

SITE INFORMATION

Report Type: Closure Report (RP No. Not Assigned)

General Site Information:

Site:	Federal USA L #006				
Company:	COG Operating LLC				
Section, Township and Range	Unit K	Sec. 14	T 19S	R 33 E	
Lease Number:	API No. 30-025-33902				
County:	Lea County				
GPS:	32.65821° N			103.63804° W	
Surface Owner:	Federal				
Mineral Owner:					
Directions:	Head West Hwy 62 turn North on Smith ranch road, head N for about 3.5M at intersection turn slight right NE, go 1M turn East and go .25M.				

Release Data:

Date Released:	6/1/2017
Type Release:	Oil
Source of Contamination:	Flowline
Fluid Released:	3bbbls
Fluids Recovered:	0 bbbls

Official Communication:

Name:	Robert McNeil	Ike Tavaréz
Company:	COG Operating, LLC	Tetra Tech
Address:	One Concho Center 600 W. Illinois Ave.	4000 N. Big Spring Ste 401
City:	Midland Texas, 79701	Midland, Texas
Phone number:	(432) 683-7443	(432) 687-8110
Fax:	(432) 684-7137	
Email:	rmcneil@conchoresources.com	Ike.Tavaréz@tetrattech.com

Ranking Criteria

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	
>100 ft.	0	150'
WellHead Protection:		
	Ranking Score	Site Data
Water Source <1,000 ft., Private <200 ft.	20	
Water Source >1,000 ft., Private >200 ft.	0	0
Surface Body of Water:		
	Ranking Score	Site Data
<200 ft.	20	
200 ft - 1,000 ft.	10	
>1,000 ft.	0	0
Total Ranking Score:		0

Acceptable Soil RRAL (mg/kg)		
Benzene	Total BTEX	TPH
10	50	5,000



APPROVED

By Olivia Yu at 8:50 am, Mar 13, 2018

September 25, 2017

NMOCD grants
closure to
nOY1715340682.

Ms. Olivia Yu
Environmental Engineer Specialist
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Closure Report for the COG Operating LLC, Federal USA L #006, Unit K, Section 14, Township 19 South, Range 33 East, Lea County, New Mexico. (RP number not assigned).

Mr. Yu:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC., (COG) to prepare a closure report for a spill at the Federal USA L #006, Unit K, Section 14, Township 19 South, Range 33 East, and Lea County, New Mexico. The spill site coordinates are N 32.65821 °, W 103.63804 °. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on June 1, 2017, and released approximately three (3) barrels of oil barrels due to a lighting strike on a poly flow line and none of the fluids were recovered. The release occurred on along the side of a lease road and migrated into the pasture. The release area measured approximately 95' x 5' in the pasture and 80' x 5' along the lease road. The initial C-141 form is included in Appendix A.

Groundwater

No water wells were listed within Section 14 on the New Mexico Office of the State Engineer's website. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in this area is approximately 150' below surface. The groundwater data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene,



ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

On August 16, 2017, COG personnel were onsite to evaluate and sample the release area. Two auger holes (AH-1 and AH-2) were installed in the release area to a total depth of 3.0' below surface. Soil samples could not be collected from the release area on the lease road due to the dense compacted soils. Additionally, sampling using a backhoe was not performed due to safety concerns for the traffic on the lease road. All collected samples were analyzed for TPH analysis by EPA Method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all of the samples collected showed TPH, benzene and total BTEX concentrations below the laboratory reporting limit. Additionally, the areas of auger holes (AH-1 and AH-2) did not show a significant chloride impact to the soils, with concentrations ranging from <16.0 mg/kg and 32.0 mg/kg.

Conclusion

Based on the laboratory results, COG requests closure of this spill issue. The final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment activities for this site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

A handwritten signature in blue ink, appearing to read 'Ike Tavarez'.

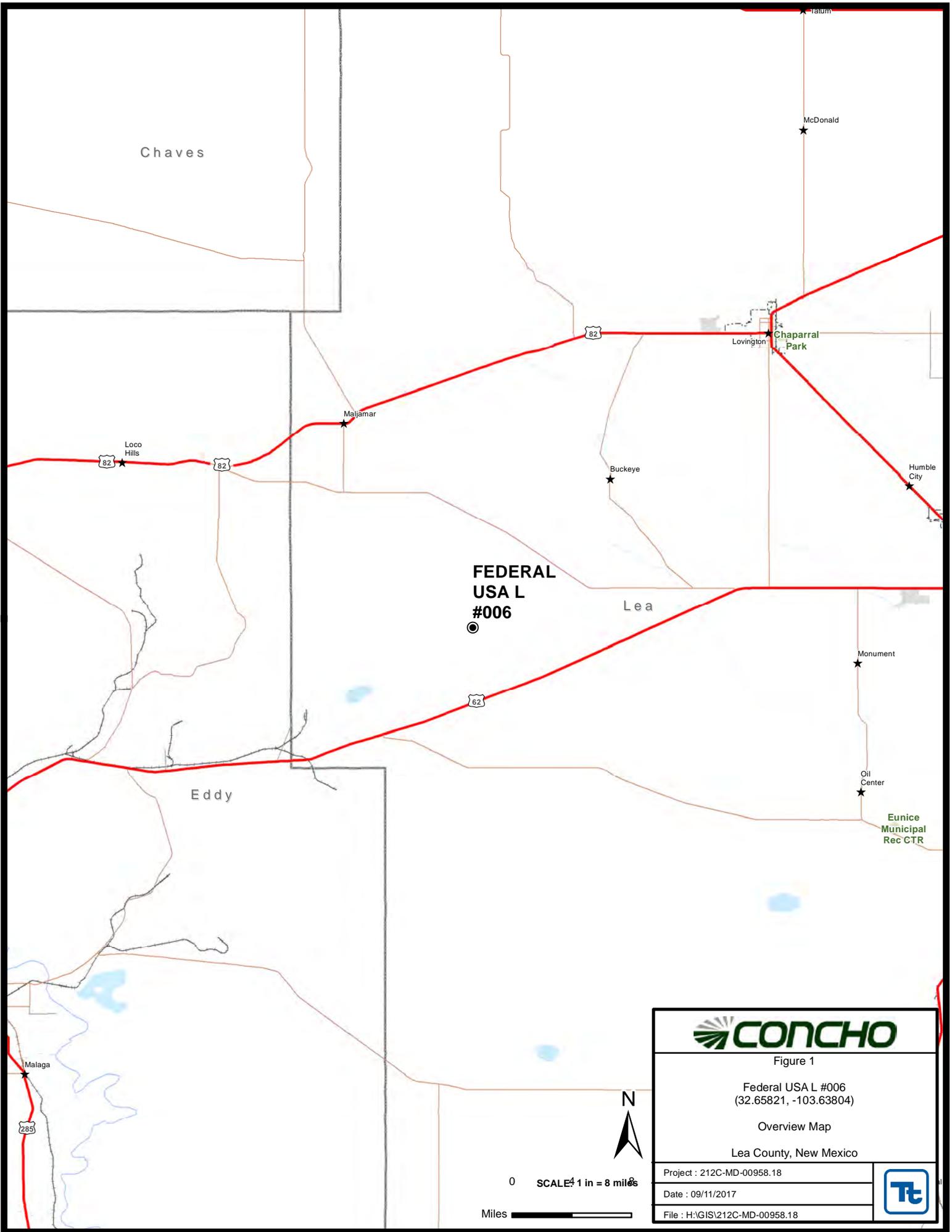
Ike Tavarez, PG
Senior Project Manager

A handwritten signature in blue ink, appearing to read 'Clair Gonzales'.

Clair Gonzales,
Geologist I

cc: Robert McNeill – COG
Dakota Neel – COG
Shelly Tucker – BLM

Figures



**FEDERAL
USA L
#006**



Figure 1

Federal USA L #006
(32.65821, -103.63804)

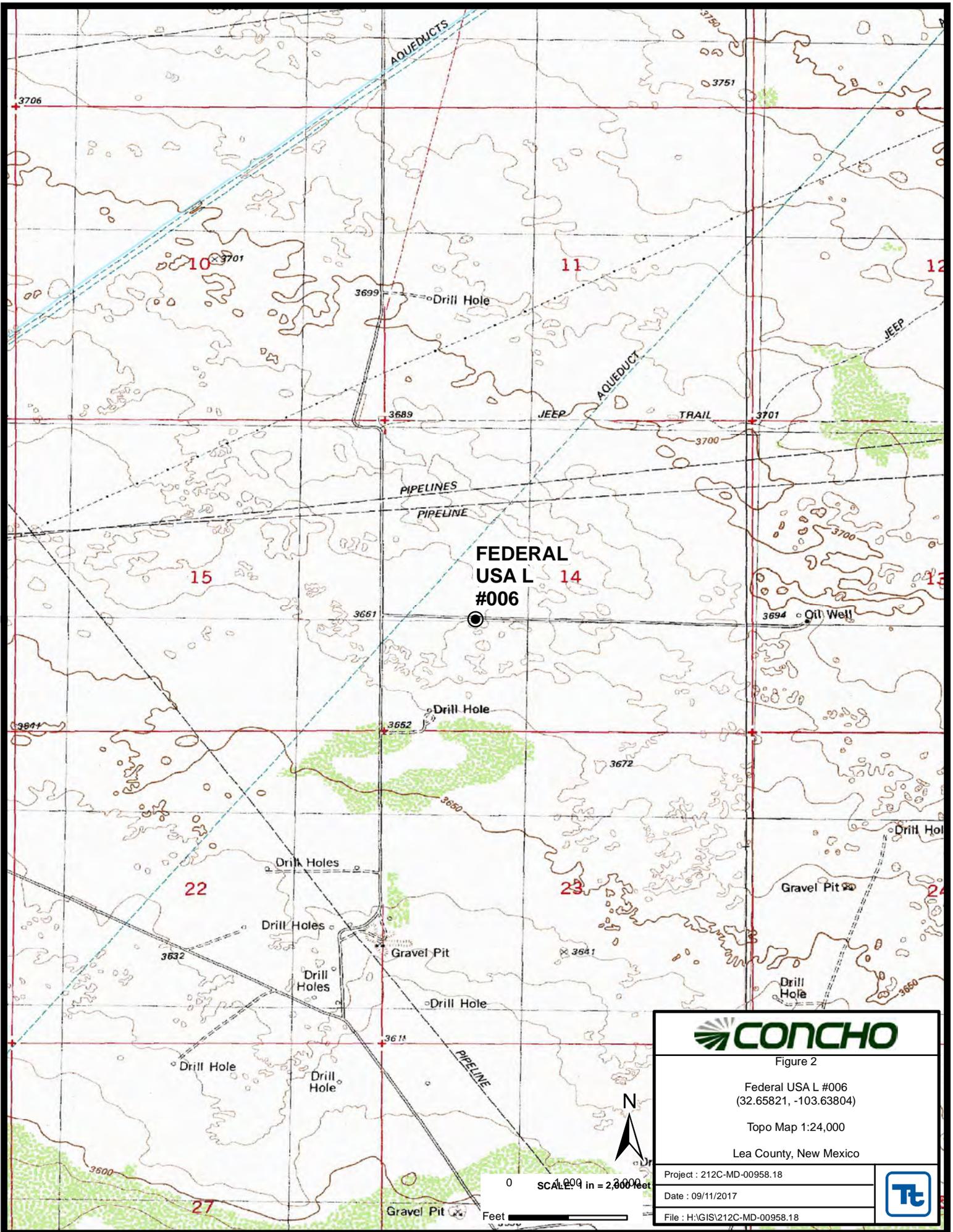
Overview Map

Lea County, New Mexico

Project : 212C-MD-00958.18
Date : 09/11/2017
File : H:\GIS\212C-MD-00958.18



0 SCALE 1 in = 8 miles
Miles



FEDERAL
USA L #006



Figure 2

Federal USA L #006
(32.65821, -103.63804)

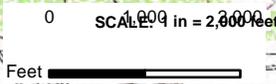
Topo Map 1:24,000

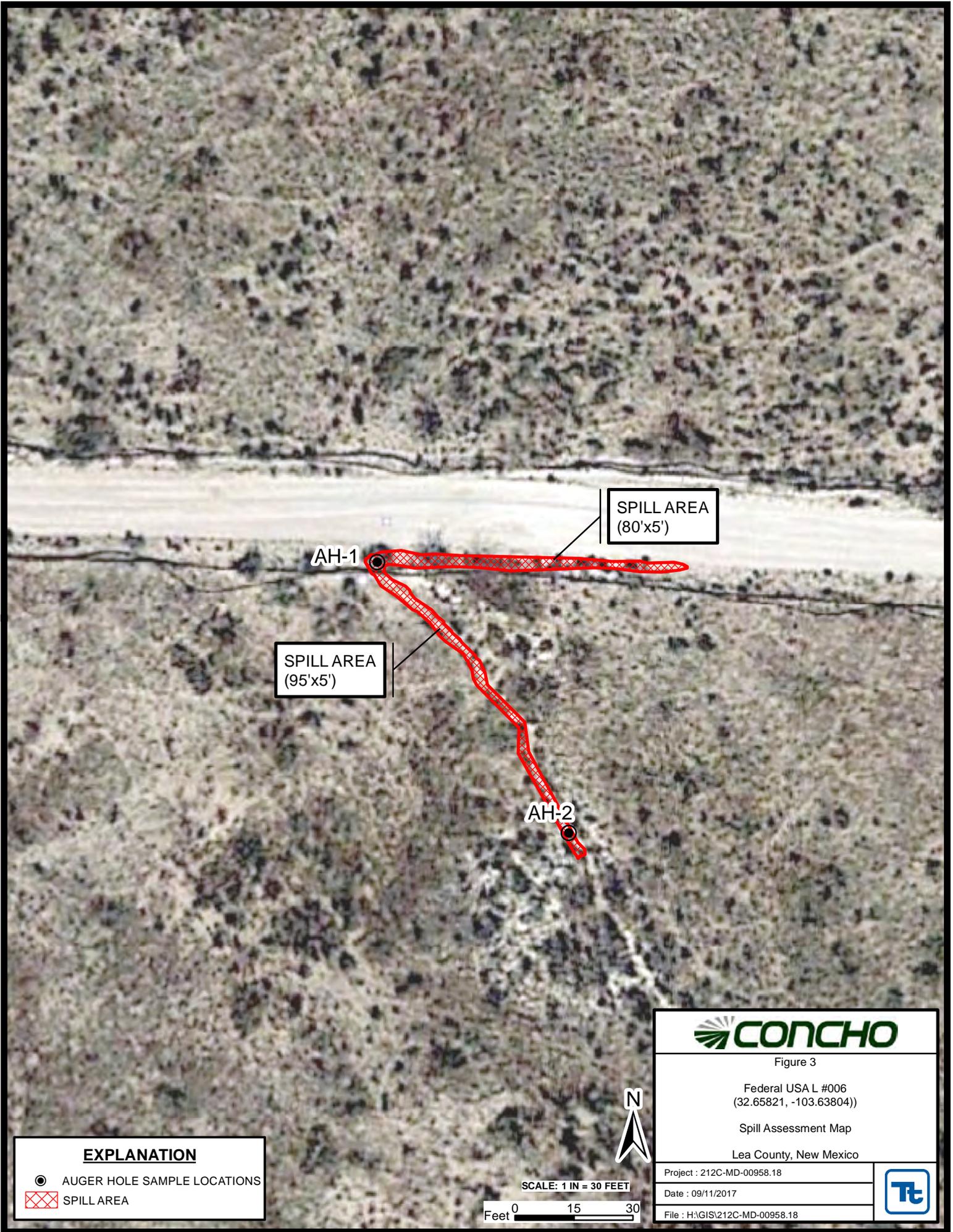
Lea County, New Mexico

Project : 212C-MD-00958.18

Date : 09/11/2017

File : H:\GIS\212C-MD-00958.18





AH-1

SPILL AREA
(80'x5')

SPILL AREA
(95'x5')

AH-2

EXPLANATION

- AUGER HOLE SAMPLE LOCATIONS
- ▣ SPILL AREA



Figure 3

Federal USA L #006
(32.65821, -103.63804)

Spill Assessment Map

Lea County, New Mexico

Project : 212C-MD-00958.18

Date : 09/11/2017

File : H:\GIS\212C-MD-00958.18



Tables

Table 1
COG Operating LLC.
Federal USA L#6
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	C6-C10	C10-C28	Total						
AH-1	8/16/2017	Surface	X		<10.0	<10.0	<10.0	<0.0500	<0.0500	<0.0500	<0.150	<0.300	16.0
	"	1	X		<10.0	<10.0	<10.0	<0.0500	<0.0500	<0.0500	<0.150	<0.300	<16.0
	"	2	X		<10.0	<10.0	<10.0	<0.0500	<0.0500	<0.0500	<0.150	<0.300	<16.0
	"	3	X		<10.0	<10.0	<10.0	<0.0500	<0.0500	<0.0500	<0.150	<0.300	<16.0
AH-2	8/16/2017	Surface	X		<10.0	<10.0	<10.0	<0.0500	<0.0500	<0.0500	<0.150	<0.300	16.0
	"	1	X		<10.0	<10.0	<10.0	<0.0500	<0.0500	<0.0500	<0.150	<0.300	32.0
	"	2	X		<10.0	<10.0	<10.0	<0.0500	<0.0500	<0.0500	<0.150	<0.300	16.0
	"	3	X		<10.0	<10.0	<10.0	<0.0500	<0.0500	<0.0500	<0.150	<0.300	16.0

Appendix A

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 August 8, 2011

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 Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company: COG Operating LLC OGRID # 229137	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-683-7443
Facility Name: Federal USA L #006	Facility Type: Flowline

Surface Owner: Federal	Mineral Owner:	API No. 30-025-33902
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	14	19S	33E	1650	South	330	West	Lea

Latitude 32.65821 Longitude -103.63804

NATURE OF RELEASE

Type of Release: Oil (Lightning Strike)	Volume of Release: Est. 3 bbls	Volume Recovered: 0 bbls
Source of Release: Flowline	Date and Hour of Occurrence: June 1, 2017 11:00 am	Date and Hour of Discovery: June 1, 2017 11:00 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Ms. Yu - NMOCD / Ms. Tucker - BLM	
By Whom? Rebecca Haskell	Date and Hour: June 2, 2017 Time of this Email	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

RECEIVED
By Olivia Yu at 11:35 am, Jun 02, 2017

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Lightning struck a poly flowline during a storm causing the release of fluid from the flowline and burned a section of the flowline. The section of flowline that was impacted during this event will be replaced.

Describe Area Affected and Cleanup Action Taken.*
The release was on the side of the lease road and within a pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to 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>Rebecca Haskell</i>	OIL CONSERVATION DIVISION	
Printed Name: Rebecca Haskell	Approved by Environmental Specialist: <i>ly</i>	
Title: Senior HSE Coordinator	Approval Date: 6/2/2017	Expiration Date:
E-mail Address: rhaskell@concho.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: June 2, 2017 Phone: 432-683-7443		

* Attach Additional Sheets If Necessary

nOY1715340682

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

use updated form
ver. April 2017

Form C-141
Revised October 10, 2003

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

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 COG Operating LLC	Contact Robert McNeil
Address 600 West Illinois Ave. Midland, Texas 79701	Telephone No. (432) 683-7443
Facility Name: Federal USA L #006	Facility Type Flowline

Surface Owner: Federal	Mineral Owner:	API No. 30-025-33902
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	14	19S	33E	1650'	South	330	West	Lea

Latitude N 32.65821° Longitude W 103.63804°

NATURE OF RELEASE

Type of Release: Oil (lighting strike)	Volume of Release 3 bbls	Volume Recovered: 0 bbls
Source of Release: flowline	Date and Hour of Occurrence June 1, 2017 11:00am	Date and Hour of Discovery June 1, 2017 11:00am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? MS. Yu-NMOCD/ Ms. Tucker-BLM	
By Whom? Rebecca Haskell	Date and Hour June 2, 2017	
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

APPROVED

By Olivia Yu at 8:54 am, Mar 13, 2018

Describe Cause of Problem and Remedial Action Taken.*

Lighting struck a poly flowline during a storm causing the release of fluid from the flowline and burned a section of the flowline. The section of the flowline impacted was replaced.

Describe Area Affected and Cleanup Action Taken.*

The area was along the side of the lease road and migrated into the pasture. A vacuum truck was dispatched to remove all freestanding liquids. Concho will inspect site and collect samples to define spill extent. Tetra Tech prepared closure report and submitted to NMOCD for review.

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: Ike Tavarez	Approved by: 	
Title: Project Manager	Approval Date: 3/13/2018	Expiration Date: xx/xx/xxxx
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 09/25/17 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

nOY1715340682

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Federal USA L #006
Lea County, New Mexico

18 South		32 East				
6	5	4	65	3	2	1
Maljamar						
7	460	8	9	10	11	12
82						
18	17	16	15	14	13	
		84				
19	20	21	22	23	24	
	164		429			
30	29	28	27	26	25	
31	32	33	34	35	36	
			117			

18 South		33 East				
6	5	4	3	2	1	
7	8	100	9	10	11	12
			62	46	140	143
18	17	16	15	14	13	
	85		36	60		
19	20	21	22	23	24	
>140					195	
30	29	28	27	26	25	
35						
31	32	33	34	35	36	
		177				

18 South		34 East				
6	5	4	3	2	1	
130	105		87	102	107	
7	8	9	10	11	12	115
83	148		148	110	92	
18	17	16	15	14	13	
125		108	110	103	96	
19	20	21	22	23	24	
105	125					
30	29	28	27	26	25	
			112		117	
31	32	33	34	35	36	
				118		

19 South		32 East				
6	5	4	3	2	1	
7	8	9	10	11	12	
	365					
18	17	16	15	14	13	135
						dry
19	20	21	22	23	24	
102	345					
30	29	28	27	26	25	
31	32	33	34	35	36	
			250			

19 South		33 East				
6	5	4	3	2	1	
7	8	9	10	11	12	
18	17	16	15	14	13	
340	116					
19	20	21	22	23	24	
30	29	28	130	27	26	92
			dry		85	
31	32	33	34	35	36	
	185					

19 South		34 East				
6	5	4	3	2	1	
244				100		
7	8	9	29	10	11	12
		28.6		123	60	
18	17	16	15	14	13	
19	20	21	22	23	24	
30	29	28	27	26	25	
					28	
31	32	33	34	35	36	
65						

20 South		32 East				
6	5	4	3	2	1	
					21.8	
7	8	9	10	11	12	
18	17	16	15	14	13	
89						
19	20	21	22	23	24	
30	29	28	27	26	25	
9.9			12.3			
31	32	33	34	35	36	
					46	

20 South		33 East				
6	5	4	3	2	1	
	325					
7	8	9	10	11	12	
	278					
18	17	16	15	14	13	
19	20	21	22	23	24	
					+300	
30	29	28	27	26	25	
31	32	33	34	35	36	

20 South		34 East				
6	5	4	3	2	1	
		125				
7	8	9	10	11	12	
18	17	128	16	15	14	13
	140			150		
19	20	21	22	23	24	
					270	
30	29	28	27	26	25	
31	32	33	34	82	35	36

- 88** New Mexico State Engineers Well Reports
- 105** USGS Well Reports
- 90** Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)
 Geology and Groundwater Resources of Eddy County, NM (Report 3)
- 34** NMOCD - Groundwater Data
- 123** Tetra Tech installed temporary wells and field water level
- 143** NMOCD Groundwater map well location



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Sub-basin	County	Q Q Q	6416 4 Sec	Tws	Rng	X	Y	DepthWell	DepthWater	Water Column
CP 00658 POD1	CP	LE		2 2 4	26 19S 33E				628857 3611125*	100		
CP 00805 POD1	CP	LE		3 1 18	19S 33E				621057 3614563*	450		
CP 00809 POD1	CP	LE		2 1 05	19S 33E				623048 3618206*	300		
CP 00810 POD1	CP	LE		3 3 08	19S 33E				622675 3615385*	110		
L 07023	L	LE		2 3 3 32	19S 33E				622840 3609047*	262	185	77

Average Depth to Water: **185 feet**

Minimum Depth: **185 feet**

Maximum Depth: **185 feet**

Record Count: 5

PLSS Search:

Township: 19S **Range:** 33E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

8/28/17 11:29 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Appendix C



August 30, 2017

AARON LIEB
COG OPERATING
P. O. BOX 1630
ARTESIA, NM 88210

RE: FEDERAL USA L #006

Enclosed are the results of analyses for samples received by the laboratory on 08/23/17 11:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 AARON LIEB
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 08/23/2017
 Reported: 08/30/2017
 Project Name: FEDERAL USA L #006
 Project Number: NONE GIVEN
 Project Location: FEDERAL USA L #006

 Sampling Date: 08/16/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: AH1-SURFACE (H702239-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/24/2017	ND	1.93	96.7	2.00	1.44	
Toluene*	<0.050	0.050	08/24/2017	ND	1.82	90.8	2.00	2.53	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	1.85	92.5	2.00	0.770	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.55	92.6	6.00	0.403	
Total BTEX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/25/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/24/2017	ND	183	91.7	200	3.29	
DRO >C10-C28	<10.0	10.0	08/24/2017	ND	204	102	200	3.25	

Surrogate: 1-Chlorooctane 88.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.2 % 34.7-157

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 AARON LIEB
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 08/23/2017
 Reported: 08/30/2017
 Project Name: FEDERAL USA L #006
 Project Number: NONE GIVEN
 Project Location: FEDERAL USA L #006

 Sampling Date: 08/16/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: AH1-1' (H702239-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/24/2017	ND	1.93	96.7	2.00	1.44	
Toluene*	<0.050	0.050	08/24/2017	ND	1.82	90.8	2.00	2.53	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	1.85	92.5	2.00	0.770	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.55	92.6	6.00	0.403	
Total BTEX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/25/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/24/2017	ND	183	91.7	200	3.29	
DRO >C10-C28	<10.0	10.0	08/24/2017	ND	204	102	200	3.25	

Surrogate: 1-Chlorooctane 87.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 AARON LIEB
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 08/23/2017
 Reported: 08/30/2017
 Project Name: FEDERAL USA L #006
 Project Number: NONE GIVEN
 Project Location: FEDERAL USA L #006

 Sampling Date: 08/16/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: AH1-2' (H702239-03)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/24/2017	ND	1.93	96.7	2.00	1.44		
Toluene*	<0.050	0.050	08/24/2017	ND	1.82	90.8	2.00	2.53		
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	1.85	92.5	2.00	0.770		
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.55	92.6	6.00	0.403		
Total BTEX	<0.300	0.300	08/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	08/25/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/24/2017	ND	183	91.7	200	3.29		
DRO >C10-C28	<10.0	10.0	08/24/2017	ND	204	102	200	3.25		

Surrogate: 1-Chlorooctane 92.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 103 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 AARON LIEB
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 08/23/2017
 Reported: 08/30/2017
 Project Name: FEDERAL USA L #006
 Project Number: NONE GIVEN
 Project Location: FEDERAL USA L #006

 Sampling Date: 08/16/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: AH1-3' (H702239-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/24/2017	ND	1.93	96.7	2.00	1.44	
Toluene*	<0.050	0.050	08/24/2017	ND	1.82	90.8	2.00	2.53	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	1.85	92.5	2.00	0.770	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.55	92.6	6.00	0.403	
Total BTEX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/25/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/24/2017	ND	183	91.7	200	3.29	
DRO >C10-C28	<10.0	10.0	08/24/2017	ND	204	102	200	3.25	

Surrogate: 1-Chlorooctane 95.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 105 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 AARON LIEB
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 08/23/2017
 Reported: 08/30/2017
 Project Name: FEDERAL USA L #006
 Project Number: NONE GIVEN
 Project Location: FEDERAL USA L #006

 Sampling Date: 08/16/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: AH2-SURFACE (H702239-05)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/24/2017	ND	1.93	96.7	2.00	1.44	
Toluene*	<0.050	0.050	08/24/2017	ND	1.82	90.8	2.00	2.53	
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	1.85	92.5	2.00	0.770	
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.55	92.6	6.00	0.403	
Total BTEX	<0.300	0.300	08/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/25/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/25/2017	ND	183	91.7	200	3.29	
DRO >C10-C28	<10.0	10.0	08/25/2017	ND	204	102	200	3.25	

Surrogate: 1-Chlorooctane 86.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 AARON LIEB
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 08/23/2017
 Reported: 08/30/2017
 Project Name: FEDERAL USA L #006
 Project Number: NONE GIVEN
 Project Location: FEDERAL USA L #006

 Sampling Date: 08/16/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: AH2-1' (H702239-06)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/24/2017	ND	1.93	96.7	2.00	1.44		
Toluene*	<0.050	0.050	08/24/2017	ND	1.82	90.8	2.00	2.53		
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	1.85	92.5	2.00	0.770		
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.55	92.6	6.00	0.403		
Total BTEX	<0.300	0.300	08/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/25/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/25/2017	ND	183	91.7	200	3.29		
DRO >C10-C28	<10.0	10.0	08/25/2017	ND	204	102	200	3.25		

Surrogate: 1-Chlorooctane 91.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 99.0 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 AARON LIEB
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 08/23/2017
 Reported: 08/30/2017
 Project Name: FEDERAL USA L #006
 Project Number: NONE GIVEN
 Project Location: FEDERAL USA L #006

 Sampling Date: 08/16/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: AH2-2' (H702239-07)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/24/2017	ND	1.93	96.7	2.00	1.44		
Toluene*	<0.050	0.050	08/24/2017	ND	1.82	90.8	2.00	2.53		
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	1.85	92.5	2.00	0.770		
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.55	92.6	6.00	0.403		
Total BTEX	<0.300	0.300	08/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/25/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/25/2017	ND	183	91.7	200	3.29		
DRO >C10-C28	<10.0	10.0	08/25/2017	ND	204	102	200	3.25		

Surrogate: 1-Chlorooctane 93.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 AARON LIEB
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 08/23/2017
 Reported: 08/30/2017
 Project Name: FEDERAL USA L #006
 Project Number: NONE GIVEN
 Project Location: FEDERAL USA L #006

 Sampling Date: 08/16/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: AH2-3' (H702239-08)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/24/2017	ND	1.93	96.7	2.00	1.44		
Toluene*	<0.050	0.050	08/24/2017	ND	1.82	90.8	2.00	2.53		
Ethylbenzene*	<0.050	0.050	08/24/2017	ND	1.85	92.5	2.00	0.770		
Total Xylenes*	<0.150	0.150	08/24/2017	ND	5.55	92.6	6.00	0.403		
Total BTEX	<0.300	0.300	08/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/25/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/25/2017	ND	183	91.7	200	3.29		
DRO >C10-C28	<10.0	10.0	08/25/2017	ND	204	102	200	3.25		

Surrogate: 1-Chlorooctane 98.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 107 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: COG Operating LLC
 Project Manager: Aaron Lieb
 Address: 2407 Pecos Avenue
 City: Artesia State: NM Zip: 88210
 Phone #: 575-748-1553 Fax #:
 Project #: Project Owner:
 Project Name: Federal USA L #006
 Project Location: Federal USA L #006
 Sampler Name: Aaron Lieb
 P.O. #:
 Company: COG Operating LLC
 Attn: Robert McNeill
 Address: 600 W Illinois
 City: Midland
 State: TX Zip: 79701
 Phone #: (432) 221-0388
 Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV			DATE	TIME	BTX	TPH	Chloride
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :					
H702239-	AH1-Surface			X									8/16/17	10:30AM	X	X	X
01	AH1-1'			X									8/16/17	10:30AM	X	X	X
02	AH1-2'			X									8/16/17	10:30AM	X	X	X
03	AH1-3'			X									8/16/17	10:30AM	X	X	X
04	AH2-Surface			X									8/16/17	10:45AM	X	X	X
05	AH2-1'			X									8/16/17	10:45AM	X	X	X
06	AH2-2'			X									8/16/17	10:45AM	X	X	X
07	AH2-3'			X									8/16/17	10:45AM	X	X	X
08																	

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Relinquished By: *[Signature]* Date: 8-23-17
 Received By: *[Signature]*
 Relinquished By: *[Signature]* Date: 11:35 am
 Received By: *[Signature]*
 Time:
 Sample Condition: Cool Intact Yes No
 Checked By: *[Signature]*

Delivered By: (Circle One) UPS Bus Other: 4.8' / *[Signature]*
 Temperature: 70.25°C
 Remarks: \$5050
 Phone Result: Yes No Add'l Phone #:
 Fax Result: Yes No Add'l Fax #:
 REMARKS: dneel2@concho.com
 aliebl@concho.com
 rgrubbs@concho.com
 thaskell@concho.com