Advancing Opportunity

LT Environmental, Inc.

3300 North A Street, Building 1, #103 Midland, Texas 79705 T 432.704.5178 / F 432.704.5179

May 25, 2018

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

RE: Closure Request
Barney BEF Federal #001
Remediation Permit Number 2RP-3815
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), is pleased to present the following letter report detailing the soil sampling activities at the Barney BEF Federal #001 well pad (Site) in Unit O, Section 1, Township 22 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the investigation was to assess impacts to soil after a poly flow line ruptured. The rupture caused a release of approximately 46 barrels (bbls) of produced water and approximately 16 bbls of crude oil. The release date is unknown but was discovered on July 29, 2016. The spill impacted approximately 6,098 square feet of the pasture immediately west of the well and tank battery. Free-standing liquids were removed with a vacuum truck; approximately 5 bbls of produced water and 5 bbls of crude oil were recovered. Over-sprayed areas and vegetation were treated with Micro-blaze[®], and saturated soil was scraped and removed. The previous operator reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on August 2, 2016, and was assigned Remediation Permit Number (RP) 2RP-3815 (Attachment 1). The soil sampling was completed to assess current site conditions and evaluate the need for additional remediation. Although the impact occurred while the well was operated by the previous operator, XTO is the current operator and is committed to addressing any releases that remain unresolved. Based on the results of the sampling event as described herein, XTO is requesting no further action for this release event.

BACKGROUND

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data and known aquifer properties. The nearest permitted water well is C 02415, located approximately 3.66 miles southeast of the Site, with a depth to groundwater of 448 feet bgs and a total depth of 880 feet bgs. The Site is greater than 1,000 feet from a water source and greater than 200 feet from a private domestic water source. The closest surface water to the Site is an arroyo located approximately 2,960 feet west of the Site. Based on these criteria, the NMOCD site ranking for remediation action levels is 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





Bratcher, M. Page 2

(TPH). LTE proposes a site-specific chloride action level of 600 mg/kg or within 10 percent [%] of the background concentrations.

SOIL SAMPLING

Soil sample locations were based on visual inspection of the Site and the Form C-141 information. Based on the latitude and longitude given on the initial C-141, historical aerial images from Google Earth, and description of the affected area, LTE determined the release occurred at the northwest corner of the well pad. LTE collected seven soil samples on February 6, 2018, as depicted on Figure 2. No visual or olfactory evidence of the release was observed. LTE made an effort to collect representative samples around the reported release source and area potentially affected by the release.

To eliminate the effects from weathering and natural degradation of contaminants at the ground surface, subsurface samples were collected from each sample location at roughly 0.5 feet bgs by hand auger. The soil samples were collected directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis, and immediately placed on ice. The samples were delivered at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to Xenco Laboratories in Midland, Texas, for analysis of BTEX by United States Environmental Protection Agency (USEPA) Method 8021, TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-motor oil range organics (MRO) by USEPA Method 8015, and chloride by USEPA Method 300.0.

ANALYTICAL RESULTS

Laboratory analytical results for the seven soil samples indicated BTEX concentrations ranged from below the laboratory reporting limit in soil samples SS1, SS2, SS3, SS4, SS5, and SS7 to 0.0196 mg/kg in soil sample SS6. Laboratory analytical results for TPH indicated no detected concentrations exceeded the NMOCD remediation action levels for the Site with values ranging from below the laboratory reporting limits in soil samples SS2, SS3, SS4, SS5, SS6 and SS7 to 2,200 mg/kg in soil sample SS1. Chloride concentrations ranged from below the laboratory reporting limit in soil samples SS3, SS4, SS5, SS6, SS7 to 453 mg/kg in soil sample SS1. Laboratory analytical results are presented on Figure 2 and in Table 1, and the complete laboratory analytical report is included as Attachment 2.

CONCLUSIONS

Laboratory analytical results for soil samples collected within the former release footprint indicate impact to soil, as defined by concentrations of BTEX, TPH, and chloride, do not exceed NMOCD site-specific standards. Initial response efforts and natural degradation have remediated this Site, and XTO requests no further action at this Site.





Bratcher, M. Page 3

If you have any questions or comments, do not hesitate to contact Adrian Baker at (432) 887-1255 or abaker@ltenv.com.

ashley L. ager

Senior Geologist

Sincerely,

LT ENVIRONMENTAL, INC.

Adrian Baker Project Geologist

cc: Kyle Littrell, XTO

Crystal Weaver, NMOCD

Jim Amos, BLM Shelly Tucker, BLM

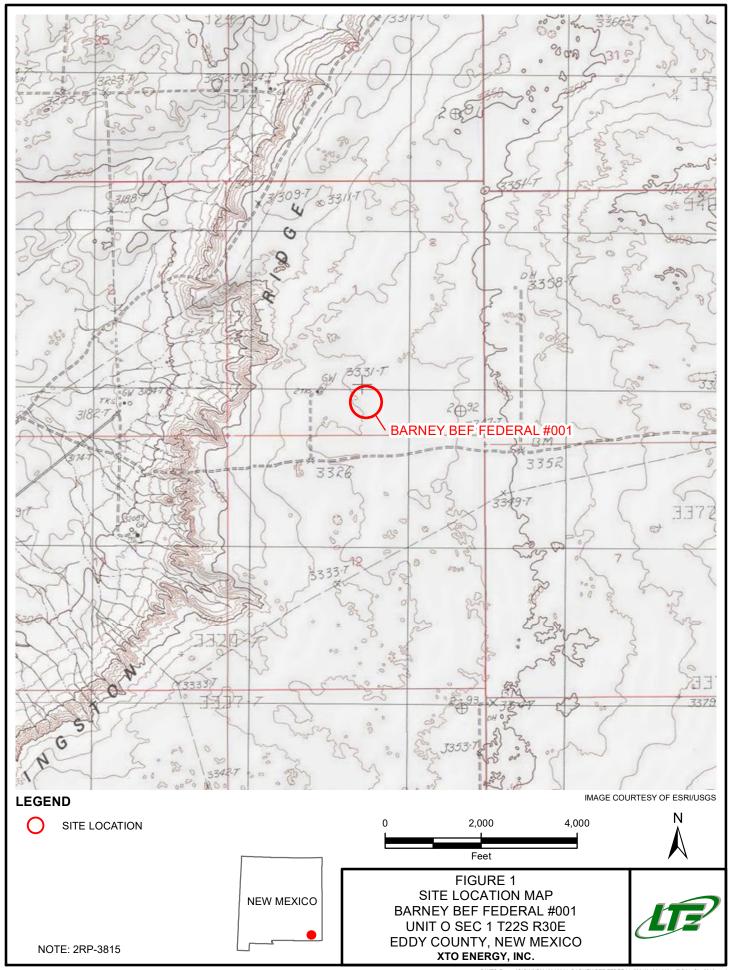
Attachments:

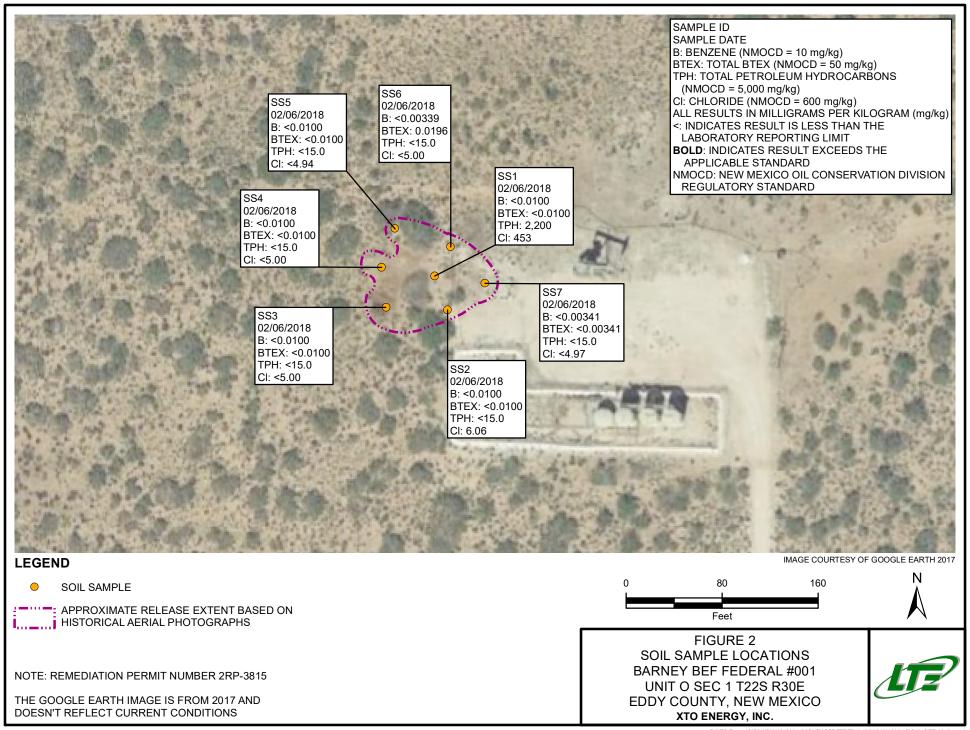
Figure 1 Site Location Map
Figure 2 Site Sample Locations
Table 1 Soil Analytical Results

Attachment 1 Initial NMOCD Form C-141 Attachment 2 Laboratory Analytical Report

FIGURES







TABLE



TABLE 1 SOIL ANALYTICAL RESULTS BARNEY BEF FEDERAL #001 REMEDIATION PERMIT NUMBER 2RP-3815 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-C40 Motor Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS1	0.5	02/06/2018	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	<15.0	1,970	232	2,200	453
SS2	0.5	02/06/2018	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	<15.0	<15.0	<15.0	<15.0	6.06
SS3	0.5	02/06/2018	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	<15.0	<15.0	<15.0	<15.0	< 5.00
SS4	0.5	02/06/2018	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	<15.0	<15.0	<15.0	<15.0	< 5.00
SS5	0.5	02/06/2018	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	<15.0	<15.0	<15.0	<15.0	<4.94
SS6	0.5	02/06/2018	< 0.00339	< 0.00339	0.0196	< 0.00339	0.0196	<15.0	<15.0	<15.0	<15.0	< 5.00
SS7	0.5	02/06/2018	< 0.00341	< 0.00341	< 0.00341	< 0.00341	< 0.00341	<15.0	<15.0	<15.0	<15.0	<4.97
NMOCD Rea	mediation Acti	ion Levels	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 INITIAL NMOCD FORM C-141



NM OIL CONSERVATION

ARTESIA DISTRICT

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

AUG 0 2 2016

Form C-141 Revised August 8, 2011

Submit 1 Copy to appropriate District Office in **RECEIVED** cordance with 19.15.29 NMΛC.

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

	Rel	ease Notification	and Co	rrective A	ction	1			
NAB11021756	389	<u> </u>	OPERA			🛭 Initia	al Report		Final Report
Name of Company: BOPC		/	Contact: An						
Address: 522 W. Mermod,			····	No. <u>575-887-73</u>					
Facility Name: Barney B.	EF Federal #001		Facility Typ	e: Exploration	and Pro	duction			
Surface Owner: Federal	·	Mineral Owner:	Federal			API No	. 30-015-2	6799	
		LOCATIO		LEASE					
Unit Letter Section Tor	wnship Range 30E	Feet from the North	South Line	Feet from the 2445	East/V East	Vest Line	County Eddy		
	La	titude <u>32.415680°</u>	Longitude	-103.83353	l°				
		NATURE		_					
Type of Release Crude Oil	and Produced Wa		Volume of	Release 46 bb		Volume I		5 bbl	1
				16 bb		D . 1		5 bbl	
Source of Release Po	ly Flow Line		Unknown	lour of Occurren	ce	7/29/2016	Hour of Dis	cover	y (
Was Immediate Notice Given	?		If YES, To	Whom?		772372010	7 70 0001		
		No Not Required	Mike Brate	cher/Heather Patt	erson (N	MOCD), S	helly Tucke	r (BL	M)
By Whom? Amy Ruth				Tour 7/29/2016			-1		
Was a Watercourse Reached?	Yes ∑] No	If YES, Vo	olume Impacting	the Wate	ercourse.			
If a Watercourse was Impacto	d, Describe Fully.	• .	· · · · · · · · · · · · · · · · · · ·						
N/A	•								
Describe Cause of Problem a Poly flow line rupture, possib									
Describe Area Affected and C Leak affected approximately	6,098 sq. ft. of pas	ture immediately west of					e recovered.	Ove	r-sprayed
areas and vegetation were wa	shed with Micro-b	laze and saturated surface	soils were so	raped up and sto	ckpiled o	on plastic.			
I hereby certify that the information	mation given abov	e is true and complete to t	he best of my	knowledge and	understa	nd that pur	suant to NM	OCD	rules and
regulations all operators are r	equired to report a	nd/or file certain release n	otifications a	nd perform corre	ctive act	ions for rel	eases which	may (endanger
public health or the environm should their operations have-	ent. The acceptan	ce of a C-141 report by the	e NMOCD m	arked as "Final F	ceport o	ioes not rei	ieve the ope	rator (or man health
or the environment. In additi	on, NMOCD acce	otance of a C-141 report d	oes not reliev	the operator of	respons	ibility for c	ompliance v	vith au	ny other
federal, state, or logal laws ar									
		A = A		OIL CON	ISERV	ATION	DIVISIO	<u>NC</u>	
Signatura		$T \wedge -1$				// /	,		
Signature:	V ay j	منكا		Signed B Environmental	y July	1/4 /	CAROLINE		
Printed Name: Amy C	Ruth		Approved by	Environmental	specians	t			-
Title: EHS Remediation	Specialist		Approval Da	te: 8216	2	Expiration	Date:	4	.,,
E-mail Address: ACRuth	@basspet.com		Conditions of	f Approval:			1.		
			Remediat	f Approval: ion per O.C.	D. Rule	es & Gui	delines		1
Date: 8/2/2016 Attach Additional Sheets If	Phone: 432 f Necessary	-661-0571	LATER TH	REMEDIATIO	N PRO)POSAL	NO	10	P-3815
	J						((/) K	1 0 0 0

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

Form C-141 Revised April 3, 2017

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notificatio	Release Notification and Corrective Action											
	OPERATOR	☐ Initial Report ☐ Final Report										
Name of Company XTO Energy	Contact: Kyle Littrell											
Address 3104 E Greene Street, Carlsbad, NM 88220 Facility Name: Barney BEF Federal #001	Telephone No: 432-221-7331 Facility Type: Exploration and P	roduction										
Tuesticy Number Burney BBN 1 edictar 1001	Tuenny Type: Expiciation and T											
Surface Owner: Federal Mineral Owner	: Federal	API No. 30-015-26799										
LOCATIO	N OF RELEASE											
Unit Letter Section Township Range Feet from the Nort O 1 22S 30E 660 Nort	h/South Line Feet from the South 2445	t/West Line County East Eddy										
Latitude 32.41568	30 Longitude -103.833531											
NATURE	E OF RELEASE											
Type of Release Crude Oil and Produced Water	Volume of Release 46 bbl PW 16 bbl Oil	Volume Recovered 5 bbl PW 5 bbl Oil										
Source of Release: Poly Flow Line	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 7/29/2016 10 am										
Was Immediate Notice Given? Yes No Not Required If YES, To Whom? Mike Bratcher/Heather Patterson (NMOCD), Shelly Tucker (BLM)												
By Whom? Amy Ruth	Date and Hour: 7/29/2016 5:54 p											
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the W N/A	atercourse:										
If a Watercourse was Impacted, Describe Fully.* N/A												
Describe Cause of Problem and Remedial Action Taken.* Poly flow line rupture, possibly due to paraffin plug. Line was repaired.												
Describe Area Affected and Cleanup Action Taken.* Leak affected approximately 6,098 sq. ft. of pasture immediately west of	f the well and hattery location. Standi	ng fluids were recovered. Over-sprayed										
areas and vegetation were washed with micro-blaze and saturated surfac	e soils were scraped up and stockpiled	l on plastic.										
LTE collected seven soil samples on February 6, 2018. Laboratory analy NMOCD remediation action levels for this site. Initial response efforts a												
action at this Site.	Ü	· •										
I hereby certify that the information given above is true and complete to	the best of my knowledge and unders	tand that pursuant to NMOCD rules and										
regulations all operators are required to report and/or file certain release public health or the environment. The acceptance of a C-141 report by t												
should their operations have failed to adequately investigate and remedia	ate contamination that pose a threat to	ground water, surface water, human health										
or the environment. In addition, NMOCD acceptance of a C-141 report federal, state, or local laws and/or regulations.	does not relieve the operator of respon	islibility for compliance with any other										
	OII CONSED	VATION DIVISION										
a Marth	OIL CONSER											
Signature:	Approved by Environmental Special	ist: Huttan Hall										
Printed Name: Kyle Littrell												
Title: SH&E Coordinator	Approval Date: 2/27/2023	Expiration Date: N/A										
E-mail Address: Kyle_Littrell@xtoenergy.com	Conditions of Approval;	Attached										
Date: 5-24-2018 Phone: 432-221-7331	Based on the dates incl	-										
Attach Additional Sheets If Necessary	the report, the final C-1											
	the file date; this report											
	submitted prior to the ci											
	rules. This report was cunder the old rules.	ioseu										
	junder the old fules.											

ATTACHMENT 2 LABORATORY ANALYTICAL REPORT



Analytical Report 575582

for

LT Environmental, Inc.

Project Manager: Adrian Baker
Barney BEF Federal #001/30-015-26799

15-FEB-18

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142)

> Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-17-15), 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 (T104704400-17-13)
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)





15-FEB-18

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

Reference: XENCO Report No(s): 575582

Barney BEF Federal #001/30-015-26799

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) 575582. 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. 575582 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,

Jessica Kramer

fession Weamer

Odessa Laboratory Director

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

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Sample Cross Reference 575582



LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS1	S	02-06-18 08:33	6"	575582-001
SS2	S	02-06-18 08:35	6"	575582-002
SS3	S	02-06-18 08:37	6"	575582-003
SS4	S	02-06-18 08:40	6"	575582-004
SS5	S	02-06-18 08:42	6"	575582-005
SS6	S	02-06-18 08:45	6"	575582-006
SS7	S	02-06-18 08:47	6"	575582-007

CASE NARRATIVE

Page 16 of 38

Client Name: LT Environmental, Inc.

Project Name: Barney BEF Federal #001/30-015-26799

Project ID: Report Date: 15-FEB-18 Work Order Number(s): 575582 Date Received: 02/07/2018

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3040661 BTEX by EPA 8021B

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

Batch: LBA-3040874 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data

confirmed by re-analysis.

Samples affected are: 575582-007.

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



Certificate of Analysis Summary 575582

LT Environmental, Inc., Arvada, CO

Project Name: Barney BEF Federal #001/30-015-26799



Project Id: Contact:

Adrian Baker

Project Location: NM Date Received in Lab: Wed Feb-07-18 08:00 am

Report Date: 15-FEB-18

Project Manager: Jessica Kramer

	Lab Id:	575582-0	001	575582-0	002	575582-0	003	575582-0	004	575582-0	005	575582-0	006
Analysis Requested	Field Id:	SS1		SS2		SS3		SS4		SS5		SS6	
Anatysis Requested	Depth:	6"-		6"-		6"-		6"-		6"-		6"-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	,
	Sampled:	Feb-06-18	08:33	Feb-06-18 (Feb-06-18 08:35 Feb-06		08:37	Feb-06-18	08:40	Feb-06-18 (08:42	Feb-06-18	08:45
BTEX by EPA 8021B	Extracted:	Feb-09-18	08:00	Feb-09-18 (Feb-09-18 08:00		08:00	Feb-09-18 (08:00	Feb-09-18 (08:00	Feb-12-18	08:00
	Analyzed:	Feb-09-18	15:53	Feb-09-18	16:32	Feb-09-18	16:51	Feb-09-18	17:10	Feb-09-18	17:41	Feb-12-18	12:31
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.00339	0.00339
Toluene		< 0.0100			0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.00339	0.00339
Ethylbenzene		< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	0.0196	0.00339
m,p-Xylenes		< 0.0200	0.0200	< 0.0200	0.0200	< 0.0200	0.0200	< 0.0200	0.0200	< 0.0200	0.0200	< 0.00678	0.00678
o-Xylene		< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.00339	0.00339
Total Xylenes		< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.00339	0.00339
Total BTEX		< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	< 0.0100	0.0100	0.0196	0.00339
Inorganic Anions by EPA 300	Extracted:	Feb-14-18	10:00	Feb-14-18 10:00		Feb-14-18	10:00	Feb-14-18	10:00	Feb-14-18	10:00	Feb-14-18 10:00	
	Analyzed:	Feb-14-18	17:26	Feb-14-18	17:32	Feb-14-18	17:50	0 Feb-14-18 17:56		Feb-14-18 18:02)2 Feb-14-18 18:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		453	4.98	6.06	4.97	< 5.00	5.00	< 5.00	5.00	<4.94	4.94	< 5.00	5.00
TPH by SW8015 Mod	Extracted:	Feb-10-18	11:00	Feb-10-18	11:00	Feb-10-18	11:00	Feb-10-18 11:00		Feb-10-18 11:00		Feb-10-18	11:00
	Analyzed:	Feb-11-18	01:03	Feb-11-18 (01:24	Feb-11-18	01:44	Feb-11-18 (02:04	Feb-11-18 02:24		Feb-11-18	03:26
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		1970	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		232	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		2200	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	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 Odessa Laboratory Director



Adrian Baker

NM

Project Id:

Project Location:

Contact:

Certificate of Analysis Summary 575582

LT Environmental, Inc., Arvada, CO

Project Name: Barney BEF Federal #001/30-015-26799



Date Received in Lab: Wed Feb-07-18 08:00 am

Report Date: 15-FEB-18 Project Manager: Jessica Kramer

					1
	Lab Id:	575582-007			
Analysis Requested	Field Id:	SS7			
Anatysis Requested	Depth:	6"-			
	Matrix:	SOIL			
	Sampled:	Feb-06-18 08:47			
BTEX by EPA 8021B	Extracted:	Feb-12-18 08:00			
	Analyzed:	Feb-12-18 17:07			
	Units/RL:	mg/kg RL			
Benzene		< 0.00341 0.00341			
Toluene		< 0.00341 0.00341			
nylbenzene		< 0.00341 0.00341			
m,p-Xylenes		< 0.00683 0.00683			
o-Xylene		< 0.00341 0.00341			
Total Xylenes		< 0.00341 0.00341			
Total BTEX		< 0.00341 0.00341			
Inorganic Anions by EPA 300	Extracted:	Feb-14-18 10:00			
	Analyzed:	Feb-14-18 18:14			
	Units/RL:	mg/kg RL			
Chloride		<4.97 4.97			
TPH by SW8015 Mod	Extracted:	Feb-10-18 11:00			
	Analyzed:	Feb-11-18 03:49			
Units/RI		mg/kg RL			
oline Range Hydrocarbons (GRO)		<15.0 15.0			
esel Range Organics (DRO)		<15.0 15.0			
Oil Range Hydrocarbons (ORO)		<15.0 15.0			
Total TPH		<15.0 15.0			

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





LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

Matrix: Sample Id: SS₁

Soil

Date Received:02.07.18 08.00

Date Collected: 02.06.18 08.33

Sample Depth: 6"

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech:

Analyst:

% Moisture:

OJS

OJS

Lab Sample Id: 575582-001

02.14.18 10.00 Date Prep:

Basis:

Wet Weight

Seq Number: 3041039

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	453	4.98	mg/kg	02.14.18 17.26		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARMARM

02.10.18 11.00 Date Prep:

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	02.11.18 01.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	1970	15.0		mg/kg	02.11.18 01.03		1
Oil Range Hydrocarbons (ORO)	PHCG2835	232	15.0		mg/kg	02.11.18 01.03		1
Total TPH	PHC635	2200	15.0		mg/kg	02.11.18 01.03		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	95	%	70-135	02.11.18 01.03		
o-Terphenyl		84-15-1	77	%	70-135	02.11.18 01.03		



Certificate of Analytical Results 575582



LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

02.09.18 08.00

Sample Id: Matrix: Soil SS1

Date Received:02.07.18 08.00

Date Collected: 02.06.18 08.33

Sample Depth: 6"

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

% Moisture:

Tech: ALJ ALJ Analyst:

Basis: Wet Weight

Seq Number: 3040661

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0100	0.0100		mg/kg	02.09.18 15.53	U	1
Toluene	108-88-3	< 0.0100	0.0100		mg/kg	02.09.18 15.53	U	1
Ethylbenzene	100-41-4	< 0.0100	0.0100		mg/kg	02.09.18 15.53	U	1
m,p-Xylenes	179601-23-1	< 0.0200	0.0200		mg/kg	02.09.18 15.53	U	1
o-Xylene	95-47-6	< 0.0100	0.0100		mg/kg	02.09.18 15.53	U	1
Total Xylenes	1330-20-7	< 0.0100	0.0100		mg/kg	02.09.18 15.53	U	1
Total BTEX		< 0.0100	0.0100		mg/kg	02.09.18 15.53	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	88	%	80-120	02.09.18 15.53		
4-Bromofluorobenzene		460-00-4	108	%	80-120	02.09.18 15.53		

Date Prep:



Certificate of Analytical Results 575582



LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

Soil

Sample Id: SS₂

Date Collected: 02.06.18 08.35

Date Received:02.07.18 08.00

Sample Depth: 6"

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

OJS

% Moisture:

Tech: OJS

Analyst:

Tech:

Analyst:

02.14.18 10.00 Date Prep:

Basis: Wet Weight

Seq Number: 3041039

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.06	4.97	mg/kg	02.14.18 17.32		1

Matrix:

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

ARM

ARM

02.10.18 11.00 Date Prep:

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	02.11.18 01.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	02.11.18 01.24	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	02.11.18 01.24	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	02.11.18 01.24	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	100	%	70-135	02.11.18 01.24		
o-Terphenyl		84-15-1	101	%	70-135	02.11.18 01.24		





LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

Sample Id: SS₂

Matrix: Soil Date Received:02.07.18 08.00

Lab Sample Id: 575582-002 Date Collected: 02.06.18 08.35 Sample Depth: 6"

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

ALJ % Moisture:

ALJ Analyst: 02.09.18 08.00 Basis: Wet Weight Date Prep:

Seq Number: 3040661

Tech:

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0100	0.0100		mg/kg	02.09.18 16.32	U	1
Toluene	108-88-3	< 0.0100	0.0100		mg/kg	02.09.18 16.32	U	1
Ethylbenzene	100-41-4	< 0.0100	0.0100		mg/kg	02.09.18 16.32	U	1
m,p-Xylenes	179601-23-1	< 0.0200	0.0200		mg/kg	02.09.18 16.32	U	1
o-Xylene	95-47-6	< 0.0100	0.0100		mg/kg	02.09.18 16.32	U	1
Total Xylenes	1330-20-7	< 0.0100	0.0100		mg/kg	02.09.18 16.32	U	1
Total BTEX		< 0.0100	0.0100		mg/kg	02.09.18 16.32	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	81	%	80-120	02.09.18 16.32		
4-Bromofluorobenzene		460-00-4	111	%	80-120	02.09.18 16.32		





LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

Sample Id: SS3 Matrix: Soil

Date Received:02.07.18 08.00

Date Collected: 02.06.18 08.37

Sample Depth: 6"

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: OJS

Lab Sample Id: 575582-003

% Moisture:

Analyst: OJS

Date Prep: 02.14.18 10.00

Basis: Wet Weight

Seq Number: 3041039

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	< 5.00	5.00	mg/kg	02.14.18 17.50	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

Date Prep: 02.10.18 11.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	02.11.18 01.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	02.11.18 01.44	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	02.11.18 01.44	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	02.11.18 01.44	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	103	%	70-135	02.11.18 01.44		
o-Terphenyl		84-15-1	102	%	70-135	02.11.18 01.44		





Date Received:02.07.18 08.00

Wet Weight

Basis:

LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

02.09.18 08.00

Sample Id: SS3 Matrix: Soil

Lab Sample Id: 575582-003 Date Collected: 02.06.18 08.37 Sample Depth: 6"

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Date Prep:

Tech: ALJ % Moisture:

Seq Number: 3040661

Analyst:

ALJ

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0100	0.0100		mg/kg	02.09.18 16.51	U	1
Toluene	108-88-3	< 0.0100	0.0100		mg/kg	02.09.18 16.51	U	1
Ethylbenzene	100-41-4	< 0.0100	0.0100		mg/kg	02.09.18 16.51	U	1
m,p-Xylenes	179601-23-1	< 0.0200	0.0200		mg/kg	02.09.18 16.51	U	1
o-Xylene	95-47-6	< 0.0100	0.0100		mg/kg	02.09.18 16.51	U	1
Total Xylenes	1330-20-7	< 0.0100	0.0100		mg/kg	02.09.18 16.51	U	1
Total BTEX		< 0.0100	0.0100		mg/kg	02.09.18 16.51	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	105	%	80-120	02.09.18 16.51		
1.4-Difluorobenzene		540-36-3	84	%	80-120	02.09.18 16.51		



Certificate of Analytical Results 575582



LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

Soil

Matrix: Sample Id: SS4

Date Received:02.07.18 08.00

Date Collected: 02.06.18 08.40

Sample Depth: 6"

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

OJS

% Moisture:

Tech: OJS

Analyst:

Date Prep: 02.14.18 10.00 Basis:

Wet Weight

Seq Number: 3041039

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	< 5.00	5.00	mg/kg	02.14.18 17.56	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARMARM

02.10.18 11.00 Date Prep:

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	02.11.18 02.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	02.11.18 02.04	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	02.11.18 02.04	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	02.11.18 02.04	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	94	%	70-135	02.11.18 02.04		
o-Terphenyl		84-15-1	90	%	70-135	02.11.18 02.04		



Certificate of Analytical Results 575582



Date Received:02.07.18 08.00

LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

Sample Id: SS4 Matrix: Soil

Date Collected: 02.06.18 08.40 Sample Depth: 6"

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 02.09.18 08.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0100	0.0100		mg/kg	02.09.18 17.10	U	1
Toluene	108-88-3	< 0.0100	0.0100		mg/kg	02.09.18 17.10	U	1
Ethylbenzene	100-41-4	< 0.0100	0.0100		mg/kg	02.09.18 17.10	U	1
m,p-Xylenes	179601-23-1	< 0.0200	0.0200		mg/kg	02.09.18 17.10	U	1
o-Xylene	95-47-6	< 0.0100	0.0100		mg/kg	02.09.18 17.10	U	1
Total Xylenes	1330-20-7	< 0.0100	0.0100		mg/kg	02.09.18 17.10	U	1
Total BTEX		< 0.0100	0.0100		mg/kg	02.09.18 17.10	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	106	%	80-120	02.09.18 17.10		
1,4-Difluorobenzene		540-36-3	81	%	80-120	02.09.18 17.10		





LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

Sample Id: SS5 Matrix: Soil

Date Received:02.07.18 08.00

Date Collected: 02.06.18 08.42

Sample Depth: 6"

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Seq Number: 3041039

Analyst:

OJS

Lab Sample Id: 575582-005

02.14.18 10.00 Basis: Wet Weight

Parameter Cas Number Result RLUnits **Analysis Date** Flag Dil Chloride 16887-00-6 U 02.14.18 18.02 <4.94 4.94 mg/kg 1

Date Prep:

Analytical Method: TPH by SW8015 Mod

ARM

Prep Method: TX1005P

% Moisture:

Tech: ARM

Analyst:

Date Prep: 02.10.18 11.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	02.11.18 02.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	02.11.18 02.24	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	02.11.18 02.24	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	02.11.18 02.24	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	99	%	70-135	02.11.18 02.24		
o-Terphenyl		84-15-1	101	%	70-135	02.11.18 02.24		



SS5

ALJ

Certificate of Analytical Results 575582



Date Received:02.07.18 08.00

Wet Weight

Basis:

LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

Soil

02.09.18 08.00

Lab Sample Id: 575582-005 Date Collected: 02.06.18 08.42 Sample Depth: 6"

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Date Prep:

Matrix:

Tech: ALJ % Moisture:

Seq Number: 3040661

Sample Id:

Analyst:

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0100	0.0100		mg/kg	02.09.18 17.41	U	1
Toluene	108-88-3	< 0.0100	0.0100		mg/kg	02.09.18 17.41	U	1
Ethylbenzene	100-41-4	< 0.0100	0.0100		mg/kg	02.09.18 17.41	U	1
m,p-Xylenes	179601-23-1	< 0.0200	0.0200		mg/kg	02.09.18 17.41	U	1
o-Xylene	95-47-6	< 0.0100	0.0100		mg/kg	02.09.18 17.41	U	1
Total Xylenes	1330-20-7	< 0.0100	0.0100		mg/kg	02.09.18 17.41	U	1
Total BTEX		< 0.0100	0.0100		mg/kg	02.09.18 17.41	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	107	%	80-120	02.09.18 17.41		
1,4-Difluorobenzene		540-36-3	90	%	80-120	02.09.18 17.41		



Certificate of Analytical Results 575582



LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

Sample Id: SS6 Matrix: Soil

Date Received:02.07.18 08.00

Date Collected: 02.06.18 08.45

Sample Depth: 6"

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.14.18 10.00

Basis: W

F

Wet Weight

Seq Number: 3041039

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	< 5.00	5.00	mg/kg	02.14.18 18.08	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech:
Analyst:

ARM ARM

Date Prep: 02.10.18 11.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	02.11.18 03.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	02.11.18 03.26	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	02.11.18 03.26	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	02.11.18 03.26	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	95	%	70-135	02.11.18 03.26		
o-Terphenyl		84-15-1	96	%	70-135	02.11.18 03.26		



Certificate of Analytical Results 575582



LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

Sample Id: SS6 Matrix: Soil

Matrix: Soil Date Received:02.07.18 08.00
Date Collected: 02.06.18 08.45 Sample Depth: 6"

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 02.12.18 08.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00339	0.00339		mg/kg	02.12.18 12.31	U	1
Toluene	108-88-3	< 0.00339	0.00339		mg/kg	02.12.18 12.31	U	1
Ethylbenzene	100-41-4	0.0196	0.00339		mg/kg	02.12.18 12.31		1
m,p-Xylenes	179601-23-1	< 0.00678	0.00678		mg/kg	02.12.18 12.31	U	1
o-Xylene	95-47-6	< 0.00339	0.00339		mg/kg	02.12.18 12.31	U	1
Total Xylenes	1330-20-7	< 0.00339	0.00339		mg/kg	02.12.18 12.31	U	1
Total BTEX		0.0196	0.00339		mg/kg	02.12.18 12.31		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	81	%	80-120	02.12.18 12.31		
4-Bromofluorobenzene		460-00-4	104	%	80-120	02.12.18 12.31		



Certificate of Analytical Results 575582



LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

Soil

Matrix: Sample Id: SS7

Date Received:02.07.18 08.00

Date Collected: 02.06.18 08.47

Sample Depth: 6"

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: OJS % Moisture:

OJS Analyst:

Date Prep:

02.14.18 10.00

Basis:

Wet Weight

Seq Number: 3041039

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mø/kø	02.14.18.18.14	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst:

ARM ARM

02.10.18 11.00 Date Prep:

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	02.11.18 03.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	02.11.18 03.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	02.11.18 03.49	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	02.11.18 03.49	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	88	%	70-135	02.11.18 03.49		
o-Terphenyl		84-15-1	92	%	70-135	02.11.18 03.49		





LT Environmental, Inc., Arvada, CO

Barney BEF Federal #001/30-015-26799

Sample Id: SS7 Matrix: Soil

Matrix: Soil Date Received:02.07.18 08.00

Lab Sample Id: 575582-007 Date Collected: 02.06.18 08.47 Sample Depth: 6"

Prep Method: SW5030B

% Moisture:

Analyst: ALJ Date Prep: 02.12.18 08.00 Basis: Wet Weight

Seq Number: 3040874

Tech:

Analytical Method: BTEX by EPA 8021B

ALJ

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00341	0.00341		mg/kg	02.12.18 17.07	U	1
Toluene	108-88-3	< 0.00341	0.00341		mg/kg	02.12.18 17.07	U	1
Ethylbenzene	100-41-4	< 0.00341	0.00341		mg/kg	02.12.18 17.07	U	1
m,p-Xylenes	179601-23-1	< 0.00683	0.00683		mg/kg	02.12.18 17.07	U	1
o-Xylene	95-47-6	< 0.00341	0.00341		mg/kg	02.12.18 17.07	U	1
Total Xylenes	1330-20-7	< 0.00341	0.00341		mg/kg	02.12.18 17.07	U	1
Total BTEX		< 0.00341	0.00341		mg/kg	02.12.18 17.07	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	87	%	80-120	02.12.18 17.07		
4-Bromofluorobenzene		460-00-4	122	%	80-120	02.12.18 17.07	**	



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

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
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1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102 Tempe A7 85282	(602) 437 0330	

Flag

X

Analysis



MR

Spike

QC Summary 575582

LT Environmental, Inc.

Barney BEF Federal #001/30-015-26799

LCSD

LCSD

Limits

%RPD RPD Limit Units

Analytical Method: Inorganic Anions by EPA 300 E300P Prep Method: Seq Number: 3041039 Matrix: Solid Date Prep: 02.14.18

LCS

LCS Sample Id: 7639084-1-BKS LCSD Sample Id: 7639084-1-BSD MB Sample Id: 7639084-1-BLK LCS

Parameter Result Amount Result %Rec Date Result %Rec 02.14.18 11:32 Chloride < 5.00 250 274 110 273 109 90-110 0 20 mg/kg

Analytical Method: Inorganic Anions by EPA 300 E300P Prep Method:

Seq Number: 3041039 Matrix: Soil Date Prep: 02.14.18 Parent Sample Id: 575580-001 MS Sample Id: 575580-001 S MSD Sample Id: 575580-001 SD

Spike MS MS %RPD RPD Limit Units Parent **MSD MSD** Limits Analysis Flag **Parameter** Result Date Result Amount %Rec Result %Rec

Chloride 51.9 248 334 114 336 115 90-110 20 mg/kg 02.14.18 11:50

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Seq Number: 3041039 Matrix: Soil 02.14.18 Date Prep: MS Sample Id: 575581-005 S MSD Sample Id: 575581-005 SD Parent Sample Id: 575581-005

MS MS %RPD RPD Limit Units Parent Spike **MSD MSD** Limits Analysis Flag **Parameter** Result Date Result %Rec Amount Result %Rec

Chloride 9.77 249 303 118 314 122 90-110 4 20 02.14.18 17:14 X mg/kg

Analytical Method: TPH by SW8015 Mod TX1005P Prep Method:

Seq Number: 02.10.18 3040795 Matrix: Solid Date Prep: LCS Sample Id: 7638962-1-BKS LCSD Sample Id: 7638962-1-BSD MB Sample Id: 7638962-1-BLK

%RPD RPD Limit Units MB Spike LCS LCS Limits Analysis LCSD LCSD Flag **Parameter** Result %Rec Date Result Amount Result %Rec 02.10.18 21:55 Gasoline Range Hydrocarbons (GRO) 952 95 70-135 16 35 <15.0 1000 813 81 mg/kg 02.10.18 21:55 1090 109 929 70-135 16 35 Diesel Range Organics (DRO) 1000 93 <15.0 mg/kg

MB LCS LCSD MB LCS LCSD Limits Units Analysis **Surrogate** %Rec Flag %Rec Flag %Rec Flag Date 1-Chlorooctane 92 107 94 70-135 % 02.10.18 21:55 97 02.10.18 21:55 o-Terphenyl 99 112 70-135 %

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

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

LCS = Laboratory Control Sample A = Parent Result

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

Flag

Flag

Flag

02.09.18 09:03



Seq Number:

o-Xylene

QC Summary 575582

LT Environmental, Inc.

Barney BEF Federal #001/30-015-26799

Analytical Method: TPH by SW8015 Mod

3040795 Matrix: Soil

0.0996

TX1005P Prep Method:

Date Prep: 02.10.18

MS Sample Id: 575575-001 S MSD Sample Id: 575575-001 SD Parent Sample Id: 575575-001 Spike MS MS Limits %RPD RPD Limit Units Parent **MSD MSD** Analysis **Parameter**

Result Result Date Amount %Rec Result %Rec Gasoline Range Hydrocarbons (GRO) 02.10.18 22:55 <15.0 1000 978 98 990 99 70-135 35 mg/kg 1090 99 70-135 35 02.10.18 22:55 Diesel Range Organics (DRO) 1000 1100 100 103 mg/kg

MS MS **MSD MSD** Limits Units Analysis Surrogate Flag %Rec %Rec Flag Date 1-Chlorooctane 107 105 70-135 % 02 10 18 22:55 o-Terphenyl 111 107 70-135 % 02.10.18 22:55

Analytical Method: BTEX by EPA 8021B

< 0.00199

Prep Method: SW5030B Seq Number: 3040661 Matrix: Solid Date Prep: 02.09.18 LCS Sample Id: 7638881-1-BKS LCSD Sample Id: 7638881-1-BSD 7638881-1-BLK MB Sample Id:

%RPD RPD Limit Units LCS LCS MB Spike Limits Analysis **LCSD** LCSD **Parameter** Amount Date Result Result %Rec %Rec Result 0.0996 0.0878 02.09.18 09:03 Benzene < 0.00199 0.0819 82 88 70-130 7 35 mg/kg Toluene < 0.00199 0.0996 0.0873 88 0.0937 70-130 7 35 mg/kg 02.09.18 09:03 94 02.09.18 09:03 0.0980 98 107 71-129 9 35 Ethylbenzene < 0.00199 0.0996 0.107 mg/kg 70-135 35 02.09.18 09:03 m,p-Xylenes < 0.00398 0.199 0.192 96 0.208 104 8 mg/kg

MB MB LCS LCS LCSD LCSD Limits Units Analysis **Surrogate** %Rec Flag %Rec Flag Flag Date %Rec 1.4-Difluorobenzene 85 90 95 80-120 % 02.09.18 09:03 02.09.18 09:03 4-Bromofluorobenzene 106 109 119 80-120 %

96

0.103

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B Seq Number: 3040874 Matrix: Solid Date Prep: 02.12.18

0.0956

LCS Sample Id: 7639015-1-BKS LCSD Sample Id: 7639015-1-BSD MB Sample Id: 7639015-1-BLK

LCS LCS %RPD RPD Limit Units MB Spike LCSD LCSD Limits Analysis **Parameter** Amount Result %Rec Date Result Result %Rec 02.12.18 08:15 0.0994 0.0928 93 Benzene < 0.00199 0.0935 94 70-130 1 35 mg/kg Toluene < 0.00199 0.0994 0.0974 98 0.0987 99 70-130 1 35 02.12.18 08:15 mg/kg 02.12.18 08:15 Ethylbenzene < 0.00199 0.0994 0.108 109 0.110 110 71-129 2 35 mg/kg 02.12.18 08:15 < 0.00398 0.199 0.213 107 0.217 70-135 2 35 m,p-Xylenes 109 mg/kg 02.12.18 08:15 0.0994 0.105 71-133 35 o-Xylene < 0.00199 106 0.106 106 mg/kg

MB LCS LCSD MB LCS LCSD Limits Units Analysis **Surrogate** %Rec Flag %Rec Flag Flag Date %Rec 1,4-Difluorobenzene 83 89 85 80-120 % 02.12.18 08:15 4-Bromofluorobenzene 98 115 120 80-120 % 02.12.18 08:15

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

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

LCS = Laboratory Control Sample A = Parent Result

71-133

103

35

mg/kg

= MS/LCS Result

= MSD/LCSD Result

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

Flag X

Flag



Seq Number:

Parent Sample Id:

QC Summary 575582

LT Environmental, Inc.

Barney BEF Federal #001/30-015-26799

Analytical Method: BTEX by EPA 8021B

575581-002

3040661 Matrix: Soil MS Sample Id: 575581-002 S

SW5030B Prep Method:

Date Prep: 02.09.18 MSD Sample Id: 575581-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	I
Benzene	< 0.00200	0.100	0.0671	67	0.0704	70	70-130	5	35	mg/kg	02.09.18 09:39	
Toluene	< 0.00200	0.100	0.0711	71	0.0740	73	70-130	4	35	mg/kg	02.09.18 09:39	
Ethylbenzene	< 0.00200	0.100	0.0793	79	0.0821	81	71-129	3	35	mg/kg	02.09.18 09:39	
m,p-Xylenes	< 0.00401	0.200	0.155	78	0.161	80	70-135	4	35	mg/kg	02.09.18 09:39	
o-Xylene	< 0.00200	0.100	0.0783	78	0.0806	80	71-133	3	35	mg/kg	02.09.18 09:39	
				1 9 1	MS	MCT	MSI	о т	imite	Unite	Analysis	

MS Limits Units MSD **Surrogate** Flag %Rec Flag Date %Rec 83 81 02.09.18 09:39 1,4-Difluorobenzene 80-120 % 02.09.18 09:39 4-Bromofluorobenzene 109 113 80-120 %

Analytical Method: BTEX by EPA 8021B

SW5030B Prep Method: Seq Number: 3040874 Matrix: Soil Date Prep: 02.12.18 MS Sample Id: 575585-001 S MSD Sample Id: 575585-001 SD 575585-001 Parent Sample Id:

Spike MS %RPD RPD Limit Units MS Limits Analysis **Parent MSD MSD Parameter** Result Amount Result %Rec Date Result %Rec 02.12.18 09:00 70-130 Benzene < 0.00200 0.0998 0.0837 84 0.0842 84 1 35 mg/kg Toluene < 0.00200 0.0998 0.0878 88 0.0898 90 70-130 2 35 02.12.18 09:00 mg/kg 02.12.18 09:00 Ethylbenzene < 0.00200 0.0998 0.0959 96 0.0976 98 71-129 2 35 mg/kg < 0.00399 02.12.18 09:00 m,p-Xylenes 0.200 0.190 95 0.192 70-135 35 96 1 mg/kg 92 71-133 02.12.18 09:00 o-Xylene < 0.00200 0.0998 0.0920 0.096096 4 35 mg/kg

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		85		80-120	%	02.12.18 09:00
4-Bromofluorobenzene	116		115		80-120	%	02.12.18 09:00

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

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

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

CONDITIONS

Action 191134

CONDITIONS

Operator:	OGRID:
XTO PERMIAN OPERATING LLC.	373075
6401 HOLIDAY HILL ROAD	Action Number:
MIDLAND, TX 79707	191134
	Action Type:
	[IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created	Condition	Condition
Ву		Date
bhall	Closure approved. Based on the dates in the report, final C-141, and file date; this report was submitted to the OCD prior to the current version of the release rule (19.15.29 NMAC effective 8/14/2018). This release has been closed under the closure standards that were in place prior to 8/14/2018.	2/27/2023