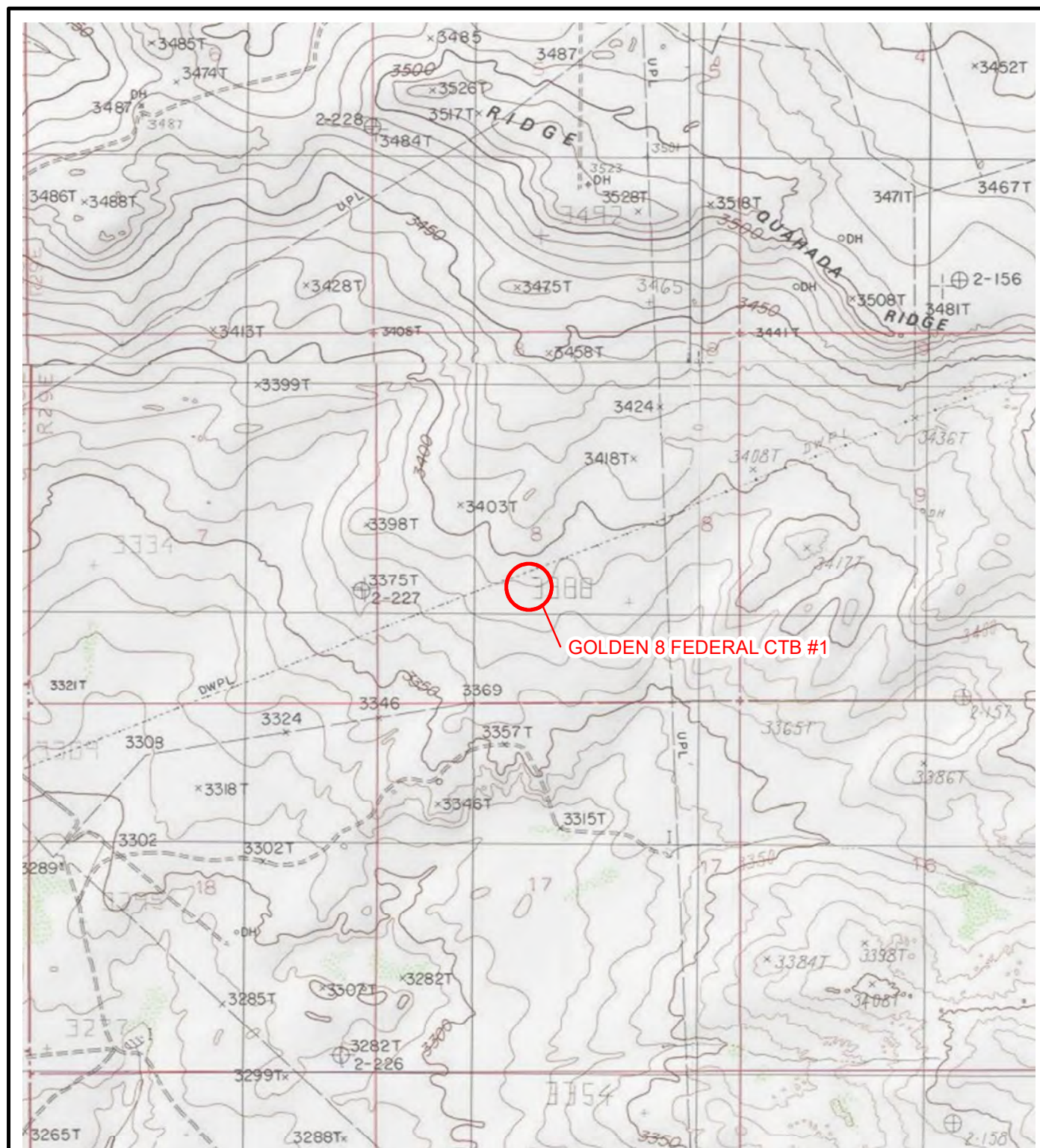


IMAGE COURTESY OF ESRI/USGS

**LEGEND**

○ SITE LOCATION

0 2,000 4,000  
Feet



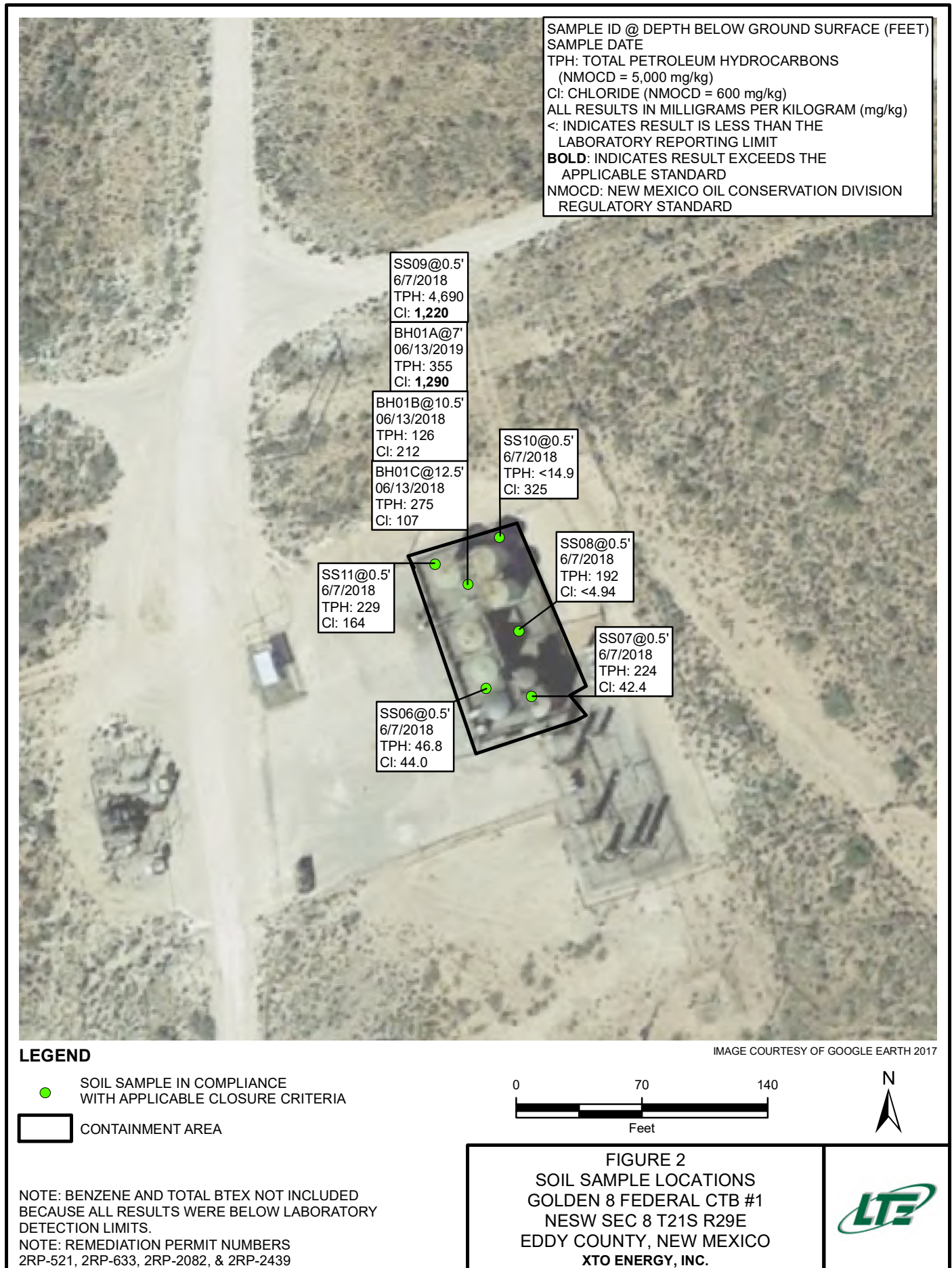
NOTE: REMEDIATION PERMIT NUMBERS  
2RP-521, 2RP-633, 2RP-2082, & 2RP-2439

**FIGURE 1**  
**SITE LOCATION MAP**  
**GOLDEN 8 FEDERAL CTB #1**  
**NESW SEC 8 T21S R29E**  
**EDDY COUNTY, NEW MEXICO**  
**XTO ENERGY, INC.**



P:\XTO Energy\GIS\MXD\012918065\_GOLDEN 8 FEDERAL\012918065\_FIG01\_SL\_2018.mxd





TABLE





**TABLE 1**  
**SOIL ANALYTICAL RESULTS**

**GOLDEN 8 FEDERAL CENTRAL TANK BATTERY #1**  
**REMEDIATION PERMIT NUMBER 2RP-521, 2RP-633, 2RP-2082, AND 2RP-2439**  
**EDDY COUNTY, NEW MEXICO**  
**XTO ENERGY, INC.**

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
<b>NMOCD Table 1 Closure Criteria</b>			<b>10</b>	NE	NE	NE	<b>50</b>	NE	NE	NE	<b>NE</b>	<b>5,000</b>	<b>600</b>
SS06 @ 6" bgs	0.5	06/07/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	46.8	<15.0	46.8	46.8	44.0
SS07	0.5	06/07/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	203	21.3	203	224	42.4
SS08	0.5	06/07/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	172	20.3	172	192	<4.94
SS09	0.5	06/07/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	659	3,900	129	4,550	4,690	<b>1,220</b>
SS10	0.5	06/07/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	325
SS11	0.5	06/07/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	210	19.2	210	229	164
BH01 A	7	06/13/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	331	24.0	331	355	<b>1,290</b>
BH01 B	10.5	06/13/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	126	<15.0	126	126	212
BH01 C	12.5	06/13/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	258	17.1	258	275	107

**Notes:**

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

DRO - diesel range organics

GRO - gasoline range organics

mg/kg - milligrams per kilogram

MRO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

NE - not established

TPH - total petroleum hydrocarbons

**Bold** - indicates result exceeds the applicable regulatory standard


&lt; - indicates result is below laboratory reporting limits

Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018



ATTACHMENT 1: LITHOLOGIC/SOIL SAMPLING LOGS



 <p><b>LT Environmental, Inc.</b> 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation</p>		Identifier: BH01	Date: 6/13/2019
		Project Name: Golden 8 Federal #1	RP Number: 2RP-521, 2RP-633, 2RP-2082, and 2RP-2439
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>		Logged By: L. Laumbach	Method: Hand Auger
Lat/Long: 32.491438, -104.008147		Field Screening:	Hole Diameter: 3" Total Depth: 12.5'
Comments:			
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining
Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type
Lithology/Remarks			
	0		
	1		
	2		
	3		
985	352	4	4' S Caliche/sand light brown- hydrocarbon odor detected
	5		
	6		
1160	215	BH01 A	7 7' S sand/ clay brown
	8		
462	95.4		9 9.5' S sand/clay brown- no staining or hydrocarbon odor detected
156.4	492	BH01B	10 10.5' sand/clay brown- no staining or hydrocarbon odor detected
50.1	630		11 11.5' caliche/sand- no staining or hydrocarbon odor detected
65.1	115	BH01C	12 12.5' caliche/sand- no staining or hydrocarbon odor detected; auger refusal




ATTACHMENT 2: PHOTOGRAPHIC LOG






**Western view of lined tank battery containment.**

Project: 012918065	XTO Energy, Inc. Golden 8 Federal Battery #1	 Advancing Opportunity
March 3, 2018	Photographic Log	



**View of lined tank battery containment and liner hole during soil sampling activities.**

Project: 012918065	XTO Energy, Inc. Golden 8 Federal Battery #1	 Advancing Opportunity
March 4, 2018	Photographic Log	

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS





# Analytical Report 588640

for  
**LT Environmental, Inc.**

**Project Manager: Adrian Baker**

**Golden 8 Federal #1**

**11-JUN-18**

Collected By: Client



**1211 W. Florida Ave, Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):  
Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):  
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)  
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)  
Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14)  
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)  
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)



11-JUN-18

Project Manager: **Adrian Baker**

**LT Environmental, Inc.**

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **588640**

**Golden 8 Federal #1**

Project Address: NM 2RP-2439

**Adrian Baker:**

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) 588640. 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. 588640 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,

A handwritten signature in black ink that reads 'Jessica Kramer'. The signature is written in a cursive, flowing style.

**Jessica Kramer**

Project Assistant

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 588640****LT Environmental, Inc., Arvada, CO**

Golden 8 Federal #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS06 @ 6"bgs.	S	06-07-18 10:00	6 In	588640-001
SS07	S	06-07-18 10:15	6 In	588640-002
SS08	S	06-07-18 10:35	6 In	588640-003
SS09	S	06-07-18 10:50	6 In	588640-004
SS10	S	06-07-18 11:00	6 In	588640-005
SS11	S	06-07-18 10:20	6 In	588640-006



## CASE NARRATIVE

*Client Name: LT Environmental, Inc.*

*Project Name: Golden 8 Federal #1*

Project ID:

Work Order Number(s): 588640

Report Date: 11-JUN-18

Date Received: 06/08/2018

---

**Sample receipt non conformances and comments:**

None

---

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3052932 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3052970 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.





# Certificate of Analysis Summary 588640

LT Environmental, Inc., Arvada, CO

Project Name: Golden 8 Federal #1



Project Id:

Contact: Adrian Baker

Project Location: NM 2RP-2439

Date Received in Lab: Fri Jun-08-18 10:09 am

Report Date: 11-JUN-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	588640-001	588640-002	588640-003	588640-004	588640-005	588640-006
	<i>Field Id:</i>	SS06 @ 6"bgs.	SS07	SS08	SS09	SS10	SS11
	<i>Depth:</i>	6- In	6- In	6- In	6- In	6- In	6- In
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-07-18 10:00	Jun-07-18 10:15	Jun-07-18 10:35	Jun-07-18 10:50	Jun-07-18 11:00	Jun-07-18 10:20
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Jun-09-18 07:55	Jun-09-18 07:55	Jun-09-18 07:55	Jun-10-18 08:30	Jun-09-18 07:55	Jun-09-18 07:55
	<i>Analyzed:</i>	Jun-10-18 00:43	Jun-10-18 01:01	Jun-10-18 01:19	Jun-10-18 21:34	Jun-10-18 01:55	Jun-10-18 02:13
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00397 0.00397	<0.00402 0.00402	<0.00399 0.00399	<0.00401 0.00401	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
<b>Inorganic Anions by EPA 300</b>	<i>Extracted:</i>	Jun-08-18 15:15	Jun-08-18 15:15	Jun-08-18 15:15	Jun-08-18 15:15	Jun-08-18 15:15	Jun-08-18 15:15
	<i>Analyzed:</i>	Jun-09-18 01:09	Jun-09-18 01:15	Jun-09-18 01:20	Jun-09-18 01:26	Jun-09-18 01:31	Jun-09-18 01:47
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		44.0 4.93	42.4 4.99	<4.94 4.94	1220 24.7	325 4.96	164 4.98
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Jun-08-18 14:00	Jun-08-18 14:00	Jun-08-18 14:00	Jun-08-18 14:00	Jun-08-18 14:00	Jun-08-18 14:00
	<i>Analyzed:</i>	Jun-09-18 01:03	Jun-09-18 01:23	Jun-09-18 01:44	Jun-09-18 02:04	Jun-09-18 02:25	Jun-09-18 02:45
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	659 74.8	<14.9 14.9	<15.0 15.0
Diesel Range Organics (DRO)		46.8 15.0	203 15.0	172 14.9	3900 74.8	<14.9 14.9	210 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	21.3 15.0	20.3 14.9	129 74.8	<14.9 14.9	19.2 15.0
Total TPH		46.8 15.0	224 15.0	192 14.9	4690 74.8	<14.9 14.9	229 15.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

*Jessica Kramer*

Jessica Kramer  
Project Assistant



# Certificate of Analytical Results 588640



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal #1

Sample Id: **SS06 @ 6"bgs.**

Matrix: Soil

Date Received:06.08.18 10.09

Lab Sample Id: 588640-001

Date Collected: 06.07.18 10.00

Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: SCM

Date Prep: 06.08.18 15.15

Basis: Wet Weight

Seq Number: 3052933

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	44.0	4.93	mg/kg	06.09.18 01.09		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 06.08.18 14.00

Basis: Wet Weight

Seq Number: 3052902

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.09.18 01.03	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	46.8	15.0	mg/kg	06.09.18 01.03		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.09.18 01.03	U	1
<b>Total TPH</b>	PHC635	46.8	15.0	mg/kg	06.09.18 01.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	06.09.18 01.03	
o-Terphenyl	84-15-1	96	%	70-135	06.09.18 01.03	



# Certificate of Analytical Results 588640



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal #1

Sample Id: **SS06 @ 6"bgs.**

Matrix: Soil

Date Received:06.08.18 10.09

Lab Sample Id: 588640-001

Date Collected: 06.07.18 10.00

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.09.18 07.55

Basis: Wet Weight

Seq Number: 3052932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.10.18 00.43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.10.18 00.43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.10.18 00.43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.10.18 00.43	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.10.18 00.43	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.10.18 00.43	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.10.18 00.43	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.10.18 00.43		
1,4-Difluorobenzene	540-36-3	99	%	70-130	06.10.18 00.43		



# Certificate of Analytical Results 588640



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal #1

Sample Id: **SS07** Matrix: Soil Date Received: 06.08.18 10.09  
 Lab Sample Id: 588640-002 Date Collected: 06.07.18 10.15 Sample Depth: 6 In  
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P  
 Tech: OJS % Moisture:  
 Analyst: SCM Date Prep: 06.08.18 15.15 Basis: Wet Weight  
 Seq Number: 3052933

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.4	4.99	mg/kg	06.09.18 01.15		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P  
 Tech: ARM % Moisture:  
 Analyst: ARM Date Prep: 06.08.18 14.00 Basis: Wet Weight  
 Seq Number: 3052902

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.09.18 01.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	203	15.0	mg/kg	06.09.18 01.23		1
Oil Range Hydrocarbons (ORO)	PHCG2835	21.3	15.0	mg/kg	06.09.18 01.23		1
Total TPH	PHC635	224	15.0	mg/kg	06.09.18 01.23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	06.09.18 01.23	
o-Terphenyl	84-15-1	95	%	70-135	06.09.18 01.23	





# Certificate of Analytical Results 588640



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal #1

Sample Id: **SS07** Matrix: Soil Date Received: 06.08.18 10.09  
 Lab Sample Id: 588640-002 Date Collected: 06.07.18 10.15 Sample Depth: 6 In  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B  
 Tech: ALJ % Moisture:  
 Analyst: ALJ Date Prep: 06.09.18 07.55 Basis: Wet Weight  
 Seq Number: 3052932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	06.10.18 01.01	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	06.10.18 01.01	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	06.10.18 01.01	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	06.10.18 01.01	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	06.10.18 01.01	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	06.10.18 01.01	U	1
Total BTEX		<0.00198	0.00198	mg/kg	06.10.18 01.01	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	104	%	70-130	06.10.18 01.01		
1,4-Difluorobenzene	540-36-3	95	%	70-130	06.10.18 01.01		



# Certificate of Analytical Results 588640



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal #1

Sample Id: **SS08**

Matrix: Soil

Date Received: 06.08.18 10.09

Lab Sample Id: 588640-003

Date Collected: 06.07.18 10.35

Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: SCM

Date Prep: 06.08.18 15.15

Basis: Wet Weight

Seq Number: 3052933

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.94	4.94	mg/kg	06.09.18 01.20	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 06.08.18 14.00

Basis: Wet Weight

Seq Number: 3052902

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.09.18 01.44	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>172</b>	14.9	mg/kg	06.09.18 01.44		1
<b>Oil Range Hydrocarbons (ORO)</b>	PHCG2835	<b>20.3</b>	14.9	mg/kg	06.09.18 01.44		1
<b>Total TPH</b>	PHC635	<b>192</b>	14.9	mg/kg	06.09.18 01.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	06.09.18 01.44	
o-Terphenyl	84-15-1	93	%	70-135	06.09.18 01.44	



# Certificate of Analytical Results 588640



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal #1

Sample Id: **SS08**

Matrix: Soil

Date Received: 06.08.18 10.09

Lab Sample Id: 588640-003

Date Collected: 06.07.18 10.35

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.09.18 07.55

Basis: Wet Weight

Seq Number: 3052932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.10.18 01.19	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.10.18 01.19	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.10.18 01.19	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.10.18 01.19	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.10.18 01.19	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.10.18 01.19	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.10.18 01.19	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	97	%	70-130	06.10.18 01.19		
4-Bromofluorobenzene	460-00-4	110	%	70-130	06.10.18 01.19		



# Certificate of Analytical Results 588640



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal #1

Sample Id: **SS09** Matrix: Soil Date Received: 06.08.18 10.09  
 Lab Sample Id: 588640-004 Date Collected: 06.07.18 10.50 Sample Depth: 6 In  
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P  
 Tech: OJS % Moisture:  
 Analyst: SCM Date Prep: 06.08.18 15.15 Basis: Wet Weight  
 Seq Number: 3052933

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1220	24.7	mg/kg	06.09.18 01.26		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P  
 Tech: ARM % Moisture:  
 Analyst: ARM Date Prep: 06.08.18 14.00 Basis: Wet Weight  
 Seq Number: 3052902

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	659	74.8	mg/kg	06.09.18 02.04		5
Diesel Range Organics (DRO)	C10C28DRO	3900	74.8	mg/kg	06.09.18 02.04		5
Oil Range Hydrocarbons (ORO)	PHCG2835	129	74.8	mg/kg	06.09.18 02.04		5
Total TPH	PHC635	4690	74.8	mg/kg	06.09.18 02.04		5
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	121	%	70-135	06.09.18 02.04		
o-Terphenyl	84-15-1	117	%	70-135	06.09.18 02.04		





# Certificate of Analytical Results 588640



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal #1

Sample Id: **SS09**

Matrix: Soil

Date Received: 06.08.18 10.09

Lab Sample Id: 588640-004

Date Collected: 06.07.18 10.50

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.10.18 08.30

Basis: Wet Weight

Seq Number: 3052970

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.10.18 21.34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.10.18 21.34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.10.18 21.34	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	06.10.18 21.34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.10.18 21.34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.10.18 21.34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.10.18 21.34	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	94	%	70-130	06.10.18 21.34		
4-Bromofluorobenzene	460-00-4	100	%	70-130	06.10.18 21.34		



# Certificate of Analytical Results 588640



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal #1

Sample Id: **SS10** Matrix: Soil Date Received: 06.08.18 10.09  
 Lab Sample Id: 588640-005 Date Collected: 06.07.18 11.00 Sample Depth: 6 In  
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P  
 Tech: OJS % Moisture:  
 Analyst: SCM Date Prep: 06.08.18 15.15 Basis: Wet Weight  
 Seq Number: 3052933

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	325	4.96	mg/kg	06.09.18 01.31		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P  
 Tech: ARM % Moisture:  
 Analyst: ARM Date Prep: 06.08.18 14.00 Basis: Wet Weight  
 Seq Number: 3052902

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.09.18 02.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.09.18 02.25	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	06.09.18 02.25	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.09.18 02.25	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1-Chlorooctane	111-85-3	95	%	70-135	06.09.18 02.25		
o-Terphenyl	84-15-1	98	%	70-135	06.09.18 02.25		



# Certificate of Analytical Results 588640



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal #1

Sample Id: **SS10**

Matrix: Soil

Date Received:06.08.18 10.09

Lab Sample Id: 588640-005

Date Collected: 06.07.18 11.00

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.09.18 07.55

Basis: Wet Weight

Seq Number: 3052932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.10.18 01.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.10.18 01.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.10.18 01.55	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	06.10.18 01.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.10.18 01.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.10.18 01.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.10.18 01.55	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	95	%	70-130	06.10.18 01.55		
4-Bromofluorobenzene	460-00-4	113	%	70-130	06.10.18 01.55		



# Certificate of Analytical Results 588640



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal #1

Sample Id: **SS11** Matrix: Soil Date Received: 06.08.18 10.09  
 Lab Sample Id: 588640-006 Date Collected: 06.07.18 10.20 Sample Depth: 6 In  
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P  
 Tech: OJS % Moisture:  
 Analyst: SCM Date Prep: 06.08.18 15.15 Basis: Wet Weight  
 Seq Number: 3052933

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	164	4.98	mg/kg	06.09.18 01.47		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P  
 Tech: ARM % Moisture:  
 Analyst: ARM Date Prep: 06.08.18 14.00 Basis: Wet Weight  
 Seq Number: 3052902

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.09.18 02.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	210	15.0	mg/kg	06.09.18 02.45		1
Oil Range Hydrocarbons (ORO)	PHCG2835	19.2	15.0	mg/kg	06.09.18 02.45		1
Total TPH	PHC635	229	15.0	mg/kg	06.09.18 02.45		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	101	%	70-135	06.09.18 02.45		
o-Terphenyl	84-15-1	105	%	70-135	06.09.18 02.45		





# Certificate of Analytical Results 588640



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal #1

Sample Id: **SS11**

Matrix: Soil

Date Received: 06.08.18 10.09

Lab Sample Id: 588640-006

Date Collected: 06.07.18 10.20

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.09.18 07.55

Basis: Wet Weight

Seq Number: 3052932

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.10.18 02.13	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.10.18 02.13	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.10.18 02.13	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.10.18 02.13	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.10.18 02.13	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.10.18 02.13	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.10.18 02.13	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	87	%	70-130	06.10.18 02.13		
4-Bromofluorobenzene	460-00-4	98	%	70-130	06.10.18 02.13		



## 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      **SQL** 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 588640

## LT Environmental, Inc.

Golden 8 Federal #1

## Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3052933

Matrix: Solid

Prep Method: E300P

MB Sample Id: 7656302-1-BLK

LCS Sample Id: 7656302-1-BKS

Date Prep: 06.08.18

LCSD Sample Id: 7656302-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	270	108	267	107	90-110	1	20	mg/kg	06.09.18 00:05	

## Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3052933

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 588639-001

MS Sample Id: 588639-001 S

Date Prep: 06.08.18

MSD Sample Id: 588639-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	47.6	247	345	120	337	117	90-110	2	20	mg/kg	06.09.18 00:21	X

## Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3052933

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 588640-005

MS Sample Id: 588640-005 S

Date Prep: 06.08.18

MSD Sample Id: 588640-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	325	248	583	104	584	104	90-110	0	20	mg/kg	06.09.18 01:36	

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3052902

Matrix: Solid

Prep Method: TX1005P

MB Sample Id: 7656356-1-BLK

LCS Sample Id: 7656356-1-BKS

Date Prep: 06.08.18

LCSD Sample Id: 7656356-1-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 (GRO)	<15.0	1000	943	94	954	95	70-135	1	20	mg/kg	06.08.18 19:37	
Diesel Range Organics (DRO)	<15.0	1000	993	99	1000	100	70-135	1	20	mg/kg	06.08.18 19:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		122		125		70-135	%	06.08.18 19:37
o-Terphenyl	106		108		107		70-135	%	06.08.18 19:37

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec



## QC Summary 588640

## LT Environmental, Inc.

Golden 8 Federal #1

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3052902

Parent Sample Id: 588620-001

Matrix: Soil

MS Sample Id: 588620-001 S

Prep Method: TX1005P

Date Prep: 06.08.18

MSD Sample Id: 588620-001 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 (GRO)	<15.0	998	890	89	903	90	70-135	1	20	mg/kg	06.08.18 20:38	
Diesel Range Organics (DRO)	<15.0	998	924	93	942	94	70-135	2	20	mg/kg	06.08.18 20:38	

## Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		124		70-135	%	06.08.18 20:38
o-Terphenyl	107		107		70-135	%	06.08.18 20:38

## Analytical Method: BTEX by EPA 8021B

Seq Number: 3052932

MB Sample Id: 7656352-1-BLK

Matrix: Solid

LCS Sample Id: 7656352-1-BKS

Prep Method: SW5030B

Date Prep: 06.09.18

LCSD Sample Id: 7656352-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0866	86	0.0847	85	70-130	2	35	mg/kg	06.09.18 18:38	
Toluene	<0.00202	0.101	0.0902	89	0.0897	90	70-130	1	35	mg/kg	06.09.18 18:38	
Ethylbenzene	<0.00202	0.101	0.0922	91	0.0914	91	70-130	1	35	mg/kg	06.09.18 18:38	
m,p-Xylenes	<0.00403	0.202	0.192	95	0.187	94	70-130	3	35	mg/kg	06.09.18 18:38	
o-Xylene	<0.00202	0.101	0.0929	92	0.0977	98	70-130	5	35	mg/kg	06.09.18 18:38	

## Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		95		94		70-130	%	06.09.18 18:38
4-Bromofluorobenzene	93		95		99		70-130	%	06.09.18 18:38

## Analytical Method: BTEX by EPA 8021B

Seq Number: 3052970

MB Sample Id: 7656395-1-BLK

Matrix: Solid

LCS Sample Id: 7656395-1-BKS

Prep Method: SW5030B

Date Prep: 06.10.18

LCSD Sample Id: 7656395-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0879	88	0.0862	85	70-130	2	35	mg/kg	06.10.18 19:28	
Toluene	<0.00200	0.100	0.0934	93	0.0907	90	70-130	3	35	mg/kg	06.10.18 19:28	
Ethylbenzene	<0.00200	0.100	0.0917	92	0.0893	88	70-130	3	35	mg/kg	06.10.18 19:28	
m,p-Xylenes	<0.00401	0.200	0.189	95	0.185	92	70-130	2	35	mg/kg	06.10.18 19:28	
o-Xylene	<0.00200	0.100	0.0921	92	0.0897	89	70-130	3	35	mg/kg	06.10.18 19:28	

## Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		99		94		70-130	%	06.10.18 19:28
4-Bromofluorobenzene	87		98		94		70-130	%	06.10.18 19:28

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec



## QC Summary 588640

## LT Environmental, Inc.

Golden 8 Federal #1

## Analytical Method: BTEX by EPA 8021B

Seq Number: 3052932

Parent Sample Id: 588112-021

Matrix: Soil

MS Sample Id: 588112-021 S

Prep Method: SW5030B

Date Prep: 06.09.18

MSD Sample Id: 588112-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0473	47	0.0544	55	70-130	14	35	mg/kg	06.09.18 19:16	X
Toluene	<0.00200	0.100	0.0502	50	0.0567	57	70-130	12	35	mg/kg	06.09.18 19:16	X
Ethylbenzene	<0.00200	0.100	0.0468	47	0.0537	54	70-130	14	35	mg/kg	06.09.18 19:16	X
m,p-Xylenes	<0.00401	0.200	0.0968	48	0.111	56	70-130	14	35	mg/kg	06.09.18 19:16	X
o-Xylene	<0.00200	0.100	0.0465	47	0.0653	66	70-130	34	35	mg/kg	06.09.18 19:16	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		106		70-130	%	06.09.18 19:16
4-Bromofluorobenzene	95		104		70-130	%	06.09.18 19:16

## Analytical Method: BTEX by EPA 8021B

Seq Number: 3052970

Parent Sample Id: 588647-004

Matrix: Soil

MS Sample Id: 588647-004 S

Prep Method: SW5030B

Date Prep: 06.10.18

MSD Sample Id: 588647-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0756	75	0.0760	75	70-130	1	35	mg/kg	06.10.18 20:04	
Toluene	<0.00202	0.101	0.0813	80	0.0797	79	70-130	2	35	mg/kg	06.10.18 20:04	
Ethylbenzene	<0.00202	0.101	0.0814	81	0.0819	81	70-130	1	35	mg/kg	06.10.18 20:04	
m,p-Xylenes	<0.00404	0.202	0.167	83	0.171	85	70-130	2	35	mg/kg	06.10.18 20:04	
o-Xylene	<0.00202	0.101	0.0767	76	0.0782	77	70-130	2	35	mg/kg	06.10.18 20:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		98		70-130	%	06.10.18 20:04
4-Bromofluorobenzene	104		106		70-130	%	06.10.18 20:04

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec



Client / Reporting Information										Project Information										Analytical Information										Matrix Codes																			
Company Name / Branch: LT Environmental, Inc. - Permian Office										Project Name/Number: Golden & Federal #1										Xenoco Quote #										Xenoco Job #																			
Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705										Project Location: MN ARP-2439																																							
Email: Abaker@LTENV.com										Phone No: (432) 704-5178										Invoice To: XTO Energy - Kyle Litrell																													
Project Contact: Adrian Baker										PO Number:																																							
Sampler's Name Yoda Lankabach																																																	
No.		Field ID / Point of Collection		Collection		Number of preserved bottles										Field Comments																																	
				Sample Depth		Date		Time		Matrix		# of bottles		HCl		NaOH/Zn Acetate		HNO3		H2SO4		NaOH		NaHSO4		MeOH		NONE																					
1		SS06 @ 6" bgs.		6"		06/18		10:00		S		1																		BTEX 8021 (only BTEX)																			
2		SS07						10:15		S		1																		TPH (MRO, GRO, DRO) 8015																			
3		SS08						10:35		S		1																		chloride (300.0)																			
4		SS09						10:50		S		1																		X																			
5		SS10						11:00		S		1																		X																			
6		SS11						11:20		S		1																		X																			
7																																																	
8																																																	
9																																																	
10																																																	
Turnaround Time (Business days)										Data Deliverable Information										Notes:																													
<input checked="" type="checkbox"/> Same Day TAT										<input type="checkbox"/> 5 Day TAT										<input type="checkbox"/> Level II Std QC										<input type="checkbox"/> Level IV (Full Data Pkg /raw data)																			
<input type="checkbox"/> Next Day EMERGENCY										<input type="checkbox"/> 7 Day TAT										<input type="checkbox"/> Level III Std QC+ Forms										<input type="checkbox"/> TRRP Level IV																			
<input type="checkbox"/> 2 Day EMERGENCY										<input type="checkbox"/> Contract TAT										<input type="checkbox"/> Level 3 (CLP Forms)										<input type="checkbox"/> UST / RG -411																			
<input type="checkbox"/> 3 Day EMERGENCY										<input type="checkbox"/> TRRP Checklist																																							
TAT Starts Day received by Lab, if received by 5:00 pm										FED-EX / UPS: Tracking #																																							
Relinquished by: <i>Samuel</i>										SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																																							
Date Time: <i>06/18 12:20</i>										Received By: <i>Samuel P. Selby</i>										Relinquished By: <i>Samuel</i>										Date Time: <i>06/18 15:30</i>																			
Relinquished by: <i>Samuel</i>										Date Time: <i>06/18 12:20</i>										Received By: <i>Samuel P. Selby</i>										Relinquished By: <i>Samuel</i>										Date Time: <i>06/18 15:30</i>									
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Relinquished by: <i>Samuel</i>										Date Time: <i>06/18 12:20</i>										Received By: <i>Samuel P. Selby</i>										Relinquished By: <i>Samuel</i>										Date Time: <i>06/18 15:30</i>									
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Relinquished by: <i>Samuel</i>										Date Time: <i>06/18 12:20</i>										Received By: <i>Samuel P. Selby</i>										Relinquished By: <i>Samuel</i>										Date Time: <i>06/18 15:30</i>									
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Relinquished by: <i>Samuel</i>										Date Time: <i>06/18 12:20</i>										Received By: <i>Samuel P. Selby</i>										Relinquished By: <i>Samuel</i>										Date Time: <i>06/18 15:30</i>									
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Relinquished by: <i>Samuel</i>										Date Time: <i>06/18 12:20</i>										Received By: <i>Samuel P. Selby</i>										Relinquished By: <i>Samuel</i>										Date Time: <i>06/18 15:30</i>									
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Relinquished by: <i>Samuel</i>										Date Time: <i>06/18 12:20</i>																																							



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 06/08/2018 10:09:00 AM

Work Order #: 588640

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)?	4.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#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)?	N/A
#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:

Brianna Teel

Date: 06/08/2018

Checklist reviewed by:

Jessica Kramer

Date: 06/08/2018

# Analytical Report 589277

for  
**LT Environmental, Inc.**

**Project Manager: Adrian Baker**

**Golden 8 Federal 1**

**15-JUN-18**

Collected By: Client



**1211 W. Florida Ave, Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):  
Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):  
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)  
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)  
Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-15)  
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

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)



15-JUN-18

Project Manager: **Adrian Baker**

**LT Environmental, Inc.**

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **589277**

**Golden 8 Federal 1**

Project Address: NM 2RP-3612

**Adrian Baker:**

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) 589277. 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. 589277 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,

A handwritten signature in black ink that reads 'Jessica Kramer'. The signature is written in a cursive, flowing style.

**Jessica Kramer**

Project Assistant

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



## Sample Cross Reference 589277



LT Environmental, Inc., Arvada, CO

Golden 8 Federal 1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01 A	S	06-13-18 09:50	7 ft	589277-001
BH01 B	S	06-13-18 10:30	10.5 ft	589277-002
BH01 C	S	06-13-18 11:15	12.5 ft	589277-003





## CASE NARRATIVE

**Client Name:** LT Environmental, Inc.

**Project Name:** Golden 8 Federal 1

**Project ID:**

**Work Order Number(s):** 589277

**Report Date:** 15-JUN-18

**Date Received:** 06/14/2018

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**Sample receipt non conformances and comments:**

None

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**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3053586 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 589277-001 S.

Batch: LBA-3053603 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



# Certificate of Analysis Summary 589277

LT Environmental, Inc., Arvada, CO

Project Name: Golden 8 Federal 1



Project Id:

Contact: Adrian Baker

Project Location: NM 2RP-3612

Date Received in Lab: Thu Jun-14-18 02:00 pm

Report Date: 15-JUN-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	589277-001	589277-002	589277-003			
	<i>Field Id:</i>	BH01 A	BH01 B	BH01 C			
	<i>Depth:</i>	7- ft	10.5- ft	12.5- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Jun-13-18 09:50	Jun-13-18 10:30	Jun-13-18 11:15			
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Jun-14-18 16:00	Jun-14-18 16:00	Jun-14-18 16:00			
	<i>Analyzed:</i>	Jun-14-18 19:08	Jun-14-18 19:26	Jun-14-18 19:44			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200			
Toluene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200			
Ethylbenzene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200			
m,p-Xylenes		<0.00402 0.00402	<0.00398 0.00398	<0.00400 0.00400			
o-Xylene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200			
Total Xylenes		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200			
Total BTEX		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200			
<b>Inorganic Anions by EPA 300</b>	<i>Extracted:</i>	Jun-14-18 14:30	Jun-14-18 14:30	Jun-14-18 14:30			
	<i>Analyzed:</i>	Jun-14-18 18:51	Jun-14-18 18:56	Jun-14-18 19:02			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		1290 24.6	212 4.94	107 5.00			
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Jun-15-18 12:00	Jun-15-18 12:00	Jun-15-18 12:00			
	<i>Analyzed:</i>	Jun-15-18 14:06	Jun-15-18 15:06	Jun-15-18 15:27			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0			
Diesel Range Organics (DRO)		331 15.0	126 15.0	258 15.0			
Oil Range Hydrocarbons (ORO)		24.0 15.0	<15.0 15.0	17.1 15.0			
Total TPH		355 15.0	126 15.0	275 15.0			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

*Jessica Kramer*

Jessica Kramer  
Project Assistant



# Certificate of Analytical Results 589277



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal 1

Sample Id: **BH01 A**  
Lab Sample Id: 589277-001

Matrix: Soil  
Date Collected: 06.13.18 09.50

Date Received: 06.14.18 14.00  
Sample Depth: 7 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 06.14.18 14.30

Basis: Wet Weight

Seq Number: 3053433

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1290	24.6	mg/kg	06.14.18 18.51		5

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: JUM

Date Prep: 06.15.18 12.00

Basis: Wet Weight

Seq Number: 3053586

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.15.18 14.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	331	15.0	mg/kg	06.15.18 14.06		1
Oil Range Hydrocarbons (ORO)	PHCG2835	24.0	15.0	mg/kg	06.15.18 14.06		1
Total TPH	PHC635	355	15.0	mg/kg	06.15.18 14.06		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	83	%	70-135	06.15.18 14.06		
o-Terphenyl	84-15-1	88	%	70-135	06.15.18 14.06		



# Certificate of Analytical Results 589277



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal 1

Sample Id: **BH01 A**  
Lab Sample Id: 589277-001

Matrix: Soil  
Date Collected: 06.13.18 09.50

Date Received: 06.14.18 14.00  
Sample Depth: 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.14.18 16.00

Basis: Wet Weight

Seq Number: 3053603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	06.14.18 19.08	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	06.14.18 19.08	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	06.14.18 19.08	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	06.14.18 19.08	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	06.14.18 19.08	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	06.14.18 19.08	U	1
Total BTEX		<0.00201	0.00201	mg/kg	06.14.18 19.08	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	101	%	70-130	06.14.18 19.08		
1,4-Difluorobenzene	540-36-3	108	%	70-130	06.14.18 19.08		



# Certificate of Analytical Results 589277



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal 1

Sample Id: **BH01 B**  
Lab Sample Id: 589277-002

Matrix: Soil  
Date Collected: 06.13.18 10.30

Date Received: 06.14.18 14.00  
Sample Depth: 10.5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 06.14.18 14.30

Basis: Wet Weight

Seq Number: 3053433

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	212	4.94	mg/kg	06.14.18 18.56		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: JUM

Date Prep: 06.15.18 12.00

Basis: Wet Weight

Seq Number: 3053586

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.15.18 15.06	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	126	15.0	mg/kg	06.15.18 15.06		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.15.18 15.06	U	1
<b>Total TPH</b>	PHC635	126	15.0	mg/kg	06.15.18 15.06		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1-Chlorooctane	111-85-3	75	%	70-135	06.15.18 15.06		
o-Terphenyl	84-15-1	79	%	70-135	06.15.18 15.06		





# Certificate of Analytical Results 589277



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal 1

Sample Id: **BH01 B**  
Lab Sample Id: 589277-002

Matrix: Soil  
Date Collected: 06.13.18 10.30

Date Received: 06.14.18 14.00  
Sample Depth: 10.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.14.18 16.00

Basis: Wet Weight

Seq Number: 3053603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	06.14.18 19.26	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.14.18 19.26	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.14.18 19.26	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.14.18 19.26	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.14.18 19.26	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.14.18 19.26	U	1
Total BTEX		<0.00199	0.00199	mg/kg	06.14.18 19.26	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	93	%	70-130	06.14.18 19.26		
1,4-Difluorobenzene	540-36-3	101	%	70-130	06.14.18 19.26		



# Certificate of Analytical Results 589277



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal 1

Sample Id: **BH01 C**  
Lab Sample Id: 589277-003

Matrix: Soil  
Date Collected: 06.13.18 11.15

Date Received: 06.14.18 14.00  
Sample Depth: 12.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3053433

Date Prep: 06.14.18 14.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	107	5.00	mg/kg	06.14.18 19.02		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: JUM

Seq Number: 3053586

Date Prep: 06.15.18 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.15.18 15.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	258	15.0	mg/kg	06.15.18 15.27		1
Oil Range Hydrocarbons (ORO)	PHCG2835	17.1	15.0	mg/kg	06.15.18 15.27		1
Total TPH	PHC635	275	15.0	mg/kg	06.15.18 15.27		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	92	%	70-135	06.15.18 15.27		
o-Terphenyl	84-15-1	99	%	70-135	06.15.18 15.27		



# Certificate of Analytical Results 589277



## LT Environmental, Inc., Arvada, CO

Golden 8 Federal 1

Sample Id: **BH01 C**  
Lab Sample Id: 589277-003

Matrix: Soil  
Date Collected: 06.13.18 11.15

Date Received: 06.14.18 14.00  
Sample Depth: 12.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.14.18 16.00

Basis: Wet Weight

Seq Number: 3053603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	06.14.18 19.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	06.14.18 19.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	06.14.18 19.44	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	06.14.18 19.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	06.14.18 19.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	06.14.18 19.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	06.14.18 19.44	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	109	%	70-130	06.14.18 19.44		
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.14.18 19.44		



## 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 589277

## LT Environmental, Inc.

Golden 8 Federal 1

## Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3053433

MB Sample Id: 7656636-1-BLK

Matrix: Solid

LCS Sample Id: 7656636-1-BKS

Prep Method: E300P

Date Prep: 06.14.18

LCSD Sample Id: 7656636-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	257	103	257	103	90-110	0	20	mg/kg	06.14.18 12:29	

## Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3053433

Parent Sample Id: 588898-002

Matrix: Soil

MS Sample Id: 588898-002 S

Prep Method: E300P

Date Prep: 06.14.18

MSD Sample Id: 588898-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	321	250	558	95	559	95	90-110	0	20	mg/kg	06.14.18 17:57	

## Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3053433

Parent Sample Id: 589043-001

Matrix: Soil

MS Sample Id: 589043-001 S

Prep Method: E300P

Date Prep: 06.14.18

MSD Sample Id: 589043-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.35	247	270	106	264	104	90-110	2	20	mg/kg	06.14.18 12:46	

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3053586

MB Sample Id: 7656745-1-BLK

Matrix: Solid

LCS Sample Id: 7656745-1-BKS

Prep Method: TX1005P

Date Prep: 06.15.18

LCSD Sample Id: 7656745-1-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 (GRO)	<15.0	1000	837	84	847	85	70-135	1	20	mg/kg	06.15.18 13:26	
Diesel Range Organics (DRO)	<15.0	1000	827	83	854	85	70-135	3	20	mg/kg	06.15.18 13:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	80		107		109		70-135	%	06.15.18 13:26
o-Terphenyl	84		86		83		70-135	%	06.15.18 13:26

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec





## QC Summary 589277

## LT Environmental, Inc.

Golden 8 Federal 1

Analytical Method: TPH by SW8015 Mod

Seq Number: 3053586

Parent Sample Id: 589277-001

Matrix: Soil

MS Sample Id: 589277-001 S

Prep Method: TX1005P

Date Prep: 06.15.18

MSD Sample Id: 589277-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RP D	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	820	82	871	87	70-135	6	20	mg/kg	06.15.18 14:26	
Diesel Range Organics (DRO)	331	999	1140	81	1160	83	70-135	2	20	mg/kg	06.15.18 14:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		102		70-135	%	06.15.18 14:26
o-Terphenyl	54	**	90		70-135	%	06.15.18 14:26

Analytical Method: BTEX by EPA 8021B

Seq Number: 3053603

MB Sample Id: 7656667-1-BLK

Matrix: Solid

LCS Sample Id: 7656667-1-BKS

Prep Method: SW5030B

Date Prep: 06.14.18

LCSD Sample Id: 7656667-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RP D	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0941	94	0.0871	87	70-130	8	35	mg/kg	06.14.18 17:19	
Toluene	<0.00200	0.100	0.101	101	0.0930	93	70-130	8	35	mg/kg	06.14.18 17:19	
Ethylbenzene	<0.00200	0.100	0.0993	99	0.0925	93	70-130	7	35	mg/kg	06.14.18 17:19	
m,p-Xylenes	<0.00401	0.200	0.208	104	0.194	97	70-130	7	35	mg/kg	06.14.18 17:19	
o-Xylene	<0.00200	0.100	0.106	106	0.0910	91	70-130	15	35	mg/kg	06.14.18 17:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		92		99		70-130	%	06.14.18 17:19
4-Bromofluorobenzene	89		100		122		70-130	%	06.14.18 17:19

Analytical Method: BTEX by EPA 8021B

Seq Number: 3053603

Parent Sample Id: 588822-002

Matrix: Soil

MS Sample Id: 588822-002 S

Prep Method: SW5030B

Date Prep: 06.14.18

MSD Sample Id: 588822-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RP D	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0578	58	0.0661	65	70-130	13	35	mg/kg	06.14.18 17:55	X
Toluene	<0.00201	0.100	0.0592	59	0.0663	66	70-130	11	35	mg/kg	06.14.18 17:55	X
Ethylbenzene	<0.00201	0.100	0.0519	52	0.0592	59	70-130	13	35	mg/kg	06.14.18 17:55	X
m,p-Xylenes	<0.00402	0.201	0.107	53	0.120	60	70-130	11	35	mg/kg	06.14.18 17:55	X
o-Xylene	<0.00201	0.100	0.0520	52	0.0572	57	70-130	10	35	mg/kg	06.14.18 17:55	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		97		70-130	%	06.14.18 17:55
4-Bromofluorobenzene	106		123		70-130	%	06.14.18 17:55

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes			
Company Name / Branch: LT Environmental, Inc. - Permian Office				Project Name/Number: Golden & Federal 1											
Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705				Project Location: NM											
Email: Abaker@LTENV.com (432) 704-5178				Invoice To: XTO Energy - Kyle Litrell											
Project Contact: Adrian Baker				PO Number:											
Sampler's Name: Lynda Lambrecht															
No.		Field ID / Point of Collection		Collection		Number of preserved bottles									
		Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MeOH		
1	BH01A	7'	04/30/18	9:50	S	1									
2	BH01B	10.5'	10:30	S	1										
3	BH01C	12.5'	11:15	S	1										
4															
5															
6															
7															
8															
9															
10															
Turnaround Time (Business days)				Data Deliverable Information				Notes:							
<input checked="" type="checkbox"/> Same Day TAT				<input type="checkbox"/> 5 Day TAT				<input type="checkbox"/> Level II Std QC				<input type="checkbox"/> Level IV (Full Data Pkg / raw data)			
<input type="checkbox"/> Next Day EMERGENCY				<input type="checkbox"/> 7 Day TAT				<input type="checkbox"/> Level III Std QC + Forms				<input type="checkbox"/> TRRP Level IV			
<input type="checkbox"/> 2 Day EMERGENCY				<input type="checkbox"/> Contract TAT				<input type="checkbox"/> Level 3 (CLP Forms)				<input type="checkbox"/> UST / RG -411			
<input type="checkbox"/> 3 Day EMERGENCY								<input type="checkbox"/> TRRP Checklist							
TAT Starts Day received by Lab, if received by 5:00 pm												FED-EX / UPS: Tracking #			
Relinquished by Sampler:				SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY											
Relinquished by:				Date/Time:				Received By:				Date/Time:			
Relinquished by:				6/13/18 13:00				Received By: [Signature]				6/13/18 15:30			
Relinquished by:				6/14/18 14:00				Received By: [Signature]				6/14/18 15:30			
Relinquished by:				Date/Time:				Received By:				Date/Time:			
Relinquished by:				6/14/18 14:00				Received By: [Signature]				6/14/18 15:30			
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Relinquished by:				6/14/18 14:00				Received By: [Signature]				6/14/18 15:30			
Relinquished by:				Date/Time:				Received By:							



6/13/2018

FedEx Ship Manager - Print Your Label(s)

<b>ORIGIN ID:MAFA</b> (806) 794-1296 <b>XENCO</b> <b>XENCO</b> 1211 W. FLORIDA AVE MIDLAND, TX 79701 UNITED STATES US	<b>SHIP DATE: 13JUN18</b> <b>ACTWGT: 33.00 LB</b> <b>CAD: 101813706/NET 3980</b> <b>DIMS: 26x14x14 IN</b> <b>BILL RECIPIENT</b>
<b>TO XENCO</b> <b>XENCO</b> 1211 W. FLORIDA AVE MIDLAND TX 79701 (806) 794-1296 REF: PO:	DEPT:



J181118012601uv

<b>TRK#</b> 0201 <b>7724 7134 1434</b>	<b>THU - 14 JUN 3:00P</b> <b>STANDARD OVERNIGHT</b>
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**41 MAFA**  
**TX-US LBB**  
**79701**

552J293DF/DCA5

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on [fedex.com](http://fedex.com). FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 06/14/2018 02:00:00 PM

Work Order #: 589277

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)?	3.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#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)?	N/A
#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:

Brianna Teel

Date: 06/14/2018

Checklist reviewed by:

Jessica Kramer

Date: 06/14/2018

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS  
  
Action 3174

CONDITIONS

Operator: BOPCO, L.P. 6401 Holiday Hill Rd Midland, TX 79707	OGRID: 260737
	Action Number: 3174
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	Deferral approved for nAB1422637219 until P&A of major modification of location	7/23/2021