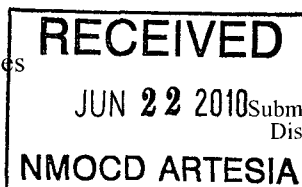


District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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



Form C-141  
Revised October 10, 2003  
Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action****OPERATOR**☒ Initial Report ☐ Final Report

Name of Company 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
<i>K</i>	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.

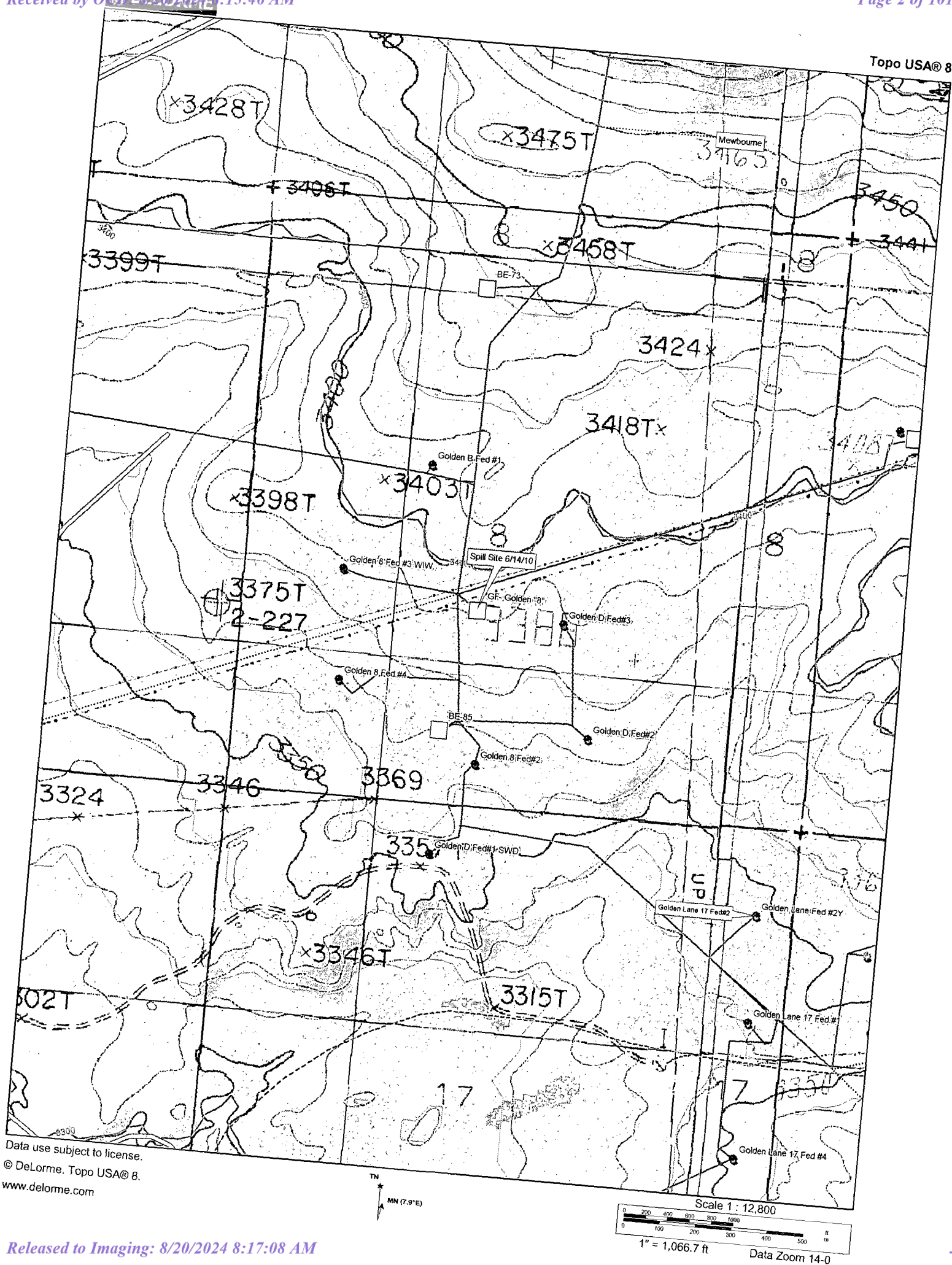
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger 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.

OIL CONSERVATION DIVISION	
Signature: <i>Tony Savoie</i>	Approved by District Supervisor: Signed By <i>Mike Brannan</i>
Printed Name: Tony Savoie	Approval Date: <i>3/3/11</i> Expiration Date:
Title: Waste Mgmt. & Remediation Specialist	Conditions of Approval:
E-mail Address: TASavoie@BassPet.com	Remediation per OCD Rules & Guidelines. <b>SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:</b>
Date: 6/22/10 Phone: 432-556-8730	Attached <input type="checkbox"/>

\* Attach Additional Sheets If Necessary

*4/3/11*

*2 RP-521*



**From:** [Weaver, Crystal, EMNRD](#)  
**To:** "Ruth, Amy"; [Bratcher, Mike, EMNRD](#); [Tucker, Shelly](#); [Jim Amos](#)  
**Cc:** [Sanders, Toady](#); [McSpadden, Wes](#); [Foust, Bryan](#); [Littrell, Kyle](#)  
**Subject:** RE: Initial C-141 - Golden Fed "D", 8, 17 CTB (API # 30-015-26931)  
**Date:** Monday, March 5, 2018 3:01:00 PM  
**Attachments:** [image001.png](#)  
[1. 4601 - COAs and signed C-141 Initial.pdf](#)  
[C-141 Initial for 2RP-521.pdf](#)  
[C-141 Initial for 2RP-633.pdf](#)  
[C-141 Initial for 2RP-2082.pdf](#)  
[1.Initial C-141 for 2RP-2439.pdf](#)  
[1.Initial C-141 for 2RP-3612.pdf](#)  
[3.Initial C-141- 2RP-4017.pdf](#)

---

RE: XTO \* Golden 8 Federal Battery #1 \* 30-015-26931 \* 2RP-4601

Amy,

I have included a scanned copy of the signed Initial C-141 Remediation Permit along with an attached Conditions of Approval (COA). The OCD tracking number for this event is 2RP-4601, please refer to this tracking number on any and all submissions sent in to the OCD. Please remit a site characterization plan (see COA document included in attachment) or advise OCD of plan of action immediately since this one had a due date of 3/2/18 and that has passed.

**Please note:** This API number has had quite a few spills in the past that are recorded in our system. Some of these case numbers are pretty old starting with the oldest one 2RP-521, 2RP-633, 2RP-2082, 2RP-2439, 2RP-3612 and 2RP-4017. I attached all of the Initial C-141s above for you all to reference. Could you all provide a plan of action on what XTO plans to do regarding this location by no later than 3/23/18.

Thank you,

**Crystal Weaver**

Environmental Specialist  
OCD – Artesia District II  
811 S. 1<sup>st</sup> Street  
Artesia, NM 88210  
Office: 575-748-1283 ext. 101  
Cell: 575-840-5963  
Fax: 575-748-9720

---

**From:** Ruth, Amy [mailto:[Amy\\_Ruth@xtoenergy.com](mailto:Amy_Ruth@xtoenergy.com)]  
**Sent:** Friday, February 2, 2018 9:49 AM  
**To:** [Bratcher, Mike, EMNRD](#) <[mike.bratcher@state.nm.us](mailto:mike.bratcher@state.nm.us)>; [Weaver, Crystal, EMNRD](#) <[Crystal.Weaver@state.nm.us](mailto:Crystal.Weaver@state.nm.us)>; [Tucker, Shelly](#) <[stucker@blm.gov](mailto:stucker@blm.gov)>; [Jim Amos](#) <[jamos@blm.gov](mailto:jamos@blm.gov)>  
**Cc:** [Sanders, Toady](#) <[Toady\\_Sanders@xtoenergy.com](mailto:Toady_Sanders@xtoenergy.com)>; [McSpadden, Wes](#)

<Wes\_McSpadden@xtoenergy.com>; Foust, Bryan <Bryan\_Foust@xtoenergy.com>; Littrell, Kyle <Kyle\_Littrell@xtoenergy.com>

**Subject:** Initial C-141 - Golden Fed "D", 8, 17 CTB (API # 30-015-26931)

Good Morning,

Please find attached the initial form C-141 detailing the accidental release of fluids and associated fire at the referenced facility. Thank you and contact us any time with questions or concerns.

Respectfully,

*Amy C. Ruth*

Delaware Basin Division

Environmental Coordinator

3104 E. Greene Street | Carlsbad, NM 88220 | M: 432.661.0571 | O: 575.689.3380



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**From:** Littrell, Kyle

**Sent:** Thursday, January 18, 2018 2:03 PM

**To:** Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Tucker, Shelly; Jim Amos

**Cc:** Sanders, Toady; McSpadden, Wes; Ruth, Amy; Foust, Bryan

**Subject:** Release Notification - Golden Fed "D", 8, 17 CTB (API # 30-015-26931)

Good Afternoon,

This is to notify you that this morning at approximately 10:00 am XTO discovered an accidental release of fluid from a flare stack which resulted in a small fire (approximately 25'w X 10'l). There were no injuries. We will provide details with the submission of a form C-141. Please contact me with any questions or concerns. Thanks. --Kyle

**Kyle Littrell**

EH&S Coordinator

XTO Energy Inc.

Delaware Division

Phone:(432)-221-7331 | Mobile:(970)-317-1867

[kyle\\_littrell@xtoenergy.com](mailto:kyle_littrell@xtoenergy.com)

An **ExxonMobil** Subsidiary





**Bratcher, Mike, EMNRD**

---

**From:** Ashley Ager <aager@ltenv.com>  
**Sent:** Friday, March 23, 2018 4:56 PM  
**To:** Weaver, Crystal, EMNRD; Bratcher, Mike, EMNRD  
**Cc:** stucker@blm.gov; Adrian Baker; Littrell, Kyle  
**Subject:** Golden 8 Federal Central Tank Battery/2RP-521, 2RP-633, 2RP-2082, 2RP-2439, 2RP-3612, 2RP-4017, 2RP-4601  
**Attachments:** Proposed Work Plan Golden 8 Federal CTB.PDF

Crystal,

Please find attached a work plan for addressing historic and recent releases at the Golden 8 Federal Central Tank Battery. The report includes preliminary results from initial surface sampling and proposes additional sampling and remediation work.

The work plan covers the following releases at the location:

**2RP-521, 2RP-633, 2RP-2082, 2RP-2439, 2RP-3612, 2RP-4017, 2RP-4601**

Please let me know if you have any questions and have a nice weekend.

Ashley


Ashley Ager, M.S., P.G.  
Senior Geologist/Vice President of Regional Offices



LT Environmental, Inc.  
848 East 2<sup>nd</sup> Avenue  
Durango, Colorado 81301  
(970) 385-1096 office  
(970) 946-1093 mobile  
[www.ltenv.com](http://www.ltenv.com)

Connect with us:



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Please consider the environment before printing this e-mail.



COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.

3300 North A Street  
Building 1, Suite 103  
Midland, Texas 79705  
432-704-5178

March 22, 2018

Ms. Crystal Weaver  
New Mexico Oil Conservation Division  
811 South First Street  
Artesia, New Mexico 88210

**RE: Proposed Work Plan  
Golden 8 Federal Central Tank Battery  
2RP-521, 2RP-633, 2RP-2082, 2RP-2439, 2RP-3612, 2RP-4017, 2RP-4601  
XTO Energy, Inc.  
Eddy County, New Mexico**

Dear Ms. Weaver:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), proposes the following work plan to investigate impacted soil at the Golden 8 Federal Central Tank Battery (Site) in response to multiple historic releases and one recent release of crude oil and produced water. All releases were reported to the New Mexico Oil Conservation Division (NMOCD) on multiple Release Notification and Corrective Action Forms C-141s dating from June 14, 2010 through November 26, 2017. The historic releases (2RP-521, 2RP-633, 2RP-2082, 2RP-2439, 2RP-3612, 2RP-4017) occurred while the Site was owned by a former operator but were never closed; the more recent release (2RP-4601) occurred after XTO assumed operation of the Site. This work plan is being submitted in response to the conditions of approval from the NMOCD documented on the C-141 for 2RP-4601. However, LTE had already begun investigating historical impact to soil. As such, LTE is presenting the results of preliminary sampling of both historic and new releases in this report. LTE proposes to address all releases concurrently with this work plan that includes additional delineation and subsequent remediation by excavation.

## BACKGROUND

The Site is located in northeast quarter of the southwest quarter of Section 8 within Township 21 South and Range 29 East in Eddy County, New Mexico (Figure 1). Depth to groundwater at the Site is estimated to be greater than 200 feet below ground surface (bgs) based on the nearest water well data and known aquifer properties. The nearest permitted water well is CP 00516, located approximately 1.41 miles west-southwest of the Site with a depth to groundwater of 205 feet and total depth of 275 feet. The closest surface water to the Site is a seasonal playa lake located approximately 4,366 feet to the southeast of the Site. Based on these criteria, the New Mexico Oil Conservation Division (NMOCD) site ranking for remediation action levels is a 0 and the following remediation action levels apply: 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, LTE proposes a site-specific chloride action level of 600 mg/kg or within range ( $\pm 10\%$ ) of background concentrations.

The releases affected areas on and off the well pad. Five of the releases occurred at the tank battery where most of the fluids were contained in an earthen berm. A release at the heater treater was contained in a lined containment. The most recent release was the result of a fire at the flare that caused a mist to settle over the pasture off site. As reported on the C-141s, all standing fluids were recovered during initial response activities. The releases and the areas they impacted are summarized as follows:



Weaver, C.  
Page 2

Release Permit Number	Date of Release	Oil Released (bbls)	Produced Water Released (bbls)	Description of Impacted Area
2RP-521	6/14/2010	90	0	Inside tank battery containment
2RP-633	2/16/2011	310	0	Inside tank battery containment and approximately 400 ft <sup>2</sup> of pasture outside the tank battery
2RP-2082	11/25/2013	6	15	Inside tank battery containment
2RP-2439	8/12/2014	3	38	Inside tank battery containment
2RP-3612	2/1/2016	30	0	Approximately 3,060 ft <sup>2</sup> of the well pad at the heater treater and approximately 600 ft <sup>2</sup> of pasture east of the tank battery
2RP-4017	11/26/2016	32	0	Approximately 3,168 ft <sup>2</sup> of the pad near the 2-phase vessel and mist over the pasture east of the well pad
2RP-4601	1/18/2018	<1	0	Mist over approximately 2,600 ft <sup>2</sup> of pasture south of the well pad

Notes: bbls – barrels  
ft<sup>2</sup> – square feet

## PRELIMINARY SOIL SAMPLING

LTE collected a total of 16 soil samples from the Site on the following dates: March 3, 2018, March 6, 2018, and March 9, 2018. LTE has depicted the sample locations on Figure 2, Figure 3, and Figure 4. The sample groups represented on the different figures are based on the location of the source (e.g. samples for releases associated with the tank battery are on Figure 2). During the site visits, LTE confirmed the release footprint based on visual observations of soil staining or used the associated C-141 information to approximate the affected area. To investigate potential impact to soil, LTE collected samples at the surface of the recent release and from approximately 6 inches below ground surface by hand auger at the historic releases. All surface and subsurface soil samples were submitted to a certified laboratory for analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021, TPH – gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO) by EPA Method 8015, and chloride by EPA Method 300.1.

Laboratory analytical results indicate three of sixteen samples contained concentrations of contaminants that exceeded NMOCD regulatory standards. One sample west of the tank battery, and one sample in the pasture south of the well pad contained TPH concentrations exceeding NMOCD standards. A sample southwest of the tank battery collected just beneath the ground surface contained chloride concentrations exceeding NMOCD regulatory standards, but an additional sample collected at 6 inches bgs did not contain detectable chloride concentrations. Laboratory analytical results are presented on Figures 2, 3, and 4 and on Tables 1, 2, and 3. The complete laboratory analytical reports are attached.

## ADDITIONAL DELINEATION

Additional investigation of soil impact will be conducted. LTE proposes to address 2RP-633, 2RP-3612 and 2RP-4017, which involved releases extending east of the well pad, by advancing boreholes via hand auger or pot holing in the locations identified on Figure 2. Continuous soil samples will be logged and



Weaver, C.  
Page 3

described using the Unified Soil Classification System (USCS) to delineate potential hydrocarbon and saltwater impacts. The intervals from immediately beneath the ground surface and then every five feet thereafter will be screened for volatile aromatic hydrocarbons as well as any soil that is stained or has a hydrocarbon odor using a photo-ionization detector (PID). Soil samples with the highest PID result or from the bottom of each borehole will be submitted to a certified laboratory for analysis of BTEX, TPH –GRO, DRO, and MRO by EPA Method 8015, and chloride by EPA Method 300.1. Additional soil borings will be advanced radially in approximately 50-foot intervals from any soil boring demonstrating significant evidence of impacts. The soil borings will be advanced until field screening suggests the extent of hydrocarbon and chloride soil impact is below NMOCD standards based on site ranking, and laboratory analysis will be used to confirm field results. LTE will require Bureau of Land Management (BLM) clearance to disrupt the off-pad area.

On the well pad, LTE will collect surface samples from inside containments where possible as shown on Figure 2. Additionally, LTE will advance soil borings at the locations on the well pad where concentrations of TPH and/or chloride were previously identified exceeding NMOCD standards to delineate vertical extent of observed impact to soil (Figure 2 and Figure 3). LTE will follow the same sampling methods previously described.

## **PROPOSED REMEDIATION**

Because initial sampling results suggest impact is restricted to certain areas, LTE proposes using heavy equipment in the two soil sampling areas on the well pad that are noncompliant with NMOCD standards to excavate impacted soil. As soil is removed, LTE personnel will conduct field screening of organic vapor concentrations with a photoionization detector (PID) according to New Mexico Oil Conservation Division (NMOCD) headspace techniques and chloride using Hach® chloride test strips to determine if additional excavation is required. Once field screening results indicate impacted soil had been removed, LTE will collect confirmation soil samples of the sidewalls and floor of any excavation. Soil samples will be collected to cover approximately every 50 square feet of floor of the excavation and every 50 linear feet of sidewalls. Soil samples will be stored on ice and delivered to a certified laboratory under strict chain-of-custody procedures. Since benzene and BTEX results in preliminary samples were below detection limits, no BTEX will be analyzed in the confirmation samples. The soil samples will be analyzed for TPH – GRO, DRO, and MRO by EPA Method 8015B and chloride by EPA Method 300.1.

For the area affected by misting south of the well pad, the sample collected from 0.5 feet bgs serves as the confirmation soil sample. Impacted soil above 0.5 feet bgs will be removed and no additional samples will be collected in that area. Once soil delineation sampling is complete east of the well pad, LTE will address that off-pad area via excavation as previously described.

Soil excavation will address the full lateral extent of impact encountered. LTE will attempt to excavate the full vertical extent of impact; however, should impact extend beyond four feet bgs, LTE will provide NMOCD with a status update and request to install a 20-mil impermeable liner over residual impacted soil. LTE will include construction specifications in that request, which will be specific to existing site conditions. All excavated soil will be transported to Lea Land (NMOCD Permit # WM01) for disposal. Upon receipt of samples documenting compliance with NMOCD standards, LTE will backfill the on-site excavated area with new caliche. Should backfill be required in the off-site area, LTE will apply soil that meets blends with the native surroundings.





Weaver, C.  
Page 4

## REPORTING

XTO will prepare a report documenting all field activities and describing results for submittal to the NMOCD. The report will include site maps and a table of laboratory analytical results. A report will be submitted within two weeks of receipt of laboratory analytical reports. Should this work plan need revision based on results of additional delineation or site conditions during remediation work, LTE will submit by email preliminary results to NMOCD with proposed changes and/or requests for modifications.

## SCHEDULE

XTO will complete the investigation within four weeks of the date of approval of this work plan by NMOCD.

LTE appreciates the opportunity to provide this proposed work plan to the NMOCD. If you have any questions or comments regarding this plan, do not hesitate to contact me at (970) 385-1096 or via email at aager@ltenv.com or Kyle Littrell at XTO at (970) 317-1867 or Kyle\_Littrell@xtoenergy.com.

Sincerely,  
LT ENVIRONMENTAL, INC.

A handwritten signature in blue ink that reads 'Adrian Baker'.

Adrian Baker  
Project Geologist

A handwritten signature in blue ink that reads 'Ashley L. Ager'.

Ashley L. Ager, P.G.  
Senior Geologist

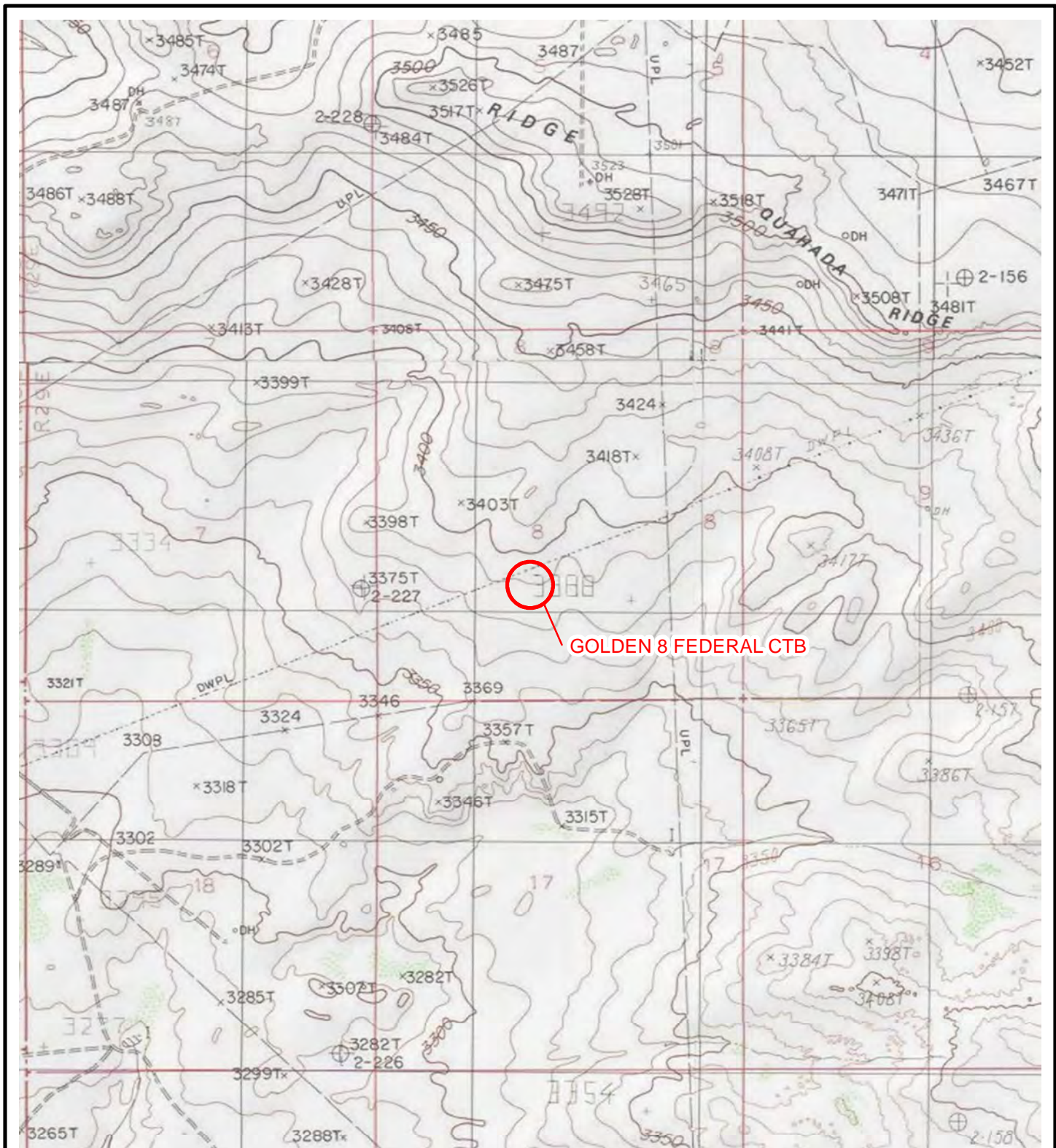
### Attachments:

Figure 1 Site Location Map  
Figure 2 Site Sample Locations (2RP-633, 2RP-521, 2RP-2082, 2RP-2439)  
Figure 3 Site Sample Locations (2RP-3612, 2RP-4017)  
Figure 4 Site Sample Locations (2RP-4601)  
Table 1 Soil Analytical Results (2RP-633, 2RP-521, 2RP-2082, 2RP-2439)  
Table 2 Soil Analytical Results (2RP-3612, 2RP-4017)  
Table 3 Soil Analytical Results (2RP-4601)  
Attachment 1 Initial NMOCD Forms C-141  
Attachment 2 Laboratory Analytical Reports

Cc: Kyle Littrell, XTO  
Mike Bratcher, NMOCD  
Shelly Tucker, BLM

## **FIGURES**



**LEGEND**

 SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000  
Feet



NOTE:  
2RP-633, 2RP-521, 2RP-2028,  
2RP-2439, 2RP-3612, 2RP-4017,  
2RP-4601

CTB-Central Tank Battery

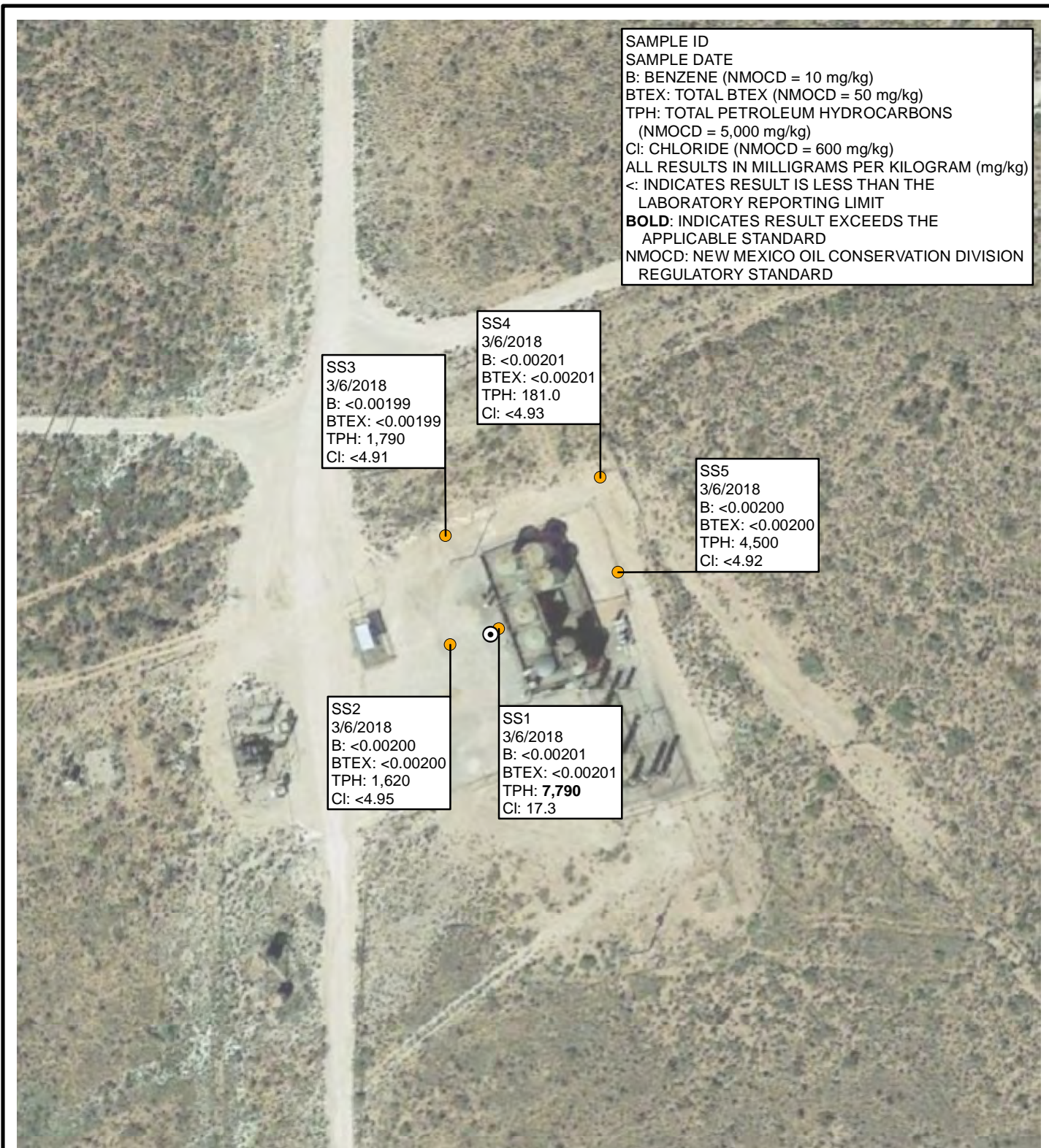
NEW MEXICO



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



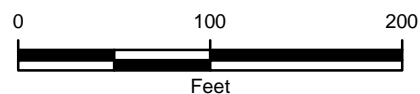


**LEGEND**

- SOIL SAMPLE
- ⊙ PROPOSED SOIL SAMPLE

NOTE:  
 2RP-633, 2RP-521, 2RP-2082, 2RP-2439  
 CTB-Central Tank Battery

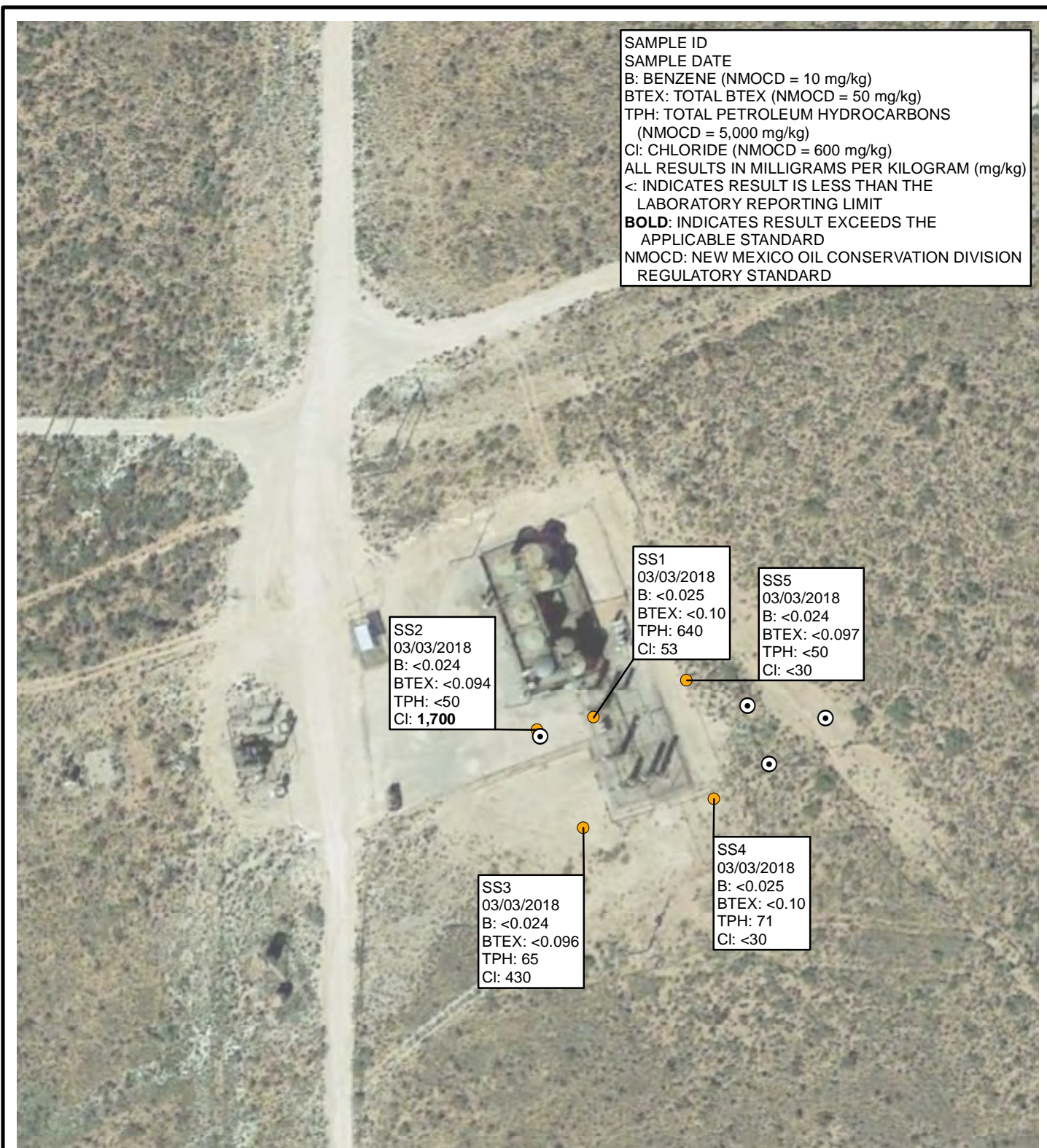
IMAGE COURTESY OF GOOGLE EARTH 2017



**FIGURE 2**  
**SITE SAMPLE LOCATIONS**  
**GOLDEN 8 FEDERAL CTB**  
**NESW SEC 8 T21S R29E**  
**EDDY COUNTY, NEW MEXICO**  
**XTO ENERGY, INC.**







NOTE: 2RP-3612

**FIGURE 3**  
**SITE SAMPLE LOCATIONS**  
**GOLDEN 8 FEDERAL #1**  
**NESW SEC 8 T21S R29E**  
**EDDY COUNTY, NEW MEXICO**  
**XTO ENERGY, INC.**



P:\XTO Energy\GIS\MXD\012918065\_GOLDEN 8 FEDERAL\012918065\_FIG02\_SITE\_2018\_2RP-3612.mxd



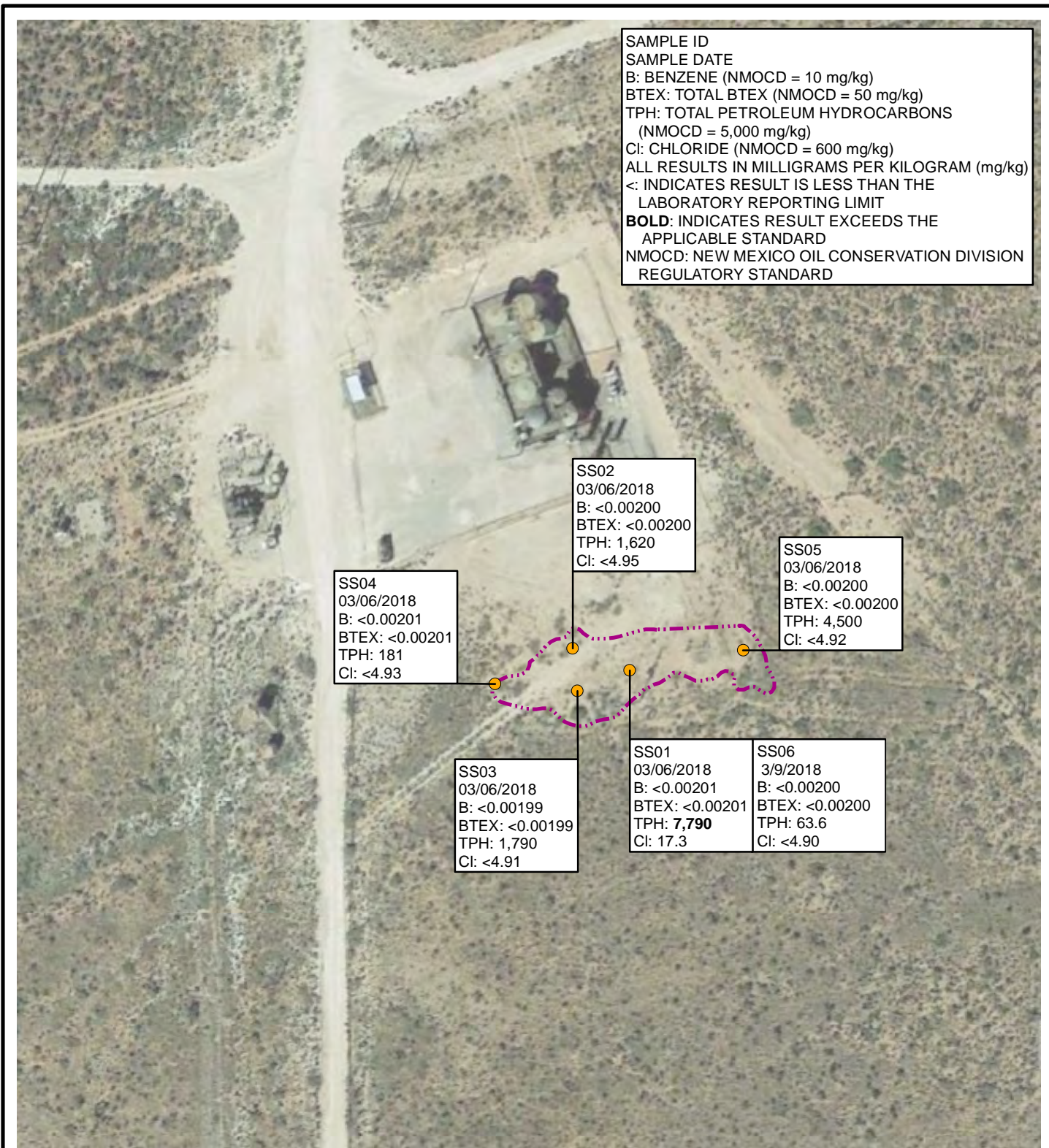
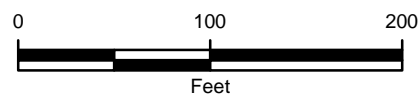


IMAGE COURTESY OF GOOGLE EARTH 2017

**LEGEND**

- SOIL SAMPLE
- ▭ MIST EXTENT



NOTE:  
 2RP-4601  
 CTB: Central Tank Battery

**FIGURE 4**  
**SITE SAMPLE LOCATIONS**  
**GOLDEN 8 FEDERAL BATTERY #1**  
**NESW SEC 8 T21S R29E**  
**EDDY COUNTY, NEW MEXICO**  
**XTO ENERGY, INC.**



P:\XTO Energy\GIS\MXD\012918065\_GOLDEN 8 FEDERAL\012918065\_FIG02\_SITE\_2018\_2RP-4601.mxd

**TABLES**



**TABLE 1**  
**SOIL ANALYTICAL RESULTS**  
**GOLDEN 8 FEDERAL CTB**  
**2RP-633, 2RP-521, 2RP-2082, 2RP-2439**  
**EDDY COUNTY, NEW MEXICO**

**XTO ENERGY INC.**

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 Gasoline Range Organics (mg/kg)	C10-C28 Diesel Range Organics (mg/kg)	C28-40 Motor Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	3/6/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<74.9	7,100	686	<b>7,790</b>	17.3
SS02	0.5	3/6/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	1,540	82.7	1,620	<4.95
SS03	0.5	3/6/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	1,700	89.9	1,790	<4.91
SS04	0.5	3/6/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	155	26.4	181.0	<4.93
SS05	0.5	3/6/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<74.8	3,900	604	4,500	<4.92
NMOCD Regulatory Standard		NE	10	NE	NE	NE	50	NE	NE	NE	5,000	600

**Notes:**

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

mg/kg - milligrams per kilogram

NE - not established

NMOCD - New Mexico Oil Conservation Division

TPH - total petroleum hydrocarbons

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



**TABLE 2**  
**SOIL ANALYTICAL RESULTS**  
**GOLDEN 8 FEDERAL #1**  
**2RP-3612**  
**EDDY COUNTY, NEW MEXICO**

**XTO ENERGY INC.**

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 Gasoline Range Organics (mg/kg)	C10-C28 Diesel Range Organics (mg/kg)	C28-40 Motor Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	03/03/2018	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	230	410	640	53
SS02	0.5	03/03/2018	<0.024	<0.047	<0.047	<0.094	<0.094	<4.7	<10	<50	<50	<b>1,700</b>
SS03	0.5	03/03/2018	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	11	54	65	430
SS04	0.5	03/03/2018	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<9.9	71	71	<30
SS05	0.5	03/03/2018	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<10	<50	<50	<30
NMOCD Regulatory Standard		NE	10	NE	NE	NE	50	NE	NE	NE	5,000	600

**Notes:**

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

mg/kg - milligrams per kilogram

NE - Not established

NMOCD - New Mexico Oil Conservation Division

TPH - total petroleum hydrocarbons

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



**TABLE 3**  
**SOIL ANALYTICAL RESULTS**  
**GOLDEN 8 FEDERAL BATTERY #1**  
**2RP-4601**  
**EDDY COUNTY, NEW MEXICO**

**XTO ENERGY INC.**

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 Gasoline Range Organics (mg/kg)	C10-C28 Diesel Range Organics (mg/kg)	C28-40 Motor Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	Surface	03/06/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<74.9	7100	686	<b>7,790</b>	17.3
SS02	Surface	03/06/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	1540	82.7	1620	<4.95
SS03	Surface	03/06/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	1700	89.9	1790	<4.91
SS04	Surface	03/06/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	155	26.4	181	<4.93
SS05	Surface	03/06/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<74.8	3900	604	4500	<4.92
SS06	0.5	3/9/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	63.6	<15.0	63.6	<4.90
NMOCD Regulatory Standard		NE	10	NE	NE	NE	50	NE	NE	NE	5,000	600

**Notes:**

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

mg/kg - milligrams per kilogram

NE - not established

NMOCD - New Mexico Oil Conservation Division

TPH - total petroleum hydrocarbons





**ATTACHMENT 1**  
**ORIGINAL FORMS C-141**



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

## NM OIL CONSERVATION

ARTESIA DISTRICT

FEB 02 2018

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

RECEIVED

Form C-141  
Revised August 8, 2011

## Release Notification and Corrective Action

NAB1803638613

## OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy, Inc. [BOPD 210737]	Contact: Kyle Littrell
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 432-221-7331
Facility Name: Golden 8 Federal Battery #1 (Well #1 was P&A in 2011)	Facility Type: Exploration and Production

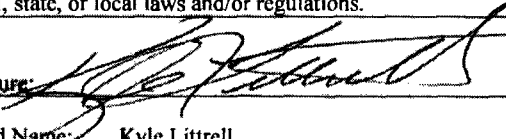
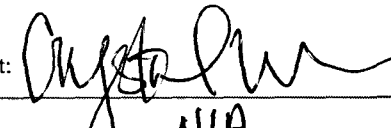
Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-26931
------------------------	------------------------	----------------------

## 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	1530	South	2375	West	Eddy

Latitude 32.490876° Longitude -104.007627°

## NATURE OF RELEASE

Type of Release	Fire/Crude Oil	Volume of Release	<1 bbl	Volume Recovered	0 bbl
Source of Release	Flare	Date and Hour of Occurrence	1/18/2018, 10:00 AM	Date and Hour of Discovery	1/18/2018, 10:00 AM
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher/Crystal Weaver (NMOCD), Shelly Tucker/Jim Amos (BLM)		
By Whom?	Kyle Littrell	Date and Hour	1/18/2018 2:03 PM		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	N/A		
If a Watercourse was Impacted, Describe Fully.* N/A					
Describe Cause of Problem and Remedial Action Taken.* Fluid meters plugged and dump valve failed causing fluid to exit the facility flare. A small amount of exiting fluids ignited and impacted the ground within flare earthen berm. Dump valve was manually opened and all wells flowing into location were shut in.					
Describe Area Affected and Cleanup Action Taken.* Fire briefly impacted approximately 250 square feet and was extinguished. Oil misted approximately 2600 square feet of surrounding area (mostly to the west and east). An environmental contract company applied MicroBlaze to the affected area and will continue to assist with remediation efforts.					
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: 		OIL CONSERVATION DIVISION			
Printed Name: Kyle Littrell		Approved by Environmental Specialist: 			
Title: Environmental Coordinator		Approval Date: 2/5/18		Expiration Date: N/A	
E-mail Address: Kyle.Littrell@xtoenergy.com		Conditions of Approval:		Attached <input checked="" type="checkbox"/> RP-4601	
Date: 2/1/2018 Phone: 432-221-7331		See attached			

\* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on **2/2/18** regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4601 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

*The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]*

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District II office in Artesia on or before 3/2/18. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

**Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.**

**Jim Griswold**

OCD Environmental Bureau Chief

1220 South St. Francis Drive

Santa Fe, New Mexico 87505

505-476-3465

jim.griswold@state.nm.us

**Weaver, Crystal, EMNRD**

---

**From:** Ruth, Amy <Amy\_Ruth@xtoenergy.com>  
**Sent:** Friday, February 2, 2018 9:49 AM  
**To:** Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Tucker, Shelly; Jim Amos  
**Cc:** Sanders, Toady; McSpadden, Wes; Foust, Bryan; Littrell, Kyle  
**Subject:** Initial C-141 - Golden Fed "D", 8, 17 CTB (API # 30-015-26931)  
**Attachments:** Initial C-141 - Golden Federal D,8,17 CTB 1-18-18.pdf

Good Morning,

Please find attached the initial form C-141 detailing the accidental release of fluids and associated fire at the referenced facility. Thank you and contact us any time with questions or concerns.

Respectfully,

*Amy C. Ruth*

Delaware Basin Division

Environmental Coordinator

3104 E. Greene Street | Carlsbad, NM 88220 | M: 432.661.0571 | O: 575.689.3380



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**From:** Littrell, Kyle  
**Sent:** Thursday, January 18, 2018 2:03 PM  
**To:** Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Tucker, Shelly; Jim Amos  
**Cc:** Sanders, Toady; McSpadden, Wes; Ruth, Amy; Foust, Bryan  
**Subject:** Release Notification - Golden Fed "D", 8, 17 CTB (API # 30-015-26931)

Good Afternoon,

This is to notify you that this morning at approximately 10:00 am XTO discovered an accidental release of fluid from a flare stack which resulted in a small fire (approximately 25'w X 10'l). There were no injuries. We will provide details with the submission of a form C-141. Please contact me with any questions or concerns. Thanks. --Kyle

**Kyle Littrell**

EH&S Coordinator

XTO Energy Inc.

Delaware Division

Phone:(432)-221-7331 | Mobile:(970)-317-1867

[kyle\\_littrell@xtoenergy.com](mailto:kyle_littrell@xtoenergy.com)



**Bratcher, Mike, EMNRD**

---

**From:** Littrell, Kyle <Kyle\_Littrell@xtoenergy.com>  
**Sent:** Thursday, January 18, 2018 2:03 PM  
**To:** Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Tucker, Shelly; Jim Amos  
**Cc:** Sanders, Toady; McSpadden, Wes; Ruth, Amy; Foust, Bryan  
**Subject:** Release Notification - Golden Fed "D", 8, 17 CTB (API # 30-015-26931)

Good Afternoon,

This is to notify you that this morning at approximately 10:00 am XTO discovered an accidental release of fluid from a flare stack which resulted in a small fire (approximately 25'w X 10'l). There were no injuries. We will provide details with the submission of a form C-141. Please contact me with any questions or concerns. Thanks. --Kyle

**Kyle Littrell**

EH&S Coordinator

XTO Energy Inc.

Delaware Division

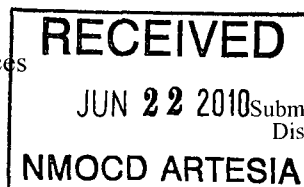
Phone:(432)-221-7331 | Mobile:(970)-317-1867

[kyle\\_littrell@xtoenergy.com](mailto:kyle_littrell@xtoenergy.com)

An **ExxonMobil** Subsidiary

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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



Form C-141  
Revised October 10, 2003  
Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company 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 <b>K</b>	Section 8	Township 21S	Range 29E	Feet from the	North/South Line	Feet from the	East/West Line	County 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.

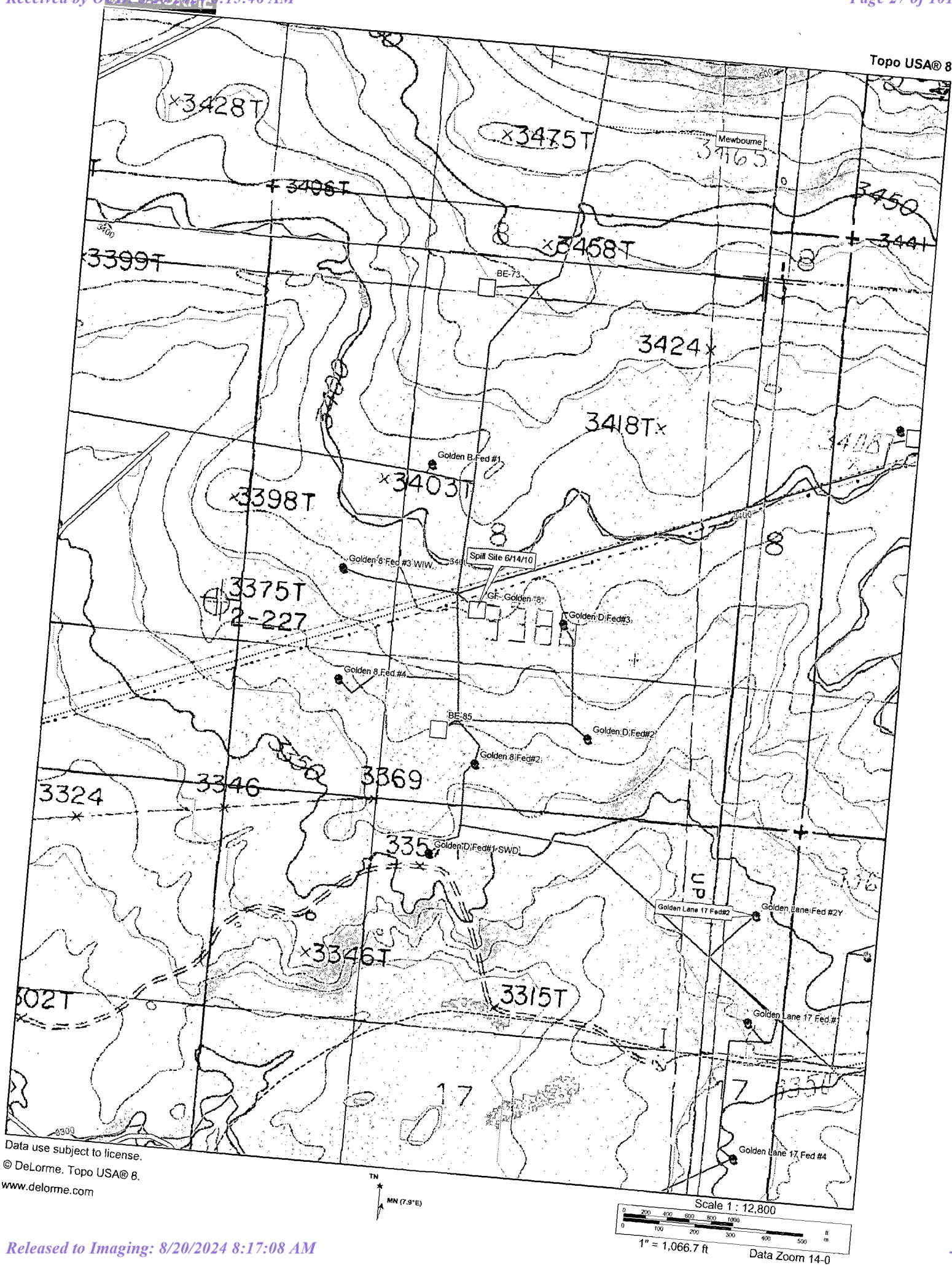
Signature: <u>Tony Savoie</u>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Tony Savoie	Approved by District Supervisor: Signed By <u>Mike Brannon</u>	
Title: Waste Mgmt. & Remediation Specialist	Approval Date: <u>3/3/11</u>	Expiration Date:
E-mail Address: TASavoie@BassPet.com	Conditions of Approval: Remediation per OCD Rules & Guidelines. <b>SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:</b>	Attached <input type="checkbox"/>
Date: 6/22/10 Phone: 432-556-8730	<u>4/3/11</u>	

\* Attach Additional Sheets If Necessary

**PROPOSAL NOT LATER THAN:**

4/3/11

2 RP-521



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District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141  
Revised October 10, 2003

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

30-015-26931

## Release Notification and Corrective Action

nkmw/1106629393

## 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.
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## LOCATION OF RELEASE

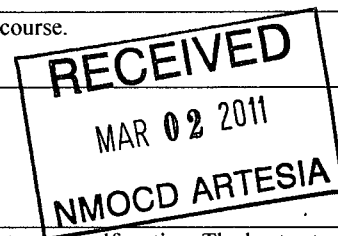
Unit Letter K	Section 8	Township 21S	Range 29E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
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Latitude N 32.491352 Longitude W 104.008223

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

\* Attach Additional Sheets If Necessary

2RP 633

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  
NOV 26 2013  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 8, 2011

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

### Release Notification and Corrective Action

*nJMW* 1333053660 **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. 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 K	Section 8	Township 21S	Range 29E	Feet from the 1650	North/South Line South	Feet from the 2180	East/West Line West	County 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.

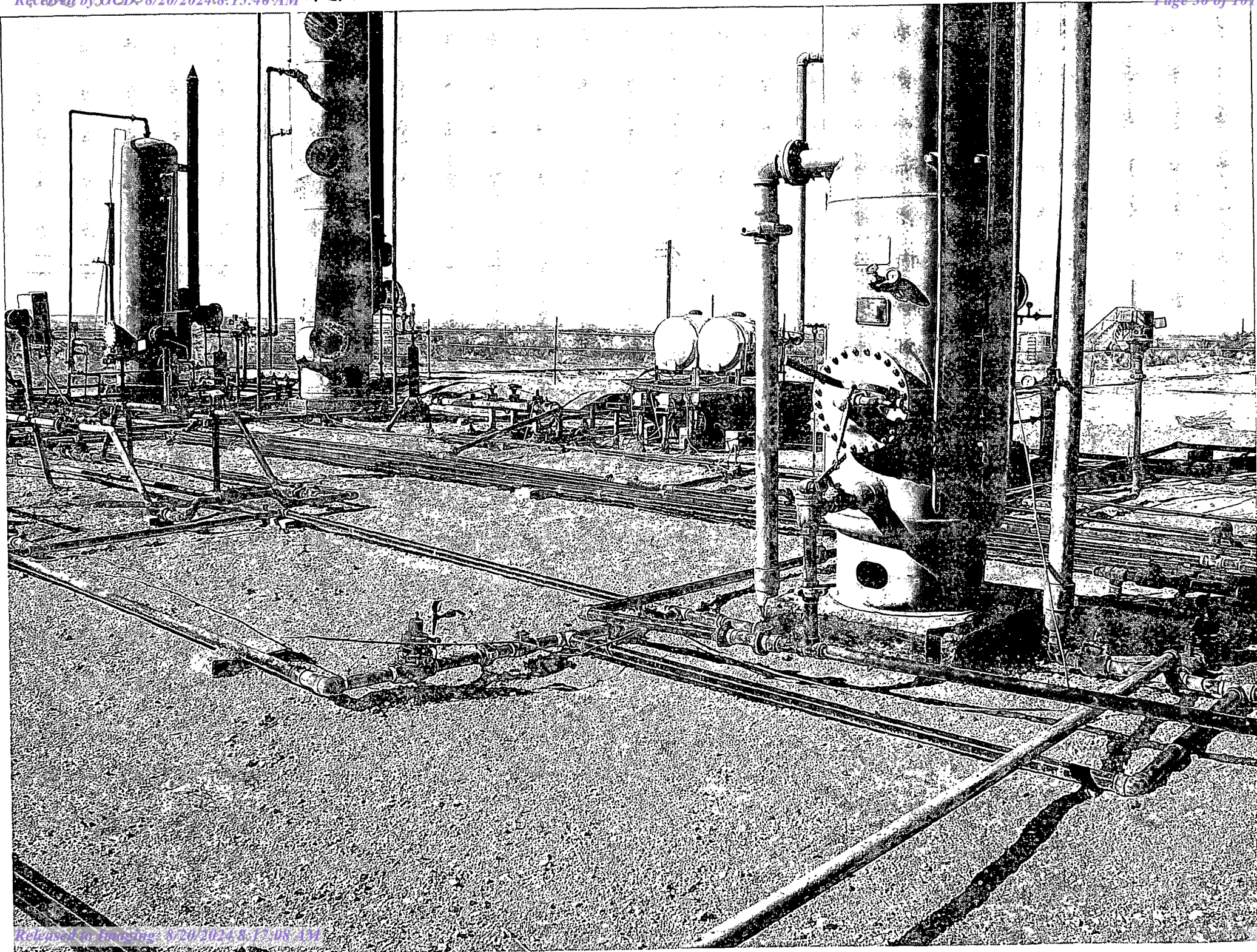
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger 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: <i>Tony Savoie</i>		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Tony Savoie		Approved by Environmental Specialist: Signed By <i>M/L B...</i>	
Title: Waste Management and Remediation Specialist		Approval Date: NOV 26 2013	Expiration Date:
E-mail Address: tasavoie@basspet.com		Conditions of Approval: Remediation per OCD Rule & Guidelines, & like approval by BLM. <b>SUBMIT REMEDIATION PROPOSAL NO LATER THAN:</b>	
Date:	Phone: 432-556-8730	Attached <input type="checkbox"/>	

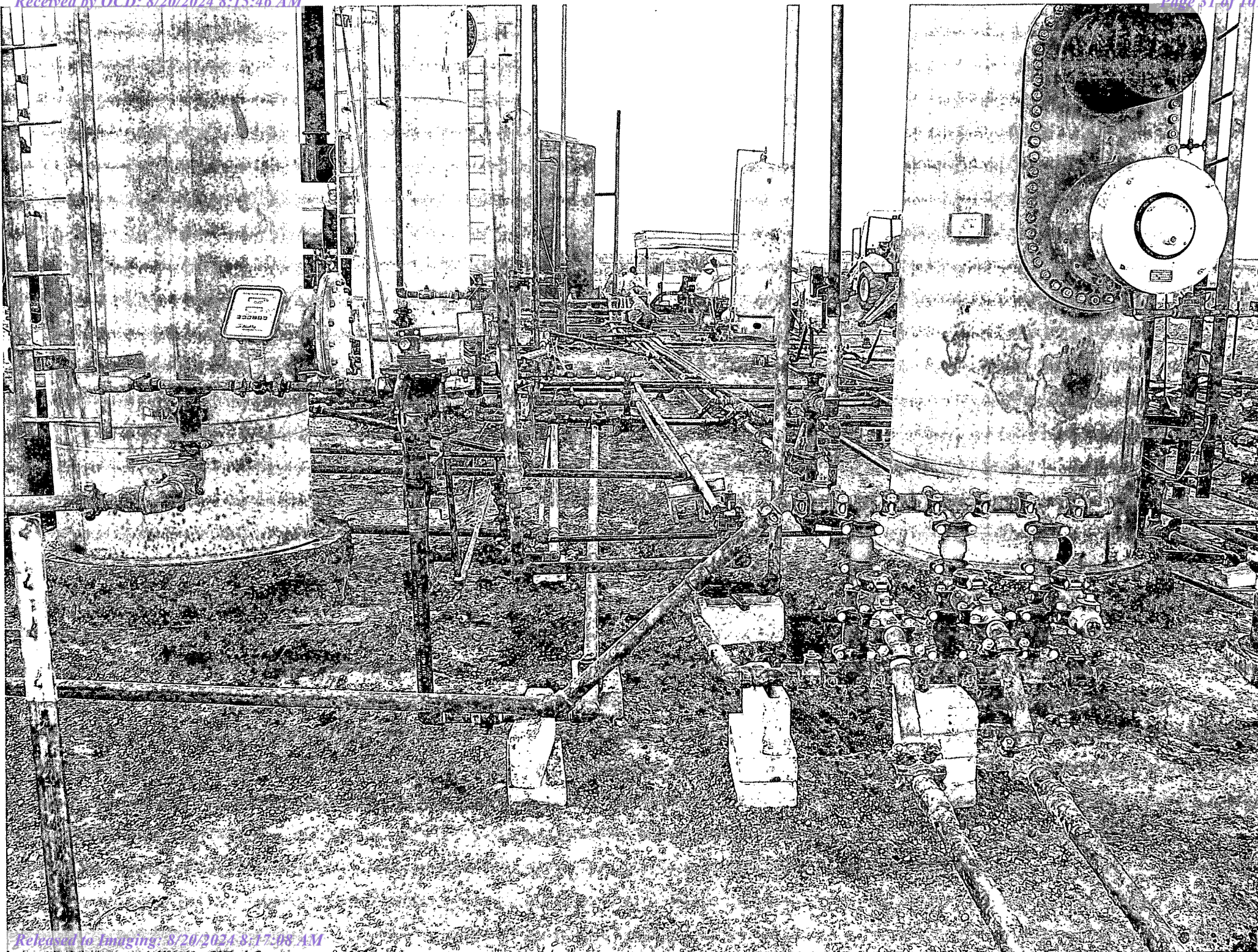
\* Attach Additional Sheets If Necessary

*December 26, 2013* 2RP-2082

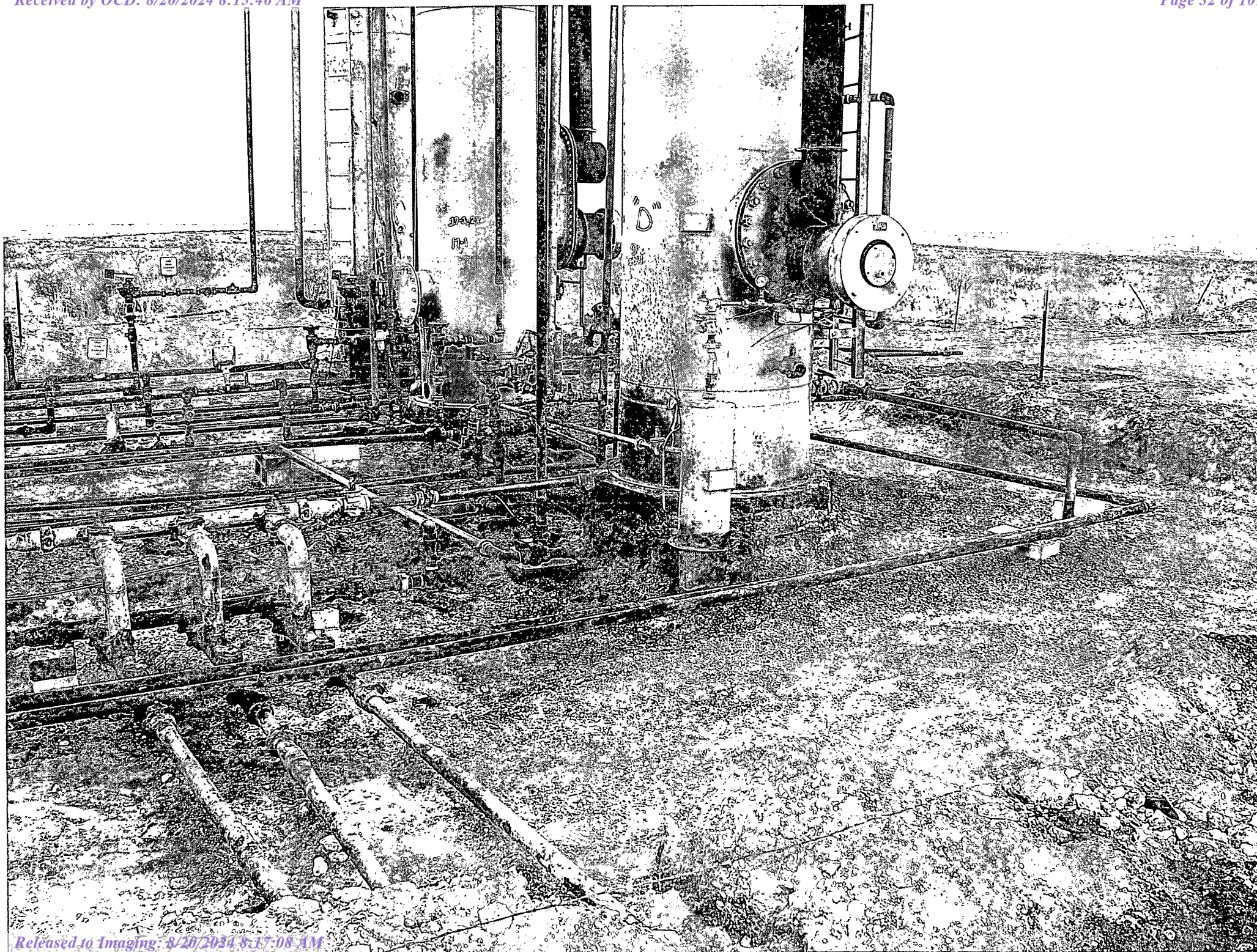




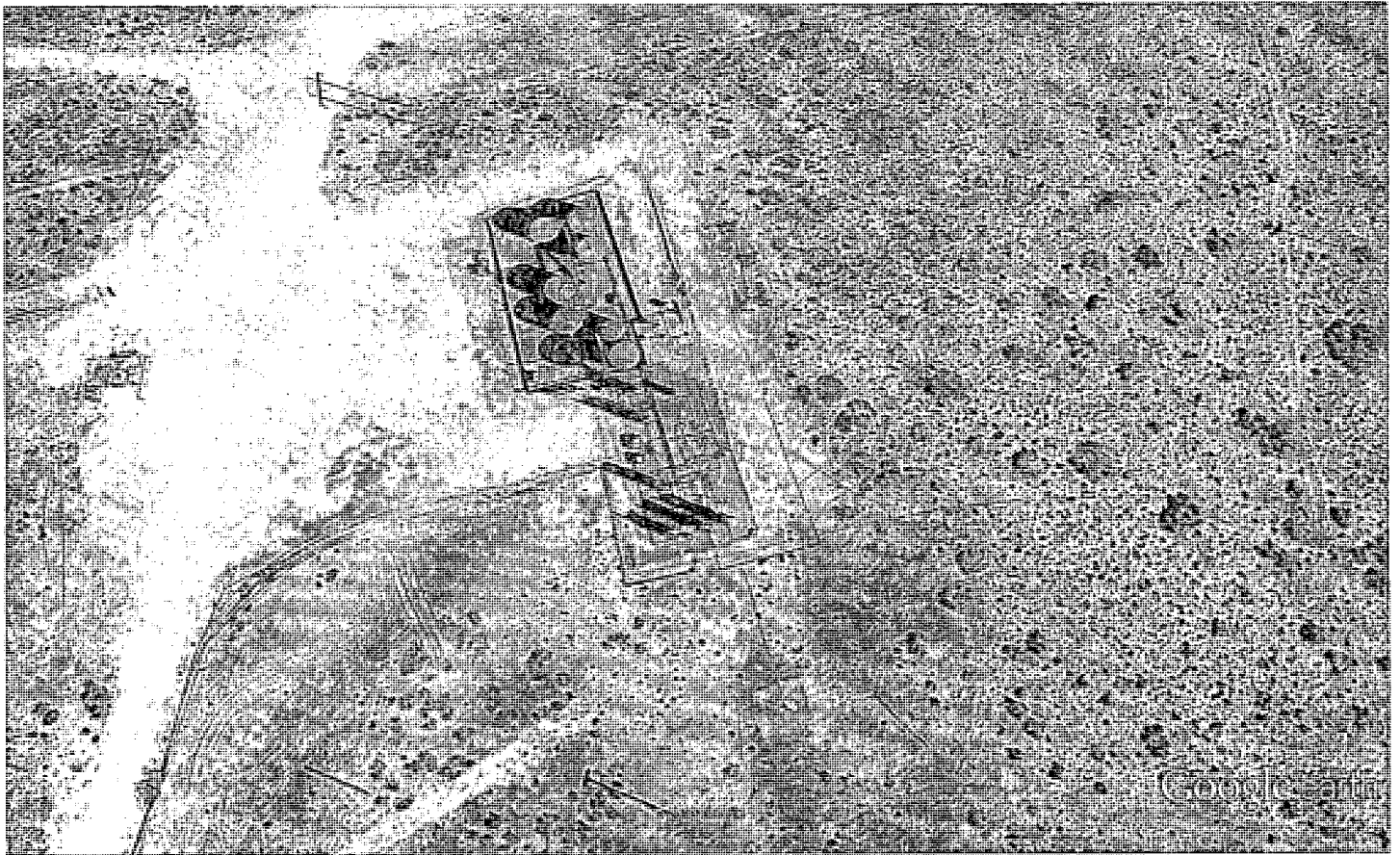












Google earth

feet  
meters



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

*NAB/422637219* OPERATOR ☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. <i>340737</i>	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

If a Watercourse was Impacted, Describe Fully.\*

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: *Tony Savoie*

Printed Name: Tony Savoie

Title: Waste Management and Remediation Specialist

E-mail Address: [tasavoie@basspet.com](mailto:tasavoie@basspet.com)

Date: 8/13/14

Phone: 432-556-8730

Approved by Environmental Specialist

Signed By *White*Approval Date: *8/14/14*Expiration Date: *N/A*

Conditions of Approval:

Remediation per OCD Rule &  
Guidelines. **SUBMIT REMEDIATION**  
**PROPOSAL NO LATER THAN:**

Attached ☐

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

ARTESIA DISTRICT

MAR 15 2016

Form C-141  
Revised August 8, 2011Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

RECEIVED

## Release Notification and Corrective Action

**OPERATOR** ☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. **260737** Contact: Amy Ruth  
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 Telephone No. 575-887-7329  
Facility Name: Golden 8 Federal #001 Facility Type: Exploration and Production

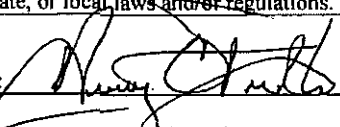
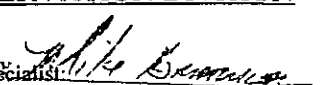
Surface Owner: Federal Mineral Owner: Federal API No. 30-015-26931

## 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 32.491242° Longitude -104.008322°

## NATURE OF RELEASE

Type of Release	Crude Oil	Volume of Release	30 bbls	Volume Recovered	7 bbls
Source of Release	Heater Gasket	Date and Hour of Occurrence	2/1/2016 time unknown	Date and Hour of Discovery	2/1/2016
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher/Heather Patterson (NMOCD), Jim Amos (BLM)		
By Whom?	Brad Blevins	Date and Hour	2/2/2016 3:26 pm		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	N/A		
If a Watercourse was Impacted, Describe Fully.* N/A					
Describe Cause of Problem and Remedial Action Taken.* Gasket seal in heater treater ruptured and released fluids onto location and pasture. Operator switched out vessels until repairs could be made to treater gasket.					
Describe Area Affected and Cleanup Action Taken.* Leak affected 3060 square feet of well pad and approximately 600 square feet of pasture to the east of the battery. Standing fluids were recovered.					
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: 		OIL CONSERVATION DIVISION			
Printed Name: Amy C. Ruth		Approved by Environmental Specialist: 			
Title: EHS Remediation Specialist		Approval Date: 3/21/16		Expiration Date: N/A	
E-mail Address: ACRuth@basspet.com		Conditions of Approval:			
Date: 3-15-2016 Phone: 432-661-0571		Remediation per O.C.D. Rules & Guidelines SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 4/21/16			

\* Attach Additional Sheets If Necessary

Attached ☐

2RP-3612

**Bratcher, Mike, EMNRD**

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**From:** Ruth, Amy C. <ACRuth@BassPet.Com>  
**Sent:** Tuesday, March 15, 2016 2:59 PM  
**To:** Bratcher, Mike, EMNRD; Patterson, Heather, EMNRD  
**Cc:** Biehl, William "Bill"  
**Subject:** RE: Golden 8 Federal 001  
**Attachments:** Initial C-141 Golden 8 Federal Battery 2-1-16.pdf

Hello Mike/Heather,

I've been on medical leave since the beginning of February. Brad would have turned in this C-141 to you, but I stubbornly told him I would get it to you to save him the trouble. I had since been incapacitated and you can see where that has gotten us! My apologies, here is the very late initial C-141 for the spill notified to you on the date below. Please call me with any questions/concerns. I also have one more to submit that is late that was not immediately reportable but occurred on the same day. That was at the JRU 36 and that C-141 will follow this email. As always, thank you for your patience... :)

-----Original Message-----

**From:** Blevins, Bradley  
**Sent:** Tuesday, February 02, 2016 3:26 PM  
**To:** mike.bratcher@state.nm.us; heather.patterson@state.nm.us; Jim Amos  
**Cc:** Blevins, Bradley; Ruth, Amy C.  
**Subject:** Golden 8 Federal 001

All,  
Bopco EHS was notified of a release that occurred on the Golden 8 Federal 001 due to a man way gasket failure on the heater treater. The majority of the heavy saturation remained inside the earthen firewall but there was an overspray area to the east of the production equipment. It is estimated that 29 barrels of oil was released with 7 barrels oil being recovered by vacuum truck. If you have any additional questions please let me know. Thanks

Sent from my iPhone

**Bratcher, Mike, EMNRD**

---

**From:** Blevins, Bradley <BBlevins@BassPet.Com>  
**Sent:** Tuesday, February 02, 2016 3:26 PM  
**To:** Bratcher, Mike, EMNRD; Patterson, Heather, EMNRD; Jim Amos  
**Cc:** Blevins, Bradley; Ruth, Amy C.  
**Subject:** Golden 8 Federal 001

All,

Bopco EHS was notified of a release that occurred on the Golden 8 Federal 001 due to a man way gasket failure on the heater treater. The majority of the heavy saturation remained inside the earthen firewall but there was an overspray area to the east of the production equipment. It is estimated that 29 barrels of oil was released with 7 barrels oil being recovered by vacuum truck. If you have any additional questions please let me know. Thanks

Sent from my iPhone

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

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

ARTESIA DISTRICT

NOV 29 2016

Form C-141  
Revised August 8, 2011Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.**RECEIVED****Release Notification and Corrective Action**

**NAME** NAB1633656856 **OPERATOR** ☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. 200737 Contact: Amy Ruth

Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 Telephone No. 575-887-7329

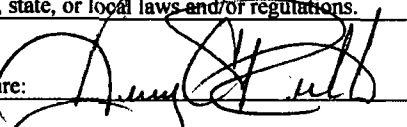

Facility Name: Golden Federal Battery #1 Facility Type: Exploration and Production

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	1667	South	2300	West	Eddy

Latitude 32.491322° Longitude -104.007868°**NATURE OF RELEASE**

Type of Release	Crude Oil	Volume of Release	32 bbls	Volume Recovered	30 bbls
Source of Release	3 Phase Vessel	Date and Hour of Occurrence	11/26/2016 time unknown	Date and Hour of Discovery	11/26/2016 approx. 10 am by operator
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher/Heather Patterson (NMOCD) and Jim Amos/Shelly Tucker (BLM)		
By Whom?	Amy Ruth (within 2 hours of being notified)	Date and Hour	11/28/2016 11:19 am		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	N/A		
If a Watercourse was Impacted, Describe Fully.* N/A					
Describe Cause of Problem and Remedial Action Taken.* Unused 3 phase vessel re-fitted and returned to operation. Fluids released from vessel through pressure relief valve and leaking Vic connections. Fluids escaped mostly into zero permeability containment.					
Describe Area Affected and Cleanup Action Taken.* The leak affected a total of about 3,168 square feet of caliche pad, zero permeability containment, and misted pasture east of the location. Free standing liquids were recovered via vacuum truck and equipment, tanks, and liner were power washed. Vessel was isolated.					
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: 		<b>OIL CONSERVATION DIVISION</b>			
Printed Name: Amy C. Ruth		Approved by Environmental Specialist: 			
Title: EHS Environmental Supervisor		Approval Date: 11/29/16		Expiration Date: N/A	
E-mail Address: ACRuth@basspet.com		Conditions of Approval:		Attached <input checked="" type="checkbox"/>	
Date: 11/29/2016 Phone: 432-661-0571					

\* Attach Additional Sheets If Necessary

2RP-4017



**Bratcher, Mike, EMNRD**

---

**From:** Ruth, Amy C. <ACRuth@BassPet.Com>  
**Sent:** Tuesday, November 29, 2016 2:50 PM  
**To:** Bratcher, Mike, EMNRD; Patterson, Heather, EMNRD  
**Cc:** jamos@blm.gov; Tucker, Shelly  
**Subject:** RE: Release Notification - Golden Federal Battery 11-26-16  
**Attachments:** Initial C-141 Golden Federal Battery 11-26-16.pdf

Please find the Initial form C-141 for the leak referenced below. Feel free to call me with any questions. Thank you!

---

**From:** Ruth, Amy C.  
**Sent:** Monday, November 28, 2016 11:19 AM  
**To:** 'Mike Bratcher'; 'Heather.Patterson@state.nm.us'  
**Cc:** jamos@blm.gov; Tucker, Shelly  
**Subject:** Release Notification - Golden Federal Battery 11-26-16

Was notified of the leak this morning. Power washing location equipment now and will have final volumes released/recovered in initial form C-141 after estimates finalized. Please call me with any questions. Thanks and have a good day.

Name: golden federal battery bopco, l.p.  
Latitude: 32.491241  
Longitude: -104.008324

Lease operator reported release on 11/26/2016 due to PRV on three phase vessel popping and Vic connections on vessel leaking. The majority of fluid was released into impervious containment and there was a mist oil & gas that affected soil and equipment. There was a vacuum truck dispatched to recover fluid from containment and ground puddles.





*Amy C. Ruth*

**BOPCO, L.P.**

**EH&S Department**

522 W. Mermod, Suite 704

Carlsbad, NM 88220

O: (575)689-3380

C: (432)661-0571

**Bratcher, Mike, EMNRD**

---

**From:** Ruth, Amy C. <ACRuth@BassPet.Com>  
**Sent:** Monday, November 28, 2016 11:19 AM  
**To:** Bratcher, Mike, EMNRD; Patterson, Heather, EMNRD  
**Cc:** jamos@blm.gov; Tucker, Shelly  
**Subject:** Release Notification - Golden Federal Battery 11-26-16

*BOPCO*

Was notified of the leak this morning. Power washing location equipment now and will have final volumes released/recovered in initial form C-141 after estimates finalized. Please call me with any questions. Thanks and have a good day.

Name: golden federal battery bopco, l.p.  
Latitude: 32.491241  
Longitude: -104.008324

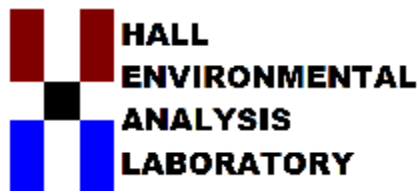
Lease operator reported release on 11/26/2016 due to PRV on three phase vessel popping and Vic connections on vessel leaking. The majority of fluid was released into impervious containment and there was a mist oil & gas that affected soil and equipment. There was a vacuum truck dispatched to recover fluid from containment and ground puddles.



**ATTACHMENT 2**  
**LABORATORY ANALYTICAL REPORTS**







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

March 13, 2018

A Baker

LTE

3300 N A St Bldg 1 #103

Midland, TX 79705

TEL: (432) 704-5178

FAX

RE: Golden 8 Federal 1 Tank Battery

OrderNo.: 1803223

Dear A Baker:

Hall Environmental Analysis Laboratory received 5 sample(s) on 3/6/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order 1803223

Date Reported: 3/13/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS1

Project: Golden 8 Federal 1 Tank Battery

Collection Date: 3/3/2018 9:30:00 AM

Lab ID: 1803223-001

Matrix: SOIL

Received Date: 3/6/2018 6:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	ND	30		mg/Kg	20	3/8/2018 2:54:50 PM	36903
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	3/7/2018 5:55:30 PM	36866
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	3/7/2018 5:55:30 PM	36866
Surr: DNOP	89.6	70-130		%Rec	1	3/7/2018 5:55:30 PM	36866
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/7/2018 10:25:16 AM	36859
Surr: BFB	94.9	15-316		%Rec	1	3/7/2018 10:25:16 AM	36859
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	3/7/2018 10:25:16 AM	36859
Toluene	ND	0.050		mg/Kg	1	3/7/2018 10:25:16 AM	36859
Ethylbenzene	ND	0.050		mg/Kg	1	3/7/2018 10:25:16 AM	36859
Xylenes, Total	ND	0.099		mg/Kg	1	3/7/2018 10:25:16 AM	36859
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	3/7/2018 10:25:16 AM	36859

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Page 1 of 9

## Analytical Report

Lab Order 1803223

Date Reported: 3/13/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS2

Project: Golden 8 Federal 1 Tank Battery

Collection Date: 3/3/2018 9:40:00 AM

Lab ID: 1803223-002

Matrix: SOIL

Received Date: 3/6/2018 6:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	43	30		mg/Kg	20	3/8/2018 3:07:15 PM	36903
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	220	9.6		mg/Kg	1	3/7/2018 6:39:24 PM	36866
Motor Oil Range Organics (MRO)	200	48		mg/Kg	1	3/7/2018 6:39:24 PM	36866
Surr: DNOP	105	70-130		%Rec	1	3/7/2018 6:39:24 PM	36866
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/7/2018 10:48:56 AM	36859
Surr: BFB	96.1	15-316		%Rec	1	3/7/2018 10:48:56 AM	36859
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	3/7/2018 10:48:56 AM	36859
Toluene	ND	0.047		mg/Kg	1	3/7/2018 10:48:56 AM	36859
Ethylbenzene	ND	0.047		mg/Kg	1	3/7/2018 10:48:56 AM	36859
Xylenes, Total	ND	0.094		mg/Kg	1	3/7/2018 10:48:56 AM	36859
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	3/7/2018 10:48:56 AM	36859

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Page 2 of 9

## Analytical Report

Lab Order 1803223

Date Reported: 3/13/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS3

Project: Golden 8 Federal 1 Tank Battery

Collection Date: 3/3/2018 9:50:00 AM

Lab ID: 1803223-003

Matrix: SOIL

Received Date: 3/6/2018 6:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	ND	30		mg/Kg	20	3/8/2018 3:19:40 PM	36903
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	38	10		mg/Kg	1	3/8/2018 11:50:16 AM	36866
Motor Oil Range Organics (MRO)	140	50		mg/Kg	1	3/8/2018 11:50:16 AM	36866
Surr: DNOP	98.5	70-130		%Rec	1	3/8/2018 11:50:16 AM	36866
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/7/2018 11:12:38 AM	36859
Surr: BFB	96.6	15-316		%Rec	1	3/7/2018 11:12:38 AM	36859
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	3/7/2018 11:12:38 AM	36859
Toluene	ND	0.049		mg/Kg	1	3/7/2018 11:12:38 AM	36859
Ethylbenzene	ND	0.049		mg/Kg	1	3/7/2018 11:12:38 AM	36859
Xylenes, Total	ND	0.098		mg/Kg	1	3/7/2018 11:12:38 AM	36859
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	3/7/2018 11:12:38 AM	36859

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 3 of 9
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Analytical Report

Lab Order 1803223

Date Reported: 3/13/2018

Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** LTE  
**Project:** Golden 8 Federal 1 Tank Battery  
**Lab ID:** 1803223-004

**Client Sample ID:** SS4  
**Collection Date:** 3/3/2018 10:00:00 AM  
**Received Date:** 3/6/2018 6:55:00 AM

**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	ND	30		mg/Kg	20	3/8/2018 3:32:04 PM	36903
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/7/2018 8:07:29 PM	36866
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/7/2018 8:07:29 PM	36866
Surr: DNOP	93.0	70-130		%Rec	1	3/7/2018 8:07:29 PM	36866
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/7/2018 11:36:26 AM	36859
Surr: BFB	95.2	15-316		%Rec	1	3/7/2018 11:36:26 AM	36859
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	3/7/2018 11:36:26 AM	36859
Toluene	ND	0.046		mg/Kg	1	3/7/2018 11:36:26 AM	36859
Ethylbenzene	ND	0.046		mg/Kg	1	3/7/2018 11:36:26 AM	36859
Xylenes, Total	ND	0.092		mg/Kg	1	3/7/2018 11:36:26 AM	36859
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	3/7/2018 11:36:26 AM	36859

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 4 of 9
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	



## Analytical Report

Lab Order 1803223

Date Reported: 3/13/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS5

Project: Golden 8 Federal 1 Tank Battery

Collection Date: 3/3/2018 10:10:00 AM

Lab ID: 1803223-005

Matrix: SOIL

Received Date: 3/6/2018 6:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	72	30		mg/Kg	20	3/8/2018 3:44:29 PM	36903
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/7/2018 8:29:20 PM	36866
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/7/2018 8:29:20 PM	36866
Surr: DNOP	92.0	70-130		%Rec	1	3/7/2018 8:29:20 PM	36866
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/7/2018 12:00:06 PM	36859
Surr: BFB	95.1	15-316		%Rec	1	3/7/2018 12:00:06 PM	36859
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	3/7/2018 12:00:06 PM	36859
Toluene	ND	0.049		mg/Kg	1	3/7/2018 12:00:06 PM	36859
Ethylbenzene	ND	0.049		mg/Kg	1	3/7/2018 12:00:06 PM	36859
Xylenes, Total	ND	0.097		mg/Kg	1	3/7/2018 12:00:06 PM	36859
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	3/7/2018 12:00:06 PM	36859

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 5 of 9
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803223

13-Mar-18

Client: LTE

Project: Golden 8 Federal 1 Tank Battery

Sample ID	MB-36903	SampType:	mblk	TestCode:	EPA Method 300.0: Anions						
Client ID:	PBS	Batch ID:	36903	RunNo:	49642						
Prep Date:	3/8/2018	Analysis Date:	3/8/2018	SeqNo:	1606266	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									

Sample ID	LCS-36903	SampType:	lcs	TestCode:	EPA Method 300.0: Anions						
Client ID:	LCSS	Batch ID:	36903	RunNo:	49642						
Prep Date:	3/8/2018	Analysis Date:	3/8/2018	SeqNo:	1606267	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	14	1.5	15.00	0	95.0	90	110				

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 6 of 9

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803223

13-Mar-18

Client: LTE  
Project: Golden 8 Federal 1 Tank Battery

Sample ID	LCS-36866	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	36866	RunNo:	49602					
Prep Date:	3/6/2018	Analysis Date:	3/7/2018	SeqNo:	1603693	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.7	70	130			
Surr: DNOP	3.8		5.000		75.4	70	130			

Sample ID	MB-36866	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	36866	RunNo:	49602					
Prep Date:	3/6/2018	Analysis Date:	3/7/2018	SeqNo:	1603694	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.2		10.00		82.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Page 7 of 9

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803223

13-Mar-18

Client: LTE  
Project: Golden 8 Federal 1 Tank Battery

Sample ID	MB-36859	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	36859	RunNo:	49627					
Prep Date:	3/6/2018	Analysis Date:	3/7/2018	SeqNo:	1604248	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		91.9	15	316			

Sample ID	LCS-36859	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	36859	RunNo:	49627					
Prep Date:	3/6/2018	Analysis Date:	3/7/2018	SeqNo:	1604249	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	75.9	131			
Surr: BFB	1100		1000		108	15	316			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Page 8 of 9



## QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1803223

13-Mar-18

Client: LTE

Project: Golden 8 Federal 1 Tank Battery

Sample ID	MB-36859	SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS	Batch ID:	36859		RunNo:	49627				
Prep Date:	3/6/2018	Analysis Date:	3/7/2018		SeqNo:	1604285	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		90.2	80	120			

Sample ID	LCS-36859		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 36859		RunNo: 49627					
Prep Date:	3/6/2018		Analysis Date: 3/7/2018		SeqNo: 1604287		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.3	77.3	128			
Toluene	0.98	0.050	1.000	0	97.9	79.2	125			
Ethylbenzene	0.99	0.050	1.000	0	98.9	80.7	127			
Xylenes, Total	3.1	0.10	3.000	0	102	81.6	129			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.0	80	120			

## Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Page 9 of 9



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

## Sample Log-In Check List

Client Name: LTE MIDLAND

Work Order Number: 1803223

RcptNo: 1

Received By: Anne Thorne 3/6/2018 6:55:00 AM

Completed By: Isaiah Ortiz 3/6/2018 9:14:16 AM

Reviewed By: ore 03/06/18

Anne Thorne

Isaiah Ortiz

Checked By  
DIDS  
3/6/18 RDT

### Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐  
2. How was the sample delivered? Courier

### Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐  
5. Sample(s) in proper container(s)? Yes ☒ No ☐  
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐  
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐  
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐  
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒  
10. Were any sample containers received broken? Yes ☐ No ☒  
# of preserved bottles checked for pH: \_\_\_\_\_  
( $<2$  or  $>12$  unless noted)  
11. Does paperwork match bottle labels? Yes ☒ No ☐  
(Note discrepancies on chain of custody)  
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted? \_\_\_\_\_  
13. Is it clear what analyses were requested? Yes ☒ No ☐  
14. Were all holding times able to be met? Yes ☒ No ☐ Checked by: \_\_\_\_\_  
(If no, notify customer for authorization.)

### Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
By Whom: \_\_\_\_\_ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person  
Regarding: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Yes				







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

March 14, 2018

Adrian Baker

LTE

3300 N A St Bldg 1 #103

Midland, TX 79705

TEL: (432) 704-5178

FAX

RE: Golden 8 Federal 1 RP 2RP-3612

OrderNo.: 1803221

Dear Adrian Baker:

Hall Environmental Analysis Laboratory received 5 sample(s) on 3/6/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order 1803221

Date Reported: 3/14/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS1

Project: Golden 8 Federal 1 RP 2RP-3612

Collection Date: 3/3/2018 8:40:00 AM

Lab ID: 1803221-001

Matrix: SOIL

Received Date: 3/6/2018 6:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	53	30		mg/Kg	20	3/7/2018 5:21:40 PM	36886
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	230	9.6		mg/Kg	1	3/7/2018 1:31:40 PM	36866
Motor Oil Range Organics (MRO)	410	48		mg/Kg	1	3/7/2018 1:31:40 PM	36866
Surr: DNOP	93.4	70-130		%Rec	1	3/7/2018 1:31:40 PM	36866
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/7/2018 2:24:20 PM	36859
Surr: BFB	89.6	15-316		%Rec	1	3/7/2018 2:24:20 PM	36859
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	3/7/2018 2:24:20 PM	36859
Toluene	ND	0.050		mg/Kg	1	3/7/2018 2:24:20 PM	36859
Ethylbenzene	ND	0.050		mg/Kg	1	3/7/2018 2:24:20 PM	36859
Xylenes, Total	ND	0.10		mg/Kg	1	3/7/2018 2:24:20 PM	36859
Surr: 4-Bromofluorobenzene	88.1	80-120		%Rec	1	3/7/2018 2:24:20 PM	36859

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Page 1 of 9

Analytical Report

Lab Order 1803221

Date Reported: 3/14/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE Client Sample ID: SS2  
Project: Golden 8 Federal 1 RP 2RP-3612 Collection Date: 3/3/2018 8:50:00 AM  
Lab ID: 1803221-002 Matrix: SOIL Received Date: 3/6/2018 6:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	1700	75		mg/Kg	50	3/9/2018 6:59:22 PM	36886
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/7/2018 11:41:09 AM	36866
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/7/2018 11:41:09 AM	36866
Surr: DNOP	87.4	70-130		%Rec	1	3/7/2018 11:41:09 AM	36866
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/7/2018 2:47:38 PM	36859
Surr: BFB	90.0	15-316		%Rec	1	3/7/2018 2:47:38 PM	36859
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	3/7/2018 2:47:38 PM	36859
Toluene	ND	0.047		mg/Kg	1	3/7/2018 2:47:38 PM	36859
Ethylbenzene	ND	0.047		mg/Kg	1	3/7/2018 2:47:38 PM	36859
Xylenes, Total	ND	0.094		mg/Kg	1	3/7/2018 2:47:38 PM	36859
Surr: 4-Bromofluorobenzene	87.4	80-120		%Rec	1	3/7/2018 2:47:38 PM	36859

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 2 of 9
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Analytical Report

Lab Order 1803221

Date Reported: 3/14/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE Client Sample ID: SS3  
Project: Golden 8 Federal 1 RP 2RP-3612 Collection Date: 3/3/2018 9:00:00 AM  
Lab ID: 1803221-003 Matrix: SOIL Received Date: 3/6/2018 6:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	430	30		mg/Kg	20	3/8/2018 12:01:08 PM	36903
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	11	9.8		mg/Kg	1	3/8/2018 1:20:12 PM	36866
Motor Oil Range Organics (MRO)	54	49		mg/Kg	1	3/8/2018 1:20:12 PM	36866
Surr: DNOP	80.9	70-130		%Rec	1	3/8/2018 1:20:12 PM	36866
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/7/2018 7:04:03 PM	36859
Surr: BFB	91.9	15-316		%Rec	1	3/7/2018 7:04:03 PM	36859
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	3/7/2018 7:04:03 PM	36859
Toluene	ND	0.048		mg/Kg	1	3/7/2018 7:04:03 PM	36859
Ethylbenzene	ND	0.048		mg/Kg	1	3/7/2018 7:04:03 PM	36859
Xylenes, Total	ND	0.096		mg/Kg	1	3/7/2018 7:04:03 PM	36859
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	3/7/2018 7:04:03 PM	36859

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 3 of 9
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	



## Analytical Report

Lab Order 1803221

Date Reported: 3/14/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS4

Project: Golden 8 Federal 1 RP 2RP-3612

Collection Date: 3/3/2018 9:10:00 AM

Lab ID: 1803221-004

Matrix: SOIL

Received Date: 3/6/2018 6:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	ND	30		mg/Kg	20	3/8/2018 12:13:32 PM	36903
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/7/2018 2:58:59 PM	36866
Motor Oil Range Organics (MRO)	71	50		mg/Kg	1	3/7/2018 2:58:59 PM	36866
Surr: DNOP	91.8	70-130		%Rec	1	3/7/2018 2:58:59 PM	36866
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/7/2018 7:27:17 PM	36859
Surr: BFB	90.1	15-316		%Rec	1	3/7/2018 7:27:17 PM	36859
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	3/7/2018 7:27:17 PM	36859
Toluene	ND	0.050		mg/Kg	1	3/7/2018 7:27:17 PM	36859
Ethylbenzene	ND	0.050		mg/Kg	1	3/7/2018 7:27:17 PM	36859
Xylenes, Total	ND	0.10		mg/Kg	1	3/7/2018 7:27:17 PM	36859
Surr: 4-Bromofluorobenzene	88.5	80-120		%Rec	1	3/7/2018 7:27:17 PM	36859

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Page 4 of 9

## Analytical Report

Lab Order 1803221

Date Reported: 3/14/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE

Client Sample ID: SS5

Project: Golden 8 Federal 1 RP 2RP-3612

Collection Date: 3/3/2018 9:20:00 AM

Lab ID: 1803221-005

Matrix: SOIL

Received Date: 3/6/2018 6:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	ND	30		mg/Kg	20	3/8/2018 12:50:46 PM	36903
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/7/2018 8:51:18 PM	36866
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/7/2018 8:51:18 PM	36866
Surr: DNOP	77.2	70-130		%Rec	1	3/7/2018 8:51:18 PM	36866
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/7/2018 7:50:27 PM	36859
Surr: BFB	91.2	15-316		%Rec	1	3/7/2018 7:50:27 PM	36859
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	3/7/2018 7:50:27 PM	36859
Toluene	ND	0.048		mg/Kg	1	3/7/2018 7:50:27 PM	36859
Ethylbenzene	ND	0.048		mg/Kg	1	3/7/2018 7:50:27 PM	36859
Xylenes, Total	ND	0.097		mg/Kg	1	3/7/2018 7:50:27 PM	36859
Surr: 4-Bromofluorobenzene	90.4	80-120		%Rec	1	3/7/2018 7:50:27 PM	36859

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Page 5 of 9

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

WO#: 1803221

14-Mar-18

**Client:** LTE**Project:** Golden 8 Federal 1 RP 2RP-3612

Sample ID	MB-36886		SampType:	mblk		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS		Batch ID:	36886		RunNo:	49611				
Prep Date:	3/7/2018		Analysis Date:	3/7/2018		SeqNo:	1604728		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									

Sample ID	LCS-36886		SampType:	lcs		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS		Batch ID:	36886		RunNo:	49611				
Prep Date:	3/7/2018		Analysis Date:	3/7/2018		SeqNo:	1604730		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	15	1.5	15.00	0	101	90	110				

Sample ID	MB-36903		SampType:	mblk		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS		Batch ID:	36903		RunNo:	49642				
Prep Date:	3/8/2018		Analysis Date:	3/8/2018		SeqNo:	1606266		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									

Sample ID	LCS-36903		SampType:	lcs		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS		Batch ID:	36903		RunNo:	49642				
Prep Date:	3/8/2018		Analysis Date:	3/8/2018		SeqNo:	1606267		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	14	1.5	15.00	0	95.0	90	110				

**Qualifiers:**

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803221  
14-Mar-18

Client: LTE  
Project: Golden 8 Federal 1 RP 2RP-3612

Sample ID	LCS-36866	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	36866	RunNo:	49602					
Prep Date:	3/6/2018	Analysis Date:	3/7/2018	SeqNo:	1603693	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.7	70	130			
Surr: DNOP	3.8		5.000		75.4	70	130			

Sample ID	MB-36866	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	36866	RunNo:	49602					
Prep Date:	3/6/2018	Analysis Date:	3/7/2018	SeqNo:	1603694	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.2		10.00		82.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Page 7 of 9



QC SUMMARY REPORT  
Hall Environmental Analysis Laboratory, Inc.

WO#: 1803221  
14-Mar-18

Client: LTE  
Project: Golden 8 Federal 1 RP 2RP-3612

Sample ID	MB-36859		SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS		Batch ID:	36859		RunNo:	49627				
Prep Date:	3/6/2018		Analysis Date:	3/7/2018		SeqNo:	1604248		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	920		1000		91.9	15	316				

Sample ID	LCS-36859		SampType:	LCS		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	LCSS		Batch ID:	36859		RunNo:	49627				
Prep Date:	3/6/2018		Analysis Date:	3/7/2018		SeqNo:	1604249		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	75.9	131				
Surr: BFB	1100		1000		108	15	316				

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803221  
14-Mar-18

Client: LTE

Project: Golden 8 Federal 1 RP 2RP-3612

Sample ID	MB-36859		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 36859		RunNo: 49627					
Prep Date:	3/6/2018		Analysis Date: 3/7/2018		SeqNo: 1604285		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		90.2	80	120			

Sample ID	LCS-36859		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 36859		RunNo: 49627					
Prep Date:	3/6/2018		Analysis Date: 3/7/2018		SeqNo: 1604287		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.3	77.3	128			
Toluene	0.98	0.050	1.000	0	97.9	79.2	125			
Ethylbenzene	0.99	0.050	1.000	0	98.9	80.7	127			
Xylenes, Total	3.1	0.10	3.000	0	102	81.6	129			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.0	80	120			

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 9 of 9



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

## Sample Log-In Check List

Client Name: LTE MIDLAND

Work Order Number: 1803221

RcptNo: 1

Received By: Anne Thorne

3/6/2018 6:55:00 AM

Completed By: Isaiah Ortiz

3/6/2018 8:25:04 AM

Reviewed By: *see 03/06/18*

LB: DDS

### Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

### Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐ # of preserved bottles checked for pH: \_\_\_\_\_  
( $<2$  or  $>12$  unless noted)
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted? \_\_\_\_\_
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐ Checked by: \_\_\_\_\_

### Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

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

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			





# Analytical Report 578604

for  
**LT Environmental, Inc.**

**Project Manager: Adrian Baker**

**Golden 8 Federal CTB**

**09-MAR-18**

Collected By: Client



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-18-24), 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)



09-MAR-18

Project Manager: **Adrian Baker**  
**LT Environmental, Inc.**  
4600 W. 60th Avenue  
Arvada, CO 80003

Reference: XENCO Report No(s): **578604**  
**Golden 8 Federal CTB**  
Project Address: NM

**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) 578604. 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. 578604 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'.

**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 578604****LT Environmental, Inc., Arvada, CO**

Golden 8 Federal CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	03-06-18 14:00		578604-001
SS02	S	03-06-18 14:10		578604-002
SS03	S	03-06-18 14:20		578604-003
SS04	S	03-06-18 14:30		578604-004
SS05	S	03-06-18 14:40		578604-005

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: Golden 8 Federal CTB**

Project ID:

Work Order Number(s): 578604

Report Date: 09-MAR-18

Date Received: 03/08/2018

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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-3043201 BTEX by EPA 8021B

Lab Sample ID 578604-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 578604-001, -002, -003, -004, -005.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Surrogate 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 578604-005.

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





# Certificate of Analysis Summary 578604

LT Environmental, Inc., Arvada, CO

Project Name: Golden 8 Federal CTB



Project Id:

Contact: Adrian Baker

Project Location: NM

Date Received in Lab: Thu Mar-08-18 09:15 am

Report Date: 09-MAR-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	578604-001	578604-002	578604-003	578604-004	578604-005	
	<i>Field Id:</i>	SS01	SS02	SS03	SS04	SS05	
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Mar-06-18 14:00	Mar-06-18 14:10	Mar-06-18 14:20	Mar-06-18 14:30	Mar-06-18 14:40	
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Mar-08-18 16:45	Mar-08-18 16:45	Mar-08-18 16:45	Mar-08-18 16:45	Mar-08-18 16:45	
	<i>Analyzed:</i>	Mar-09-18 10:55	Mar-09-18 10:55	Mar-09-18 10:55	Mar-09-18 10:55	Mar-09-18 10:55	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	
m,p-Xylenes		<0.00402 0.00402	<0.00399 0.00399	<0.00398 0.00398	<0.00402 0.00402	<0.00399 0.00399	
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	
<b>Inorganic Anions by EPA 300</b>	<i>Extracted:</i>	Mar-08-18 13:00	Mar-08-18 13:00	Mar-08-18 13:00	Mar-08-18 13:00	Mar-08-18 13:00	
	<i>Analyzed:</i>	Mar-08-18 16:11	Mar-08-18 16:29	Mar-08-18 16:34	Mar-08-18 16:39	Mar-08-18 16:45	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		17.3 4.99	<4.95 4.95	<4.91 4.91	<4.93 4.93	<4.92 4.92	
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Mar-08-18 10:00	Mar-08-18 10:00	Mar-08-18 10:00	Mar-08-18 10:00	Mar-08-18 10:00	
	<i>Analyzed:</i>	Mar-08-18 11:56	Mar-08-18 12:22	Mar-08-18 12:49	Mar-08-18 13:17	Mar-08-18 13:45	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<74.9 74.9	<15.0 15.0	<14.9 14.9	<15.0 15.0	<74.8 74.8	
Diesel Range Organics (DRO)		7100 74.9	1540 15.0	1700 14.9	155 15.0	3900 74.8	
Oil Range Hydrocarbons (ORO)		686 74.9	82.7 15.0	89.9 14.9	26.4 15.0	604 74.8	
Total TPH		7790 74.9	1620 15.0	1790 14.9	181 15.0	4500 74.8	

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

Version: 1.9%

*Jessica Kramer*

Jessica Kramer  
Project Assistant



# Certificate of Analytical Results 578604

## LT Environmental, Inc., Arvada, CO

Golden 8 Federal CTB

Sample Id: **SS01**  
Lab Sample Id: 578604-001

Matrix: Soil  
Date Collected: 03.06.18 14.00

Date Received: 03.08.18 09.15

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3043151

Prep Method: E300P

% Moisture:

Date Prep: 03.08.18 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.3	4.99	mg/kg	03.08.18 16.11		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3043122

Prep Method: TX1005P

% Moisture:

Date Prep: 03.08.18 10.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<74.9	74.9	mg/kg	03.08.18 11.56	U	5
Diesel Range Organics (DRO)	C10C28DRO	7100	74.9	mg/kg	03.08.18 11.56		5
Oil Range Hydrocarbons (ORO)	PHCG2835	686	74.9	mg/kg	03.08.18 11.56		5
Total TPH	PHC635	7790	74.9	mg/kg	03.08.18 11.56		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	03.08.18 11.56	
o-Terphenyl	84-15-1	110	%	70-135	03.08.18 11.56	



# Certificate of Analytical Results 578604

## LT Environmental, Inc., Arvada, CO

Golden 8 Federal CTB

Sample Id: **SS01**  
 Lab Sample Id: 578604-001

Matrix: Soil  
 Date Collected: 03.06.18 14.00

Date Received: 03.08.18 09.15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.08.18 16.45

Basis: Wet Weight

Seq Number: 3043201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.09.18 10.55	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.09.18 10.55	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.09.18 10.55	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.09.18 10.55	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.09.18 10.55	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.09.18 10.55	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.09.18 10.55	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	111	%	70-130	03.09.18 10.55		
4-Bromofluorobenzene	460-00-4	118	%	70-130	03.09.18 10.55		



# Certificate of Analytical Results 578604

## LT Environmental, Inc., Arvada, CO

Golden 8 Federal CTB

Sample Id: **SS02**  
Lab Sample Id: 578604-002

Matrix: Soil  
Date Collected: 03.06.18 14.10

Date Received: 03.08.18 09.15

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3043151

Prep Method: E300P

% Moisture:

Date Prep: 03.08.18 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	03.08.18 16.29	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3043122

Prep Method: TX1005P

% Moisture:

Date Prep: 03.08.18 10.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.08.18 12.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	1540	15.0	mg/kg	03.08.18 12.22		1
Oil Range Hydrocarbons (ORO)	PHCG2835	82.7	15.0	mg/kg	03.08.18 12.22		1
Total TPH	PHC635	1620	15.0	mg/kg	03.08.18 12.22		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	03.08.18 12.22	
o-Terphenyl	84-15-1	129	%	70-135	03.08.18 12.22	





# Certificate of Analytical Results 578604

## LT Environmental, Inc., Arvada, CO

Golden 8 Federal CTB

Sample Id: **SS02**

Matrix: Soil

Date Received: 03.08.18 09.15

Lab Sample Id: 578604-002

Date Collected: 03.06.18 14.10

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.08.18 16.45

Basis: Wet Weight

Seq Number: 3043201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.09.18 10.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.09.18 10.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.09.18 10.55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.09.18 10.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.09.18 10.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.09.18 10.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.09.18 10.55	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>	
4-Bromofluorobenzene	460-00-4	101	%	70-130	03.09.18 10.55		
1,4-Difluorobenzene	540-36-3	75	%	70-130	03.09.18 10.55		



# Certificate of Analytical Results 578604

## LT Environmental, Inc., Arvada, CO

Golden 8 Federal CTB

Sample Id: **SS03**  
 Lab Sample Id: 578604-003

Matrix: Soil  
 Date Collected: 03.06.18 14.20

Date Received: 03.08.18 09.15

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3043151

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 03.08.18 13.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.91	4.91	mg/kg	03.08.18 16.34	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3043122

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 03.08.18 10.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.08.18 12.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	1700	14.9	mg/kg	03.08.18 12.49		1
Oil Range Hydrocarbons (ORO)	PHCG2835	89.9	14.9	mg/kg	03.08.18 12.49		1
Total TPH	PHC635	1790	14.9	mg/kg	03.08.18 12.49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	03.08.18 12.49	
o-Terphenyl	84-15-1	130	%	70-135	03.08.18 12.49	



# Certificate of Analytical Results 578604

## LT Environmental, Inc., Arvada, CO

Golden 8 Federal CTB

Sample Id: **SS03**

Matrix: Soil

Date Received: 03.08.18 09.15

Lab Sample Id: 578604-003

Date Collected: 03.06.18 14.20

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.08.18 16.45

Basis: Wet Weight

Seq Number: 3043201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.09.18 10.55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.09.18 10.55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.09.18 10.55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.09.18 10.55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.09.18 10.55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.09.18 10.55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.09.18 10.55	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>	
4-Bromofluorobenzene	460-00-4	111	%	70-130	03.09.18 10.55		
1,4-Difluorobenzene	540-36-3	80	%	70-130	03.09.18 10.55		



# Certificate of Analytical Results 578604

## LT Environmental, Inc., Arvada, CO

Golden 8 Federal CTB

Sample Id: **SS04**  
Lab Sample Id: 578604-004

Matrix: Soil  
Date Collected: 03.06.18 14.30

Date Received: 03.08.18 09.15

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3043151

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 03.08.18 13.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.93	4.93	mg/kg	03.08.18 16.39	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3043122

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 03.08.18 10.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.08.18 13.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	155	15.0	mg/kg	03.08.18 13.17		1
Oil Range Hydrocarbons (ORO)	PHCG2835	26.4	15.0	mg/kg	03.08.18 13.17		1
Total TPH	PHC635	181	15.0	mg/kg	03.08.18 13.17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	03.08.18 13.17	
o-Terphenyl	84-15-1	118	%	70-135	03.08.18 13.17	





# Certificate of Analytical Results 578604

## LT Environmental, Inc., Arvada, CO

Golden 8 Federal CTB

Sample Id: **SS04**  
Lab Sample Id: 578604-004

Matrix: Soil  
Date Collected: 03.06.18 14.30

Date Received: 03.08.18 09.15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.08.18 16.45

Basis: Wet Weight

Seq Number: 3043201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.09.18 10.55	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.09.18 10.55	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.09.18 10.55	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.09.18 10.55	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.09.18 10.55	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.09.18 10.55	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.09.18 10.55	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>	
4-Bromofluorobenzene	460-00-4	127	%	70-130	03.09.18 10.55		
1,4-Difluorobenzene	540-36-3	89	%	70-130	03.09.18 10.55		



# Certificate of Analytical Results 578604

## LT Environmental, Inc., Arvada, CO

Golden 8 Federal CTB

Sample Id: **SS05**  
Lab Sample Id: 578604-005

Matrix: Soil  
Date Collected: 03.06.18 14.40

Date Received: 03.08.18 09.15

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3043151

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 03.08.18 13.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.92	4.92	mg/kg	03.08.18 16.45	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3043122

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 03.08.18 10.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<74.8	74.8	mg/kg	03.08.18 13.45	U	5
Diesel Range Organics (DRO)	C10C28DRO	3900	74.8	mg/kg	03.08.18 13.45		5
Oil Range Hydrocarbons (ORO)	PHCG2835	604	74.8	mg/kg	03.08.18 13.45		5
Total TPH	PHC635	4500	74.8	mg/kg	03.08.18 13.45		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	03.08.18 13.45	
o-Terphenyl	84-15-1	79	%	70-135	03.08.18 13.45	



# Certificate of Analytical Results 578604

## LT Environmental, Inc., Arvada, CO

Golden 8 Federal CTB

Sample Id: **SS05**

Matrix: Soil

Date Received: 03.08.18 09.15

Lab Sample Id: 578604-005

Date Collected: 03.06.18 14.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.08.18 16.45

Basis: Wet Weight

Seq Number: 3043201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.09.18 10.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.09.18 10.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.09.18 10.55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.09.18 10.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.09.18 10.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.09.18 10.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.09.18 10.55	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	56	%	70-130	03.09.18 10.55	**	
4-Bromofluorobenzene	460-00-4	102	%	70-130	03.09.18 10.55		



## 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



**LT Environmental, Inc.**  
Golden 8 Federal CTB

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3043151

MB Sample Id: 7640419-1-BLK

Matrix: Solid

LCS Sample Id: 7640419-1-BKS

Prep Method: E300P

Date Prep: 03.08.18

LCSD Sample Id: 7640419-1-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	248	99	249	100	90-110	0	20	mg/kg	03.08.18 14:25	

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3043151

Parent Sample Id: 578424-003

Matrix: Soil

MS Sample Id: 578424-003 S

Prep Method: E300P

Date Prep: 03.08.18

MSD Sample Id: 578424-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	103	249	360	103	360	103	90-110	0	20	mg/kg	03.08.18 14:41	

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3043151

Parent Sample Id: 578425-005

Matrix: Soil

MS Sample Id: 578425-005 S

Prep Method: E300P

Date Prep: 03.08.18

MSD Sample Id: 578425-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.97	249	250	100	250	100	90-110	0	20	mg/kg	03.08.18 15:55	

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3043122

MB Sample Id: 7640359-1-BLK

Matrix: Solid

LCS Sample Id: 7640359-1-BKS

Prep Method: TX1005P

Date Prep: 03.07.18

LCSD Sample Id: 7640359-1-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	986	99	971	97	70-135	2	35	mg/kg	03.08.18 02:51	
Diesel Range Organics (DRO)	<15.0	1000	1020	102	996	100	70-135	2	35	mg/kg	03.08.18 02:51	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		110		107		70-135	%	03.08.18 02:51
o-Terphenyl	103		109		104		70-135	%	03.08.18 02:51

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

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * | (C-E) / (C+E) |$   
 $[D] = 100 * (C) / [B]$

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





**LT Environmental, Inc.**  
Golden 8 Federal CTB

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3043122

Parent Sample Id: 578424-001

Matrix: Soil

MS Sample Id: 578424-001 S

Prep Method: TX1005P

Date Prep: 03.07.18

MSD Sample Id: 578424-001 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	997	1030	103	1040	104	70-135	1	35	mg/kg	03.08.18 04:10	
Diesel Range Organics (DRO)	<15.0	997	1050	105	1090	109	70-135	4	35	mg/kg	03.08.18 04:10	

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		117		70-135	%	03.08.18 04:10
o-Terphenyl	109		112		70-135	%	03.08.18 04:10

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3043201

MB Sample Id: 7640464-1-BLK

Matrix: Solid

LCS Sample Id: 7640464-1-BKS

Prep Method: SW5030B

Date Prep: 03.08.18

LCSD Sample Id: 7640464-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0883	87	0.0848	84	70-130	4	35	mg/kg	03.09.18 10:55	
Toluene	<0.00201	0.101	0.0900	89	0.0930	92	70-130	3	35	mg/kg	03.09.18 10:55	
Ethylbenzene	<0.00201	0.101	0.0937	93	0.0974	96	70-130	4	35	mg/kg	03.09.18 10:55	
m,p-Xylenes	<0.00402	0.201	0.182	91	0.189	94	70-130	4	35	mg/kg	03.09.18 10:55	
o-Xylene	<0.00201	0.101	0.0921	91	0.0957	95	70-130	4	35	mg/kg	03.09.18 10:55	

**Surrogate**

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	85		101		95		70-130	%	03.09.18 10:55
4-Bromofluorobenzene	118		130		122		70-130	%	03.09.18 10:55

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3043201

Parent Sample Id: 578604-005

Matrix: Soil

MS Sample Id: 578604-005 S

Prep Method: SW5030B

Date Prep: 03.08.18

MSD Sample Id: 578604-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0818	82	0.0884	88	70-130	8	35	mg/kg	03.09.18 10:55	
Toluene	<0.00199	0.0996	0.0659	66	0.0780	78	70-130	17	35	mg/kg	03.09.18 10:55	X
Ethylbenzene	<0.00199	0.0996	0.0601	60	0.0745	75	70-130	21	35	mg/kg	03.09.18 10:55	X
m,p-Xylenes	<0.00398	0.199	0.112	56	0.143	72	70-130	24	35	mg/kg	03.09.18 10:55	X
o-Xylene	<0.00199	0.0996	0.0556	56	0.0717	72	70-130	25	35	mg/kg	03.09.18 10:55	X

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	78		70		70-130	%	03.09.18 10:55
4-Bromofluorobenzene	124		124		70-130	%	03.09.18 10:55

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

[D] = 100\*(C-A) / B  
RPD = 200\* | (C-E) / (C+E) |  
[D] = 100 \* (C) / [B]

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



Setting the Standard since 1990  
Stafford, Texas (281-240-4200)  
Dallas Texas (214-902-0300)

# CHAIN OF CUSTODY

Page \_\_\_ of \_\_\_

San Antonio, Texas (210-509-3334)  
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenoco.com

Xenoco Quote #

Xenoco Job #

5786004

## Client / Reporting Information

Company Name / Branch:

LTE / Perrillan

Company Address:

3300 N. A Street Bldg 1 Suite 103 Midland TX 79705

Email:

Abaker@ltenv.com

Phone No:  
432-704-5178

Project Contact:

Adrian Baker

Sampler's Name: Aaron Williamson

PO Number:

30-015-26931

XTO Energy - Kyle Littlell

## Project Information

Project Name/Number:

Golden & Federal CTB

Project Location:

Invoice To:

NM

## Analytical Information

Matrix Codes

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

Btex EPA Method 8021  
TPH EPA Method 8015  
Chloride EPA Method 300.1

Field Comments

## Collection

Number of preserved bottles

NaOH/Zn Acetate  
HNO3  
H2SO4  
NaOH  
NaHSO4  
MeOH  
NONE

Sample Depth  
Date  
Time  
Matrix  
# of bottles  
HCl

Field ID / Point of Collection

1 S501 surf. 3-6-18 1400 S 1  
2 S502  
3 S503  
4 S504  
5 S505

Turnaround Time (Business days)

6  
7  
8  
9  
10

## Data Deliverable Information

Notes:

☒ Same Day TAT

☐ 5 Day TAT

☐ Next Day EMERGENCY

☐ 7 Day TAT

☐ 2 Day EMERGENCY

☐ Contract TAT

☐ 3 Day EMERGENCY

☐ STANDARD TAT

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

☐ TRRP Checklist

Relinquished by Sampler:

Relinquished by:

Date Time:

Date Time:

Received By:

Received By:

Received By:

Relinquished by:

Date Time:

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## XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/08/2018 09:15:00 AM

Work Order #: 578604

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

## Sample Receipt Checklist

## Comments

#1 *Temperature of cooler(s)?	5.1	
#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	TPH in bulk container
#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)?	Yes	
#18 Water VOC samples have zero headspace?	N/A	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 03/08/2018

Checklist reviewed by:

Jessica Kramer

Date: 03/08/2018

# Analytical Report 578893

for  
**LT Environmental, Inc.**

**Project Manager: Adrian Baker**

**Golden 8 Federal Battery #1**

**12-MAR-18**

Collected By: Client



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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-18-24), 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)





12-MAR-18

Project Manager: **Adrian Baker**  
**LT Environmental, Inc.**  
4600 W. 60th Avenue  
Arvada, CO 80003

Reference: XENCO Report No(s): **578893**  
**Golden 8 Federal Battery #1**  
Project Address: NM

**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) 578893. 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. 578893 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'.

**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 578893

LT Environmental, Inc., Arvada, CO

Golden 8 Federal Battery #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS06	S	03-09-18 13:00	6 In	578893-001



## CASE NARRATIVE

*Client Name: LT Environmental, Inc.*

*Project Name: Golden 8 Federal Battery #1*

Project ID:

Work Order Number(s): 578893

Report Date: 12-MAR-18

Date Received: 03/10/2018

---

**Sample receipt non conformances and comments:**

None

---

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

None

**Analytical non conformances and comments:**

Batch: LBA-3043357 BTEX by EPA 8021B

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



# Certificate of Analysis Summary 578893

LT Environmental, Inc., Arvada, CO

Project Name: Golden 8 Federal Battery #1



Project Id:

Contact: Adrian Baker

Project Location: NM

Date Received in Lab: Sat Mar-10-18 12:21 pm

Report Date: 12-MAR-18

Project Manager: Jessica Kramer

<b>Analysis Requested</b>	<b>Lab Id:</b>	578893-001					
	<b>Field Id:</b>	SS06					
	<b>Depth:</b>	6- In					
	<b>Matrix:</b>	SOIL					
	<b>Sampled:</b>	Mar-09-18 13:00					
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b>	Mar-10-18 12:30					
	<b>Analyzed:</b>	Mar-11-18 09:24					
	<b>Units/RL:</b>	mg/kg RL					
Benzene		<0.00200 0.00200					
Toluene		<0.00200 0.00200					
Ethylbenzene		<0.00200 0.00200					
m,p-Xylenes		<0.00401 0.00401					
o-Xylene		<0.00200 0.00200					
Total Xylenes		<0.00200 0.00200					
Total BTEX		<0.00200 0.00200					
<b>Inorganic Anions by EPA 300</b>	<b>Extracted:</b>	Mar-12-18 09:00					
	<b>Analyzed:</b>	Mar-12-18 10:37					
	<b>Units/RL:</b>	mg/kg RL					
Chloride		<4.90 4.90					
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b>	** ** *					
	<b>Analyzed:</b>	Mar-11-18 02:31					
	<b>Units/RL:</b>	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0					
Diesel Range Organics (DRO)		63.6 15.0					
Oil Range Hydrocarbons (ORO)		<15.0 15.0					
Total TPH		63.6 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 578893

## LT Environmental, Inc., Arvada, CO

Golden 8 Federal Battery #1

Sample Id: **SS06**  
Lab Sample Id: 578893-001

Matrix: Soil  
Date Collected: 03.09.18 13.00

Date Received: 03.10.18 12.21  
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3043446

Date Prep: 03.12.18 09.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.90	4.90	mg/kg	03.12.18 10.37	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3043414

Date Prep: 03.10.18 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	03.11.18 02.31	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>63.6</b>	15.0	mg/kg	03.11.18 02.31		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.11.18 02.31	U	1
<b>Total TPH</b>	PHC635	<b>63.6</b>	15.0	mg/kg	03.11.18 02.31		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	03.11.18 02.31	
o-Terphenyl	84-15-1	97	%	70-135	03.11.18 02.31	



# Certificate of Analytical Results 578893

## LT Environmental, Inc., Arvada, CO

Golden 8 Federal Battery #1

Sample Id: **SS06**  
 Lab Sample Id: 578893-001

Matrix: Soil  
 Date Collected: 03.09.18 13.00

Date Received: 03.10.18 12.21  
 Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.10.18 12.30

Basis: Wet Weight

Seq Number: 3043357

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.11.18 09.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.11.18 09.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.11.18 09.24	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.11.18 09.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.11.18 09.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.11.18 09.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.11.18 09.24	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	106	%	70-130	03.11.18 09.24		
1,4-Difluorobenzene	540-36-3	84	%	70-130	03.11.18 09.24		





## 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



**LT Environmental, Inc.**  
Golden 8 Federal Battery #1

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3043446

MB Sample Id: 7640586-1-BLK

Matrix: Solid

LCS Sample Id: 7640586-1-BKS

Prep Method: E300P

Date Prep: 03.12.18

LCSD Sample Id: 7640586-1-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	261	104	261	104	90-110	0	20	mg/kg	03.12.18 09:31	

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3043446

Parent Sample Id: 578266-004

Matrix: Soil

MS Sample Id: 578266-004 S

Prep Method: E300P

Date Prep: 03.12.18

MSD Sample Id: 578266-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.99	250	253	101	254	102	90-110	0	20	mg/kg	03.12.18 11:46	

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3043446

Parent Sample Id: 578891-004

Matrix: Soil

MS Sample Id: 578891-004 S

Prep Method: E300P

Date Prep: 03.12.18

MSD Sample Id: 578891-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11.2	246	258	100	258	100	90-110	0	20	mg/kg	03.12.18 10:26	

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3043414

MB Sample Id: 7640553-1-BLK

Matrix: Solid

LCS Sample Id: 7640553-1-BKS

Prep Method: TX1005P

Date Prep: 03.10.18

LCSD Sample Id: 7640553-1-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	957	96	954	95	70-135	0	35	mg/kg	03.10.18 16:37	
Diesel Range Organics (DRO)	<15.0	1000	1010	101	1020	102	70-135	1	35	mg/kg	03.10.18 16:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		103		108		70-135	%	03.10.18 16:37
o-Terphenyl	97		103		106		70-135	%	03.10.18 16:37

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

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * | (C-E) / (C+E) |$   
 $[D] = 100 * (C) / [B]$

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



**LT Environmental, Inc.**  
Golden 8 Federal Battery #1

Analytical Method: TPH by SW8015 Mod

Seq Number: 3043414

Parent Sample Id: 578129-021

Matrix: Soil

MS Sample Id: 578129-021 S

Prep Method: TX1005P

Date Prep: 03.10.18

MSD Sample Id: 578129-021 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	964	97	975	98	70-135	1	35	mg/kg	03.10.18 17:56	
Diesel Range Organics (DRO)	<15.0	998	1070	107	1080	108	70-135	1	35	mg/kg	03.10.18 17:56	

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		109		70-135	%	03.10.18 17:56
o-Terphenyl	104		104		70-135	%	03.10.18 17:56

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043357

MB Sample Id: 7640559-1-BLK

Matrix: Solid

LCS Sample Id: 7640559-1-BKS

Prep Method: SW5030B

Date Prep: 03.10.18

LCSD Sample Id: 7640559-1-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	0.0790	78	0.0735	74	70-130	7	35	mg/kg	03.10.18 22:25	
Toluene	<0.00202	0.101	0.0845	84	0.0783	78	70-130	8	35	mg/kg	03.10.18 22:25	
Ethylbenzene	<0.00202	0.101	0.0942	93	0.0897	90	70-130	5	35	mg/kg	03.10.18 22:25	
m,p-Xylenes	<0.00403	0.202	0.185	92	0.178	89	70-130	4	35	mg/kg	03.10.18 22:25	
o-Xylene	<0.00202	0.101	0.0937	93	0.0910	91	70-130	3	35	mg/kg	03.10.18 22:25	

**Surrogate**

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	85		88		90		70-130	%	03.10.18 22:25
4-Bromofluorobenzene	98		114		111		70-130	%	03.10.18 22:25

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043357

Parent Sample Id: 578592-004

Matrix: Soil

MS Sample Id: 578592-004 S

Prep Method: SW5030B

Date Prep: 03.10.18

MSD Sample Id: 578592-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0663	66	0.0629	63	70-130	5	35	mg/kg	03.10.18 23:03	X
Toluene	<0.00200	0.100	0.0526	53	0.0525	53	70-130	0	35	mg/kg	03.10.18 23:03	X
Ethylbenzene	<0.00200	0.100	0.0272	27	0.0384	38	70-130	34	35	mg/kg	03.10.18 23:03	X
m,p-Xylenes	<0.00401	0.200	0.0530	27	0.0707	35	70-130	29	35	mg/kg	03.10.18 23:03	X
o-Xylene	<0.00200	0.100	0.0283	28	0.0372	37	70-130	27	35	mg/kg	03.10.18 23:03	X

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		92		70-130	%	03.10.18 23:03
4-Bromofluorobenzene	103		106		70-130	%	03.10.18 23:03

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

[D] = 100\*(C-A) / B  
RPD = 200\* | (C-E) / (C+E) |  
[D] = 100 \* (C) / [B]

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

# CHAIN OF CUSTODY

Page 1 of 1

San Antonio, Texas (210-509-3334)  
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenco.com

<b>Client / Reporting Information</b>				<b>Project Information</b>				<b>Xenco Quote #</b>		<b>Xenco Job #</b>	
Company Name / Branch: <b>LTE / Perrin</b>				Project Name/Number: <b>Golden 8 Federal Battery #1</b>				Analytical Information		Matrix Codes	
Company Address: <b>3300 N. A Street Bldg 1 Suite 103 Midland TX 79705</b>				Project Location: <b>NM</b>							
Email: <b>Abaker@lennv.com</b>				Invoice To: <b>NM</b>							
Phone No: <b>432-704-5178</b>				XTO Energy - Kyle Little							
Project Contact: <b>Adrian Baker</b>				PO Number: <b>30-015-26931</b>							
Sampler's Name: <b>Aaron Williamson</b>											

No.	Field ID / Point of Collection	Collection			# of bottles	HCl	Number of preserved bottles							Btx EPA Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.1	Notes	Field Comments
		Sample Depth	Date	Time			Matrix	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH					
1	5506	6"	3-18	1300	5	1												
2																		
3																		
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"/> Next Day EMERGENCY				<input type="checkbox"/> 7 Day TAT				<input type="checkbox"/> Level III Std QC+ Forms			
<input type="checkbox"/> 2 Day EMERGENCY				<input type="checkbox"/> Contract TAT				<input type="checkbox"/> TRRP Level IV			
<input type="checkbox"/> 3 Day EMERGENCY				<input type="checkbox"/> STANDARD TAT				<input type="checkbox"/> TRRP Checklist			
TAT Starts Day received by Lab, if received by 5:00 pm											

Relinquished by Sampler:				SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY				FED-EX			
Date Time: <b>3-19-18 1700</b>				Received By: <b>[Signature]</b>				Relinquished By: <b>[Signature]</b>			
Date Time: <b>3-19-18 12:11</b>				Received By: <b>[Signature]</b>				Relinquished By: <b>[Signature]</b>			
Date Time: <b>3-19-18</b>				Received By: <b>[Signature]</b>				Relinquished By: <b>[Signature]</b>			
Date Time: <b>3-19-18</b>				Received By: <b>[Signature]</b>				Relinquished By: <b>[Signature]</b>			

Custody Seal #				Preserved where applicable				On Ice				Cooler Temp.				Thermo. Corr. Factor			
5																			

Temp: <b>2.1</b>				IR ID: <b>R-8</b>			
CF: (0-6: -0.2°C)							
Corrected Temp: <b>1.9</b>							





## XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/10/2018 12:21:00 PM

Work Order #: 578893

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)?	1.9
#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:

Katie Lowe

Date: 03/10/2018

Checklist reviewed by:

Jessica Kramer

Date: 03/12/2018



## Bratcher, Mike, EMNRD

---

**From:** Bratcher, Mike, EMNRD  
**Sent:** Monday, May 14, 2018 2:00 PM  
**To:** 'Ashley Ager'; Weaver, Crystal, EMNRD  
**Cc:** stucker@blm.gov; Adrian Baker; Littrell, Kyle  
**Subject:** RE: Golden 8 Federal Central Tank Battery/2RP-521, 2RP-633, 2RP-2082, 2RP-2439, 2RP-3612, 2RP-4017, 2RP-4601

RE: XTO \* Golden 8 Fed 1 (CTB) \* 2RP-521,633,2018,2439,3612,4017, & 4601 \* DOR: 1/14/10, 2/16/11, 11/25/13, 8/12/14, 2/1/16, 11/26/16, & 1/18/18

Ashley,

Your proposal for additional delineation and remediation is approved. Federal sites will require like approval from BLM.

Thank you,

Mike Bratcher  
NMOCD District 2  
811 South First Street  
Artesia, NM 88210  
575-748-1283 Ext 108

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

---

**From:** Ashley Ager <aager@ltenv.com>  
**Sent:** Friday, March 23, 2018 4:56 PM  
**To:** Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>  
**Cc:** stucker@blm.gov; Adrian Baker <abaker@ltenv.com>; Littrell, Kyle <Kyle\_Littrell@xtoenergy.com>  
**Subject:** Golden 8 Federal Central Tank Battery/2RP-521, 2RP-633, 2RP-2082, 2RP-2439, 2RP-3612, 2RP-4017, 2RP-4601

Crystal,

Please find attached a work plan for addressing historic and recent releases at the Golden 8 Federal Central Tank Battery. The report includes preliminary results from initial surface sampling and proposes additional sampling and remediation work.

The work plan covers the following releases at the location:  
**2RP-521, 2RP-633, 2RP-2082, 2RP-2439, 2RP-3612, 2RP-4017, 2RP-4601**

Please let me know if you have any questions and have a nice weekend.

Ashley


Ashley Ager, M.S., P.G.  
Senior Geologist/Vice President of Regional Offices



LT Environmental, Inc.  
848 East 2<sup>nd</sup> Avenue  
Durango, Colorado 81301  
(970) 385-1096 office  
(970) 946-1093 mobile  
[www.ltenv.com](http://www.ltenv.com)

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**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 375434

CONDITIONS

Operator: BOPCO, L.P. 6401 Holiday Hill Rd Midland, TX 79707	OGRID: 260737
	Action Number: 375434
	Action Type: [IM-SD] Admin Order Support Doc (ENV) (IM-BAO)

CONDITIONS

Created By	Condition	Condition Date
bhall	historic documentation upload	8/20/2024