APPROVED
By Olivia Yu at 9:28 am, Jul 23, 2018

NMOCD will consider vertical delineation completed for 1RP-4983. For proposed remediation, confirmation sidewall samples at no greater than 50 ft. intervals. East-1 sample point area needs to be addressed.

2M Environmental Services, LLC
1219 W. University Blvd.
Odessa, TX 79764

June 22, 2018

Olivia Yu
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 1
1625 N. French Drive
Hobbs, New Mexico 88240

Shelly Tucker
New Mexico Bureau of Land Management
620 E. Greene Street
Carlsbad, NM 88220
Stucker@blm.gov

Re: Soil Investigation Summary and Proposed Remediation Workplan
Roy Batty Federal Com #001H (1RP-4983)
GPS: N 32.225785° W 103.549489°
Unit Letter "M", Section 11, Township 24 South, Range 33 East, NMPM
Lea County, New Mexico

Dear Ms. Yu and Ms. Tucker,

2M Environmental Services, LLC. (2M), on behalf of Concho Operating, LLC. (Concho), has prepared this Soil Investigation Summary and Proposed Remediation Workplan (Workplan) for the Roy Batty Federal Com #001H Release (Release Site). The purpose of this Workplan is to propose remediation activities designed to advance the Roy Batty Federal Com #001H Release Site toward a New Mexico Oil and Conservation District (NMOCD) approved Site Closure Status. The legal description of the Release Site is Unit Letter "M", Section 11, Township 24 South, Range 33 East, in Lea County, New Mexico. The subject property is administered by the New Mexico U.S. Department of the Interior Bureau of Land Management (BLM). The GPS coordinates for the site are N 32.225785° W 103.549489°. A Site Location Map and Site Detail and Soil Sample Locations Map are provided as Figure 1 and Figure 2, respectively.

On February 28, 2018, a produced water release occurred on the Roy Batty Federal Com #001H polyline. The ball valve on the SWD line was discovered to be in the open position resulting in the

release. On March 2, 2018, Concho submitted a Release Notification and Corrective Action Form (Form C-141) to the NMOCD District 1 Office located in Hobbs, New Mexico and the release was assigned the incident number 1RP-4983. The release was reported as approximately fifteen (15) barrels of produced water released with approximately zero (0) barrels of produced water recovered, resulting in a net loss of approximately fifteen (15) barrels of produced water. A copy of the NMOCD Release Notification and Corrective Action Form C-141 is attached to this Workplan.

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) did not identify the average depth to groundwater information in Section 11, Township 24 South, Range 33 East. A reference map utilized by the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office indicates groundwater should be encountered at approximately seventy-five (75) feet below ground surface (bgs). Based on the NMOCD site classification system, ten (10) points will be assigned to the subject area ranking as a result of this criterion. No water wells were observed within one-thousand feet of the Release Site. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion. No surface water was observed within one thousand (1,000) feet of the release. Based on the NMOCD site classification system, ten (10) points will be assigned to the subject area ranking as a result of this criterion.

Based on the NMOCD Site Classification criteria, the Release Site remediation levels are 10 mg/Kg for benzene, 50 mg/Kg for benzene, toluene, ethylbenzene and xylenes (BTEX) and 1,000 mg/Kg for total petroleum hydrocarbons (TPH). Chloride remediation levels for the Release Site will be 600 mg/Kg, per NMOCD request.

On March 8, 2018, 2M, on behalf of Concho, utilized a hand auger and/or a backhoe to collect thirteen (14) delineation soil samples (T-1 @ 6", T-1 @ 1', T-1 @ 2', T-1 @ 3', T-1 @ 4', T-1 @ 5', T-1 @ 6', T-2 @ 6", T-2 @ 1', T-2 @ 2', T-2 @ 3', T-2 @ 4', and T-2 @ 5') from the impacted area. Please note that T-2 @ 5' was submitted to the lab twice by error. In addition to the soil samples described above, eight (8) soil samples (North-1 @ 6", North-1 @ 1', East-1 @ 6", East-1 @ 1', South-1 @ 6", South-1 @ 1', West-1 @ 6", and West-1 @ 1') were collected utilizing a hand auger and/or backhoe approximately five (5) feet from the outer perimeter of the stained surface soil. The soil samples were submitted to Permian Basin Environmental Laboratories in Midland, Texas for determination of concentrations of BTEX using Method SW 846-8021B, TPH using Method SW 846-8015M, and chloride using Method E-300.1. The analytical results are provided as an attachment (Table 1 Concentrations of Benzene, BTEX, TPH, and Chloride in Soil).

Based on the analytical results of the soil samples collected on March 8, 2018, Concho proposes the following field activities designed to remediate the Roy Batty Federal COM # 001H Release:

- Utilizing a backhoe, excavate the area represented by sample points T-1 and T-2 to four (4) feet bgs.
- A HDPE plastic liner will be installed at approximately four (4) feet bgs. Excavated soil will be stockpiled on a plastic liner adjacent to the excavation pending disposal.
- Due to the lease road and sample point East-1 being outside the release area, one confirmation sidewall sample will be collected from the east wall of the excavation.

- Concho will backfill the excavation with locally purchased non-impacted "like" soil or caliche. In addition, impacted soil will be transported under manifest to a NMOCD approved disposal facility.
- Prepare and submit a "Remediation Summary and Site Closure Request" to the NMOCD and BLM.

Concho is prepared to begin the activities outlined in this Proposed Remediation Workplan on NMOCD and BLM approval.

If you have any questions, or if additional information is required, please feel free to call me at 432-614-6793 (office) or 432-230-3763 (cell).

Thank you,

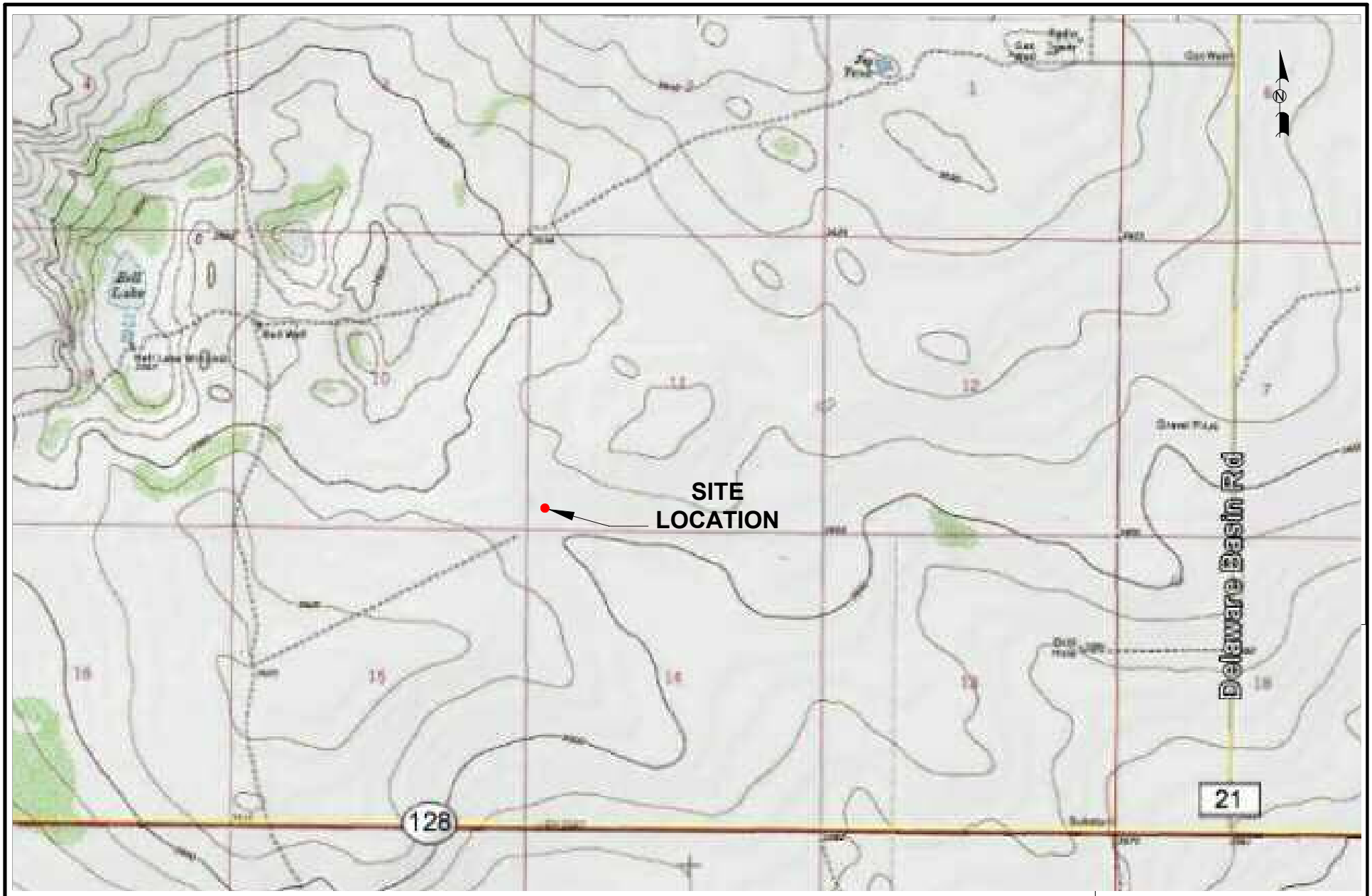
Matthew Green

Matthew Green, P.G.
President
2M Environmental Services, LLC.

Attachments:

Figure 1 - Site Location Map
Figure 2 - Site Detail and Soil Sample Location Map
Table 1 - Concentrations of Benzene, BTEX, TPH and Chloride in Soil
Laboratory Analytical Results
Release Notification and Corrective Action (Form C-141)

cc: File



LEGEND:

Native Grassland

2000 1000 0 1000 2000

Distance in Feet

Figure 1

Site Location Map

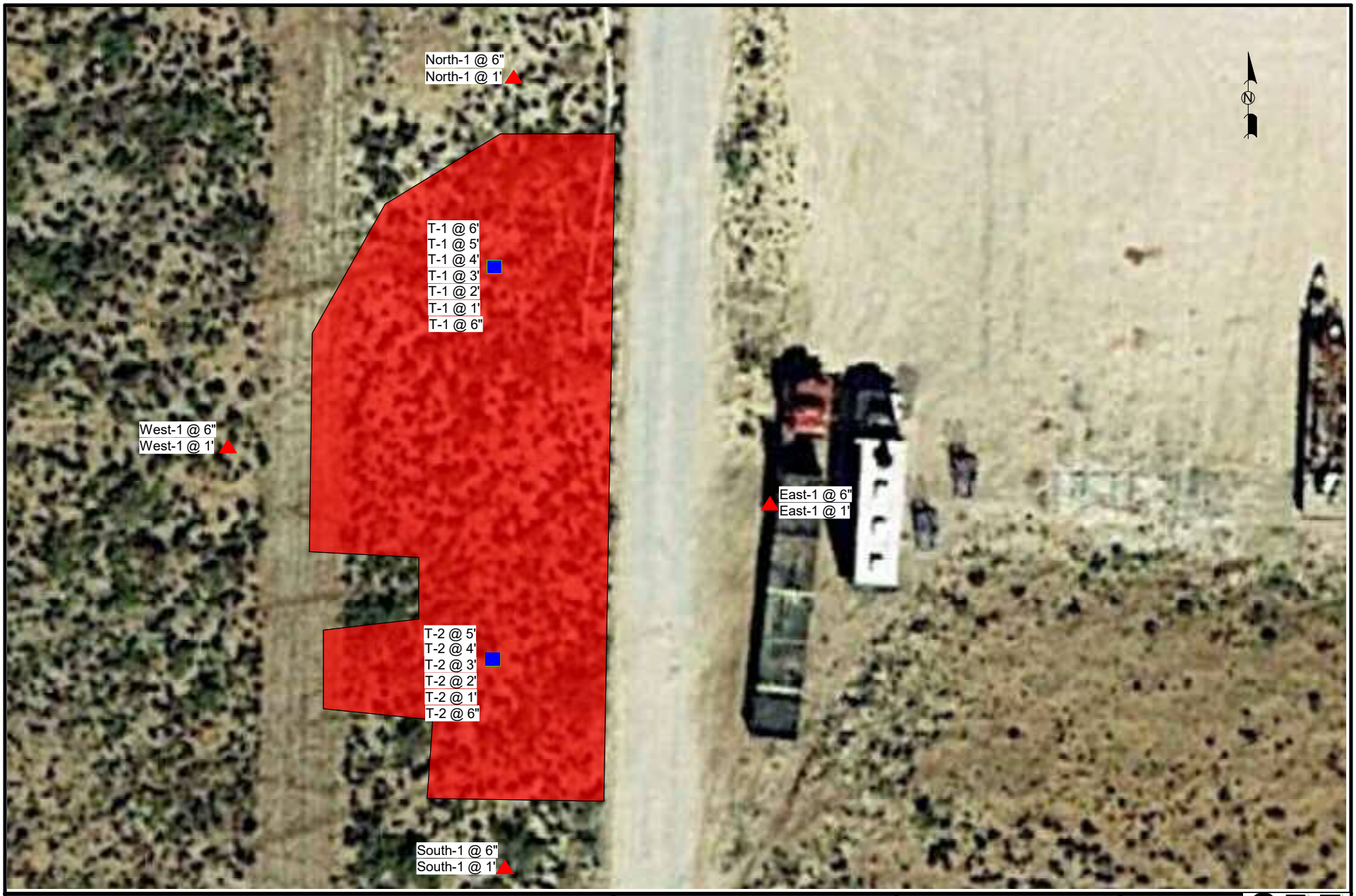
COG Operating LLC

Roy Batty Federal Com #1H

Lea County, TX

Scale: 1" = 2000'
CAD By: AR
Checked By: MG
Date: March 21, 2018
Lat. N 32.225503°, Long. W 103.550161°

2M Environmental Services, LLC



LEGEND:

- Excavate to four feet below ground surface
- Horizontal Delineation Soil Sample Location
- Vertical Soil Sample Location

25 12.5 0 12.5 25

Distance in Feet

Figure 2
Site Details &
Soil Sample Location Map
COG Operating LLC
Roy Batty Federal Com #1H
Lea County, TX

Scale: 1" = 25'
CAD By: AR
Checked By: MG
Draft: March 21, 2018
Lat. N 32.225503° Long. W 103.550161°

2M Environmental Services, LLC

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

CONCHO OPERATING, LLC

ROY BATTY FEDERAL COM #1H RELEASE SITE

LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8021B						METHOD: SW 8015M					E 300.1
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C_6-C_{12}	TPH DRO C_{12}-C_{28}	TPH ORO C_{28}-C_{35}	TOTAL TPH C_6-C_{35}	CHLORIDE
Limits		**10 mg/Kg**						**50 mg/Kg**				**5,000 mg/Kg**	**600**
East-1 @ 6"	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	522
East-1 @ 1'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**987**
T-1 @ 6"	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**9,630**
T-1 @ 1'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**7,490**
T-1 @ 2'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**8,490**
T-1 @ 3'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**4,800**
T-1 @ 4'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1,840**
T-1 @ 5'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**751**
T-1 @ 6'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	578
North-1 @ 6"	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.0
North-1 @ 1'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.13
West-1 @ 6"	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
West-1 @ 1'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
South-1 @ 6"	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
South-1 @ 1'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T-2 @ 6"	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**4,070**
T-2 @ 1'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2,750**
T-2 @ 2'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5,880**
T-2 @ 3'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**8,470**
T-2 @ 4'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**4,010**
T-2 @ 5'	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	162
T-2 @ 5'*	3/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	76.5

PERMIAN BASIN
ENVIRONMENTAL LAB, LP
1400 Rankin Hwy
Midland, TX 79701

PBELAB

Analytical Report

Prepared for:

Matt Green
2M Environmental Services, LLC.
1219 W. University Blvd.
Odessa, TEXAS 79764

Project: COG Tequiza Federal 001H
Project Number: [none]
Location: Eddy County, NM

Lab Order Number: 8C20016

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704516-17-8

Report Date: 04/13/18

2M Environmental Services, LLC.	Project: COG Tequiza Federal 001H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
South-1 @6"	8C20016-01	Soil	03/19/18 09:00	03-20-2018 15:10
North-1 @6"	8C20016-02	Soil	03/19/18 09:05	03-20-2018 15:10
Northwest-1 @6"	8C20016-03	Soil	03/19/18 09:10	03-20-2018 15:10
Southwest -2 @6"	8C20016-04	Soil	03/19/18 09:15	03-20-2018 15:10
Northeast -1 @6"	8C20016-05	Soil	03/19/18 09:20	03-20-2018 15:10
Southeast -2 @6"	8C20016-06	Soil	03/19/18 09:25	03-20-2018 15:10

South-1 @6"

8C20016-01 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.0204	mg/kg dry	20	P8C2014	03/20/18	03/21/18	EPA 8021B	
Toluene	ND	0.204	mg/kg dry	20	P8C2014	03/20/18	03/21/18	EPA 8021B	
Ethylbenzene	ND	0.102	mg/kg dry	20	P8C2014	03/20/18	03/21/18	EPA 8021B	
Xylene (p/m)	ND	0.408	mg/kg dry	20	P8C2014	03/20/18	03/21/18	EPA 8021B	
Xylene (o)	ND	0.204	mg/kg dry	20	P8C2014	03/20/18	03/21/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*114 %*	*75-125*		*P8C2014*	*03/20/18*	*03/21/18*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*84.3 %*	*75-125*		*P8C2014*	*03/20/18*	*03/21/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**15.2**	1.02	mg/kg dry	1	P8C2017	03/20/18	03/21/18	EPA 300.0	
% Moisture	**2.0**	0.1	%	1	P8C2102	03/21/18	03/21/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	25.5	mg/kg dry	1	P8C2015	03/20/18	03/20/18	TPH 8015M	
>C12-C28	ND	25.5	mg/kg dry	1	P8C2015	03/20/18	03/20/18	TPH 8015M	
>C28-C35	ND	25.5	mg/kg dry	1	P8C2015	03/20/18	03/20/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*77.1 %*	*70-130*		*P8C2015*	*03/20/18*	*03/20/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*82.2 %*	*70-130*		*P8C2015*	*03/20/18*	*03/20/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	03/20/18	03/20/18	calc	

2M Environmental Services, LLC.	Project: COG Tequiza Federal 001H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

North-1 @6''

8C20016-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00106	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Toluene	ND	0.0106	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Ethylbenzene	ND	0.00532	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Xylene (p/m)	ND	0.0213	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Xylene (o)	ND	0.0106	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*93.9 %*	*75-125*		*P8C2014*	*03/20/18*	*03/20/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*158 %*	*75-125*		*P8C2014*	*03/20/18*	*03/20/18*	*EPA 8021B*	*S-GC*
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1.38**	1.06	mg/kg dry	1	P8C2017	03/20/18	03/21/18	EPA 300.0	
% Moisture	**6.0**	0.1	%	1	P8C2102	03/21/18	03/21/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.6	mg/kg dry	1	P8C2015	03/20/18	03/20/18	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P8C2015	03/20/18	03/20/18	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P8C2015	03/20/18	03/20/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*82.9 %*	*70-130*		*P8C2015*	*03/20/18*	*03/20/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*89.8 %*	*70-130*		*P8C2015*	*03/20/18*	*03/20/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	03/20/18	03/20/18	calc	

2M Environmental Services, LLC.	Project: COG Tequiza Federal 001H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

Northwest-1 @6"

8C20016-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00109	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Toluene	ND	0.0109	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Ethylbenzene	ND	0.00543	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Xylene (p/m)	ND	0.0217	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Xylene (o)	ND	0.0109	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*163 %*	*75-125*		*P8C2014*	*03/20/18*	*03/20/18*	*EPA 8021B*	*S-GC*
Surrogate: 1,4-Difluorobenzene		*104 %*	*75-125*		*P8C2014*	*03/20/18*	*03/20/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**28.6**	1.09	mg/kg dry	1	P8C2018	03/20/18	03/21/18	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P8C2102	03/21/18	03/21/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.2	mg/kg dry	1	P8C2015	03/20/18	03/21/18	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P8C2015	03/20/18	03/21/18	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P8C2015	03/20/18	03/21/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*84.1 %*	*70-130*		*P8C2015*	*03/20/18*	*03/21/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*88.5 %*	*70-130*		*P8C2015*	*03/20/18*	*03/21/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	03/20/18	03/21/18	calc	

2M Environmental Services, LLC.	Project: COG Tequiza Federal 001H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

Southwest -2 @6"

8C20016-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00111	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Toluene	ND	0.0111	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Ethylbenzene	ND	0.00556	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Xylene (p/m)	ND	0.0222	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Xylene (o)	ND	0.0111	mg/kg dry	1	P8C2014	03/20/18	03/20/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*97.1 %*	*75-125*		*P8C2014*	*03/20/18*	*03/20/18*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*103 %*	*75-125*		*P8C2014*	*03/20/18*	*03/20/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**30.7**	1.11	mg/kg dry	1	P8C2018	03/20/18	03/21/18	EPA 300.0	
% Moisture	**10.0**	0.1	%	1	P8C2102	03/21/18	03/21/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P8C2015	03/20/18	03/21/18	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P8C2015	03/20/18	03/21/18	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P8C2015	03/20/18	03/21/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*74.9 %*	*70-130*		*P8C2015*	*03/20/18*	*03/21/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*78.0 %*	*70-130*		*P8C2015*	*03/20/18*	*03/21/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	03/20/18	03/21/18	calc	

2M Environmental Services, LLC.	Project: COG Tequiza Federal 001H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

Northeast -1 @6"

8C20016-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.0222	mg/kg dry	20	P8C2014	03/20/18	03/21/18	EPA 8021B	
Toluene	ND	0.222	mg/kg dry	20	P8C2014	03/20/18	03/21/18	EPA 8021B	
Ethylbenzene	ND	0.111	mg/kg dry	20	P8C2014	03/20/18	03/21/18	EPA 8021B	
Xylene (p/m)	ND	0.444	mg/kg dry	20	P8C2014	03/20/18	03/21/18	EPA 8021B	
Xylene (o)	ND	0.222	mg/kg dry	20	P8C2014	03/20/18	03/21/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*93.1 %*	*75-125*		*P8C2014*	*03/20/18*	*03/21/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*132 %*	*75-125*		*P8C2014*	*03/20/18*	*03/21/18*	*EPA 8021B*	*S-GC*
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**48.3**	1.11	mg/kg dry	1	P8C2018	03/20/18	03/21/18	EPA 300.0	
% Moisture	**10.0**	0.1	%	1	P8C2102	03/21/18	03/21/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P8C2015	03/20/18	03/21/18	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P8C2015	03/20/18	03/21/18	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P8C2015	03/20/18	03/21/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*78.1 %*	*70-130*		*P8C2015*	*03/20/18*	*03/21/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*82.0 %*	*70-130*		*P8C2015*	*03/20/18*	*03/21/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	03/20/18	03/21/18	calc	

2M Environmental Services, LLC.	Project: COG Tequiza Federal 001H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

Southeast -2 @6"

8C20016-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00111	mg/kg dry	1	P8C2014	03/20/18	03/21/18	EPA 8021B	
Toluene	ND	0.0111	mg/kg dry	1	P8C2014	03/20/18	03/21/18	EPA 8021B	
Ethylbenzene	**0.0150**	0.00556	mg/kg dry	1	P8C2014	03/20/18	03/21/18	EPA 8021B	
Xylene (p/m)	ND	0.0222	mg/kg dry	1	P8C2014	03/20/18	03/21/18	EPA 8021B	
Xylene (o)	ND	0.0111	mg/kg dry	1	P8C2014	03/20/18	03/21/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*89.3 %*	*75-125*		*P8C2014*	*03/20/18*	*03/21/18*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*76.7 %*	*75-125*		*P8C2014*	*03/20/18*	*03/21/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**234**	1.11	mg/kg dry	1	P8C2018	03/20/18	03/21/18	EPA 300.0	
% Moisture	**10.0**	0.1	%	1	P8C2102	03/21/18	03/21/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	27.8	mg/kg dry	1	P8C2015	03/20/18	03/21/18	TPH 8015M	
>C12-C28	ND	27.8	mg/kg dry	1	P8C2015	03/20/18	03/21/18	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P8C2015	03/20/18	03/21/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*79.1 %*	*70-130*		*P8C2015*	*03/20/18*	*03/21/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*82.3 %*	*70-130*		*P8C2015*	*03/20/18*	*03/21/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	03/20/18	03/21/18	calc	

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8C2014 - General Preparation (GC)										
Blank (P8C2014-BLK1)				Prepared & Analyzed: 03/20/18						
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.0100	"							
Ethylbenzene	ND	0.00500	"							
Xylene (p/m)	ND	0.0200	"							
Xylene (o)	ND	0.0100	"							
Surrogate: 1,4-Difluorobenzene	*0.0574*		*"*	*0.0600*		*95.6*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0780*		*"*	*0.0600*		*130*	*75-125*			*S-GC*
LCS (P8C2014-BS1)				Prepared & Analyzed: 03/20/18						
Benzene	0.102	0.00100	mg/kg wet	0.100		102	70-130			
Toluene	0.103	0.0100	"	0.100		103	70-130			
Ethylbenzene	0.111	0.00500	"	0.100		111	70-130			
Xylene (p/m)	0.220	0.0200	"				70-130			
Xylene (o)	0.118	0.0100	"				70-130			
Surrogate: 1,4-Difluorobenzene	*0.0592*		*"*	*0.0600*		*98.6*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0731*		*"*	*0.0600*		*122*	*75-125*			
LCS Dup (P8C2014-BSD1)				Prepared & Analyzed: 03/20/18						
Benzene	0.0920	0.00100	mg/kg wet	0.100		92.0	70-130	10.5	20	
Toluene	0.101	0.0100	"	0.100		101	70-130	2.11	20	
Ethylbenzene	0.109	0.00500	"	0.100		109	70-130	2.36	20	
Xylene (p/m)	0.210	0.0200	"				70-130		20	
Xylene (o)	0.119	0.0100	"				70-130		20	
Surrogate: 1,4-Difluorobenzene	*0.0597*		*"*	*0.0600*		*99.6*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0660*		*"*	*0.0600*		*110*	*75-125*			
Matrix Spike (P8C2014-MS1)	**Source: 8C20020-01**			Prepared: 03/20/18 Analyzed: 03/21/18						
Benzene	0.0689	0.00101	mg/kg dry	0.101	ND	68.2	80-120			QM-05
Toluene	0.0566	0.0101	"	0.101	ND	56.1	80-120			QM-05
Ethylbenzene	0.0530	0.00505	"	0.101	ND	52.5	80-120			QM-05
Xylene (p/m)	0.0883	0.0202	"		0.00225		80-120			
Xylene (o)	0.0408	0.0101	"		ND		80-120			
Surrogate: 1,4-Difluorobenzene	*0.0615*		*"*	*0.0606*		*102*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0661*		*"*	*0.0606*		*109*	*75-125*			

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8C2014 - General Preparation (GC)										
Matrix Spike Dup (P8C2014-MSD1)		**Source: 8C20020-01**		Prepared: 03/20/18 Analyzed: 03/21/18						
Benzene	0.0782	0.00101	mg/kg dry	0.101	ND	77.4	80-120	12.7	20	QM-05
Toluene	0.0724	0.0101	"	0.101	ND	71.7	80-120	24.4	20	QM-05
Ethylbenzene	0.0787	0.00505	"	0.101	ND	77.9	80-120	39.0	20	QM-05
Xylene (p/m)	0.133	0.0202	"		0.00225		80-120		20	
Xylene (o)	0.0687	0.0101	"		ND		80-120		20	
Surrogate: 1,4-Difluorobenzene	*0.0678*		*"*	*0.0606*		*112*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0703*		*"*	*0.0606*		*116*	*75-125*			

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8C2017 - * DEFAULT PREP *** **										
Blank (P8C2017-BLK1)				Prepared & Analyzed: 03/20/18						
Chloride	ND	1.00	mg/kg wet							
LCS (P8C2017-BS1)				Prepared & Analyzed: 03/20/18						
Chloride	415	1.00	mg/kg wet	400		104	80-120			
LCS Dup (P8C2017-BSD1)				Prepared & Analyzed: 03/20/18						
Chloride	414	1.00	mg/kg wet	400		103	80-120	0.290	20	
Duplicate (P8C2017-DUP1)		**Source: 8C16011-15**		Prepared & Analyzed: 03/20/18						
Chloride	622	1.09	mg/kg dry		614			1.18	20	
Duplicate (P8C2017-DUP2)		**Source: 8C20014-01**		Prepared: 03/20/18 Analyzed: 03/21/18						
Chloride	228	1.04	mg/kg dry		230			0.769	20	
Matrix Spike (P8C2017-MS1)		**Source: 8C16011-15**		Prepared & Analyzed: 03/20/18						
Chloride	1750	1.09	mg/kg dry	1090	614	105	80-120			
Batch P8C2018 - * DEFAULT PREP *** **										
Blank (P8C2018-BLK1)				Prepared: 03/20/18 Analyzed: 03/21/18						
Chloride	ND	1.00	mg/kg wet							
LCS (P8C2018-BS1)				Prepared: 03/20/18 Analyzed: 03/21/18						
Chloride	411	1.00	mg/kg wet	400		103	80-120			
LCS Dup (P8C2018-BSD1)				Prepared: 03/20/18 Analyzed: 03/21/18						
Chloride	406	1.00	mg/kg wet	400		101	80-120	1.15	20	

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8C2018 - * DEFAULT PREP *** **										
Duplicate (P8C2018-DUP1)	**Source: 8C20016-03**			Prepared: 03/20/18 Analyzed: 03/21/18						
Chloride	25.5	1.09	mg/kg dry		28.6			11.7	20	
Matrix Spike (P8C2018-MS1)	**Source: 8C20016-03**			Prepared: 03/20/18 Analyzed: 03/21/18						
Chloride	1100	1.09	mg/kg dry	1090	28.6	98.6	80-120			
Batch P8C2102 - * DEFAULT PREP *** **										
Blank (P8C2102-BLK1)				Prepared & Analyzed: 03/21/18						
% Moisture	ND	0.1	%							
Duplicate (P8C2102-DUP1)	**Source: 8C16011-13**			Prepared & Analyzed: 03/21/18						
% Moisture	9.0	0.1	%		9.0			0.00	20	
Duplicate (P8C2102-DUP2)	**Source: 8C20002-05**			Prepared & Analyzed: 03/21/18						
% Moisture	8.0	0.1	%		8.0			0.00	20	
Duplicate (P8C2102-DUP3)	**Source: 8C20008-02**			Prepared & Analyzed: 03/21/18						
% Moisture	13.0	0.1	%		12.0			8.00	20	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8C2015 - General Preparation (GC)										
Blank (P8C2015-BLK1)				Prepared & Analyzed: 03/20/18						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*76.8*		*"*	*100*		*76.8*	*70-130*			
Surrogate: o-Terphenyl	*40.2*		*"*	*50.0*		*80.4*	*70-130*			
LCS (P8C2015-BS1)				Prepared & Analyzed: 03/20/18						
C6-C12	1030	25.0	mg/kg wet	1000		103	75-125			
>C12-C28	933	25.0	"	1000		93.3	75-125			
Surrogate: 1-Chlorooctane	*113*		*"*	*100*		*113*	*70-130*			
Surrogate: o-Terphenyl	*47.0*		*"*	*50.0*		*94.0*	*70-130*			
LCS Dup (P8C2015-BSD1)				Prepared & Analyzed: 03/20/18						
C6-C12	1090	25.0	mg/kg wet	1000		109	75-125	5.04	20	
>C12-C28	986	25.0	"	1000		98.6	75-125	5.56	20	
Surrogate: 1-Chlorooctane	*115*		*"*	*100*		*115*	*70-130*			
Surrogate: o-Terphenyl	*52.6*		*"*	*50.0*		*105*	*70-130*			
Matrix Spike (P8C2015-MS1)	**Source: 8C20020-01**			Prepared: 03/20/18 Analyzed: 03/21/18						
C6-C12	1060	25.3	mg/kg dry	1010	13.0	103	75-125			
>C12-C28	1060	25.3	"	1010	24.0	102	75-125			
Surrogate: 1-Chlorooctane	*122*		*"*	*101*		*120*	*70-130*			
Surrogate: o-Terphenyl	*45.3*		*"*	*50.5*		*89.8*	*70-130*			
Matrix Spike Dup (P8C2015-MSD1)	**Source: 8C20020-01**			Prepared: 03/20/18 Analyzed: 03/21/18						
C6-C12	1080	25.3	mg/kg dry	1010	13.0	105	75-125	1.98	20	
>C12-C28	1060	25.3	"	1010	24.0	103	75-125	0.420	20	
Surrogate: 1-Chlorooctane	*126*		*"*	*101*		*124*	*70-130*			
Surrogate: o-Terphenyl	*53.6*		*"*	*50.5*		*106*	*70-130*			

Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
BULK	Samples received in Bulk soil containers
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Brent Barron Date: 4/13/2018

Brent Barron, Laboratory Director/Technical Director

PBELAB

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Permian Basin Environmental Lab, LP
10014 S. County Road 1213
Midland, Texas 79706

Phone: 432-661-4184

Project Manager: Matt Green

Company Name: 2M Environmental Services, LLC.

Company Address: 1219 W. University Blvd.

City/State/Zip: Odessa, Texas 79764

Telephone No: (432)230-3763 Fax No:

Sampler Signature: Matthew Green e-mail: mgreen@2m-environmental.com

Project Name: COG Tequiza Federal #001H

Project #:

Project Loc: Eddy County, NM

PO #:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only) ORDER #: 8C20016

(lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M 8015B	TOTAL: TPH: TX 1005 Ext TX 1008	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides E 300		RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	South-1 @ 6"			3/19/2018	900		1	x									S		X								X			X		X	
	North-1 @ 6'			3/19/2018	905		1	x									S		X								X			X		X	
	Northwest -1 @ 6"			3/19/2018	910		1	x									S		X								X			X		X	
	Southwest -2 @ 6"			3/19/2018	915		1	x									S		X								X			X		X	
	Northeast -1 @ 6"			3/19/2018	920		1	x									S		X								X			X		X	
	Southeast -2 @ 6"			3/19/2018	925		1	x									S		X								X			X		X	

Additional Instructions: Charge rush charges to 2M

Relinquished by:	Date	Time	Received by:	Date	Time
Matthew Green	3-2018	14:11		3/20/18	14:11
	3/20/18		Received by:	Date	Time
Relinquished by:	Date	Time	Received by PBEL:	Date	Time
				3/20/18	15:11

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt:
Received: °C
Adjusted: °C Factor 0.5

PERMIAN BASIN
ENVIRONMENTAL LAB, LP
1400 Rankin Hwy
Midland, TX 79701

PBELAB

Analytical Report

Prepared for:

Matt Green

2M Environmental Services, LLC.

1219 W. University Blvd.

Odessa, TEXAS 79764

Project: COG Roy Batty Federal COM 1H

Project Number: [none]

Location: Lea County NM

Lab Order Number: 8C27003

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704516-17-8

Report Date: 04/03/18

2M Environmental Services, LLC.	Project: COG Roy Batty Federal COM 1H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T-1@1'	8C27003-01	Soil	03/08/17 09:23	03-27-2018 16:35
T-1@2'	8C27003-02	Soil	03/08/17 09:31	03-27-2018 16:35
T-1 @3'	8C27003-03	Soil	03/08/17 09:48	03-27-2018 16:35
T-1 @ 4'	8C27003-04	Soil	03/08/17 10:03	03-27-2018 16:35
T-1@5'	8C27003-05	Soil	03/08/17 10:12	03-27-2018 16:35
T-2@1'	8C27003-06	Soil	03/08/17 11:15	03-27-2018 16:35
T-2@2'	8C27003-07	Soil	03/08/17 11:20	03-27-2018 16:35
T-2@3'	8C27003-08	Soil	03/08/17 11:25	03-27-2018 16:35
T-2@4'	8C27003-09	Soil	03/08/17 11:32	03-27-2018 16:35
T-2@5'	8C27003-10	Soil	03/08/17 11:44	03-27-2018 16:35

T-1@1'

8C27003-01 (Soil)

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00102	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Toluene	ND	0.0102	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Ethylbenzene	ND	0.00510	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (p/m)	ND	0.0204	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (o)	ND	0.0102	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*111 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*96.1 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**7490**	25.5	mg/kg dry	25	P8D0202	04/02/18	04/03/18	EPA 300.0	
% Moisture	**2.0**	0.1	%	1	P8C2905	03/29/18	03/29/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	25.5	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
>C12-C28	ND	25.5	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
>C28-C35	ND	25.5	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*81.9 %*	*70-130*		*P8C2802*	*03/28/18*	*03/28/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*88.6 %*	*70-130*		*P8C2802*	*03/28/18*	*03/28/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	03/28/18	03/28/18	calc	

2M Environmental Services, LLC.	Project: COG Roy Batty Federal COM 1H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

T-1@2'

8C27003-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00112	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Toluene	ND	0.0112	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Ethylbenzene	ND	0.00562	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (p/m)	ND	0.0225	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (o)	ND	0.0112	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*117 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*87.7 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**8490**	28.1	mg/kg dry	25	P8D0202	04/02/18	04/03/18	EPA 300.0	
% Moisture	**11.0**	0.1	%	1	P8C2905	03/29/18	03/29/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.1	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
>C12-C28	ND	28.1	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*81.2 %*	*70-130*		*P8C2802*	*03/28/18*	*03/28/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*87.5 %*	*70-130*		*P8C2802*	*03/28/18*	*03/28/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	28.1	mg/kg dry	1	[CALC]	03/28/18	03/28/18	calc	

2M Environmental Services, LLC.	Project: COG Roy Batty Federal COM 1H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

T-1 @3'

8C27003-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00125	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Toluene	ND	0.0125	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Ethylbenzene	ND	0.00625	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (p/m)	ND	0.0250	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (o)	ND	0.0125	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*86.5 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*114 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**4800**	31.2	mg/kg dry	25	P8D0202	04/02/18	04/03/18	EPA 300.0	
% Moisture	**20.0**	0.1	%	1	P8C2905	03/29/18	03/29/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	31.2	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
>C12-C28	ND	31.2	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
>C28-C35	ND	31.2	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*93.6 %*	*70-130*		*P8C2802*	*03/28/18*	*03/28/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*101 %*	*70-130*		*P8C2802*	*03/28/18*	*03/28/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	31.2	mg/kg dry	1	[CALC]	03/28/18	03/28/18	calc	

2M Environmental Services, LLC.	Project: COG Roy Batty Federal COM 1H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

T-1 @ 4'

8C27003-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00115	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Toluene	ND	0.0115	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Ethylbenzene	ND	0.00575	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (p/m)	ND	0.0230	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (o)	ND	0.0115	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*109 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*124 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**1840**	5.75	mg/kg dry	5	P8D0202	04/02/18	04/03/18	EPA 300.0	
% Moisture	**13.0**	0.1	%	1	P8C2905	03/29/18	03/29/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.7	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
>C12-C28	ND	28.7	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
>C28-C35	ND	28.7	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*88.5 %*	*70-130*		*P8C2802*	*03/28/18*	*03/28/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*94.1 %*	*70-130*		*P8C2802*	*03/28/18*	*03/28/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	28.7	mg/kg dry	1	[CALC]	03/28/18	03/28/18	calc	

2M Environmental Services, LLC.	Project: COG Roy Batty Federal COM 1H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

T-1@5'

8C27003-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00114	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Toluene	ND	0.0114	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Ethylbenzene	ND	0.00568	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (p/m)	ND	0.0227	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (o)	ND	0.0114	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*123 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*108 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**751**	5.68	mg/kg dry	5	P8D0202	04/02/18	04/03/18	EPA 300.0	
% Moisture	**12.0**	0.1	%	1	P8C2905	03/29/18	03/29/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	28.4	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
>C12-C28	ND	28.4	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
>C28-C35	ND	28.4	mg/kg dry	1	P8C2802	03/28/18	03/28/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*87.1 %*	*70-130*		*P8C2802*	*03/28/18*	*03/28/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*93.3 %*	*70-130*		*P8C2802*	*03/28/18*	*03/28/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	28.4	mg/kg dry	1	[CALC]	03/28/18	03/28/18	calc	

2M Environmental Services, LLC.	Project: COG Roy Batty Federal COM 1H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

T-2@1'

8C27003-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00118	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Toluene	ND	0.0118	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Ethylbenzene	ND	0.00588	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (p/m)	ND	0.0235	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (o)	ND	0.0118	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*121 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*98.8 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**2750**	11.8	mg/kg dry	10	P8D0202	04/02/18	04/03/18	EPA 300.0	
% Moisture	**15.0**	0.1	%	1	P8C2905	03/29/18	03/29/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.4	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
>C12-C28	ND	29.4	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
>C28-C35	ND	29.4	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*91.3 %*	*70-130*		*P8C2802*	*03/28/18*	*03/29/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*98.3 %*	*70-130*		*P8C2802*	*03/28/18*	*03/29/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	29.4	mg/kg dry	1	[CALC]	03/28/18	03/29/18	calc	

2M Environmental Services, LLC.	Project: COG Roy Batty Federal COM 1H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

T-2@2'

8C27003-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00128	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Toluene	ND	0.0128	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Ethylbenzene	ND	0.00641	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (p/m)	ND	0.0256	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (o)	ND	0.0128	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*88.3 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*111 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**5880**	32.1	mg/kg dry	25	P8D0202	04/02/18	04/03/18	EPA 300.0	
% Moisture	**22.0**	0.1	%	1	P8C2905	03/29/18	03/29/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	32.1	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
>C12-C28	ND	32.1	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
>C28-C35	ND	32.1	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*96.4 %*	*70-130*		*P8C2802*	*03/28/18*	*03/29/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*105 %*	*70-130*		*P8C2802*	*03/28/18*	*03/29/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	32.1	mg/kg dry	1	[CALC]	03/28/18	03/29/18	calc	

2M Environmental Services, LLC.	Project: COG Roy Batty Federal COM 1H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

T-2@3'

8C27003-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00118	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Toluene	ND	0.0118	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Ethylbenzene	ND	0.00588	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (p/m)	ND	0.0235	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (o)	ND	0.0118	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		*135 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
Surrogate: 1,4-Difluorobenzene		*106 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**8470**	29.4	mg/kg dry	25	P8D0202	04/02/18	04/03/18	EPA 300.0	
% Moisture	**15.0**	0.1	%	1	P8C2905	03/29/18	03/29/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	29.4	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
>C12-C28	ND	29.4	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
>C28-C35	ND	29.4	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*91.0 %*	*70-130*		*P8C2802*	*03/28/18*	*03/29/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*98.1 %*	*70-130*		*P8C2802*	*03/28/18*	*03/29/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	29.4	mg/kg dry	1	[CALC]	03/28/18	03/29/18	calc	

2M Environmental Services, LLC.	Project: COG Roy Batty Federal COM 1H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

T-2@4'

8C27003-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00141	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Toluene	ND	0.0141	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Ethylbenzene	ND	0.00704	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (p/m)	ND	0.0282	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (o)	ND	0.0141	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*103 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*132 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**4010**	14.1	mg/kg dry	10	P8D0202	04/02/18	04/03/18	EPA 300.0	
% Moisture	**29.0**	0.1	%	1	P8C2905	03/29/18	03/29/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	35.2	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
>C12-C28	ND	35.2	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
>C28-C35	ND	35.2	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*90.0 %*	*70-130*		*P8C2802*	*03/28/18*	*03/29/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*97.4 %*	*70-130*		*P8C2802*	*03/28/18*	*03/29/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	35.2	mg/kg dry	1	[CALC]	03/28/18	03/29/18	calc	

2M Environmental Services, LLC.	Project: COG Roy Batty Federal COM 1H	Fax:
1219 W. University Blvd.	Project Number: [none]	
Odessa TEXAS, 79764	Project Manager: Matt Green	

T-2@5'

8C27003-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
Organics by GC									
Benzene	ND	0.00120	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Toluene	ND	0.0120	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Ethylbenzene	ND	0.00602	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (p/m)	ND	0.0241	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Xylene (o)	ND	0.0120	mg/kg dry	1	P8C2803	03/28/18	03/28/18	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*101 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*143 %*	*75-125*		*P8C2803*	*03/28/18*	*03/28/18*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**76.5**	1.20	mg/kg dry	1	P8D0202	04/02/18	04/03/18	EPA 300.0	
% Moisture	**17.0**	0.1	%	1	P8C2905	03/29/18	03/29/18	ASTM D2216	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	30.1	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
>C12-C28	ND	30.1	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
>C28-C35	ND	30.1	mg/kg dry	1	P8C2802	03/28/18	03/29/18	TPH 8015M	
Surrogate: 1-Chlorooctane		*92.0 %*	*70-130*		*P8C2802*	*03/28/18*	*03/29/18*	*TPH 8015M*	
Surrogate: o-Terphenyl		*99.6 %*	*70-130*		*P8C2802*	*03/28/18*	*03/29/18*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	30.1	mg/kg dry	1	[CALC]	03/28/18	03/29/18	calc	

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8C2803 - General Preparation (GC)										
Blank (P8C2803-BLK1)				Prepared & Analyzed: 03/28/18						
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.0100	"							
Ethylbenzene	ND	0.00500	"							
Xylene (p/m)	ND	0.0200	"							
Xylene (o)	ND	0.0100	"							
Surrogate: 1,4-Difluorobenzene	*0.0539*		*"*	*0.0600*		*89.8*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0660*		*"*	*0.0600*		*110*	*75-125*			
LCS (P8C2803-BS1)				Prepared & Analyzed: 03/28/18						
Benzene	0.103	0.00100	mg/kg wet	0.100		103	70-130			
Toluene	0.115	0.0100	"	0.100		115	70-130			
Ethylbenzene	0.116	0.00500	"	0.100		116	70-130			
Xylene (p/m)	0.215	0.0200	"				70-130			
Xylene (o)	0.112	0.0100	"				70-130			
Surrogate: 1,4-Difluorobenzene	*0.0604*		*"*	*0.0600*		*101*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0672*		*"*	*0.0600*		*112*	*75-125*			
LCS Dup (P8C2803-BSD1)				Prepared & Analyzed: 03/28/18						
Benzene	0.104	0.00100	mg/kg wet	0.100		104	70-130	0.873	20	
Toluene	0.114	0.0100	"	0.100		114	70-130	1.15	20	
Ethylbenzene	0.118	0.00500	"	0.100		118	70-130	1.52	20	
Xylene (p/m)	0.205	0.0200	"				70-130		20	
Xylene (o)	0.107	0.0100	"				70-130		20	
Surrogate: 1,4-Difluorobenzene	*0.0542*		*"*	*0.0600*		*90.4*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0712*		*"*	*0.0600*		*119*	*75-125*			
Matrix Spike (P8C2803-MS1)	**Source: 8C28004-01**			Prepared: 03/28/18 Analyzed: 03/29/18						
Benzene	0.0522	0.00104	mg/kg dry	0.104	ND	50.1	80-120			QM-05
Toluene	0.0547	0.0104	"	0.104	0.00502	47.7	80-120			QM-05
Ethylbenzene	0.0582	0.00521	"	0.104	ND	55.8	80-120			QM-05
Xylene (p/m)	0.128	0.0208	"		0.00443		80-120			
Xylene (o)	0.0473	0.0104	"		ND		80-120			
Surrogate: 1,4-Difluorobenzene	*0.0576*		*"*	*0.0625*		*92.2*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0661*		*"*	*0.0625*		*106*	*75-125*			

Organics by GC - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8C2803 - General Preparation (GC)										
Matrix Spike Dup (P8C2803-MSD1)	**Source: 8C28004-01**			Prepared: 03/28/18 Analyzed: 03/29/18						
Benzene	0.0378	0.00104	mg/kg dry	0.104	ND	36.3	80-120	32.0	20	QM-05
Toluene	0.0477	0.0104	"	0.104	0.00502	40.9	80-120	15.3	20	QM-05
Ethylbenzene	0.0431	0.00521	"	0.104	ND	41.4	80-120	29.8	20	QM-05
Xylene (p/m)	0.109	0.0208	"		0.00443		80-120		20	
Xylene (o)	0.0357	0.0104	"		ND		80-120		20	
Surrogate: 1,4-Difluorobenzene	*0.0620*		*"*	*0.0625*		*99.2*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*0.0621*		*"*	*0.0625*		*99.3*	*75-125*			

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8C2905 - * DEFAULT PREP *** **										
Blank (P8C2905-BLK1)				Prepared & Analyzed: 03/29/18						
% Moisture	ND	0.1	%							
Duplicate (P8C2905-DUP1)		**Source: 8C26001-26**		Prepared & Analyzed: 03/29/18						
% Moisture	12.0	0.1	%		18.0			40.0	20	
Batch P8D0202 - * DEFAULT PREP *** **										
Blank (P8D0202-BLK1)				Prepared & Analyzed: 04/02/18						
Chloride	ND	1.00	mg/kg wet							
LCS (P8D0202-BS1)				Prepared & Analyzed: 04/02/18						
Chloride	388	1.00	mg/kg wet	400		97.1	80-120			
LCS Dup (P8D0202-BSD1)				Prepared & Analyzed: 04/02/18						
Chloride	389	1.00	mg/kg wet	400		97.2	80-120	0.129	20	
Duplicate (P8D0202-DUP1)		**Source: 8C26001-27**		Prepared: 04/02/18 Analyzed: 04/03/18						
Chloride	803	1.12	mg/kg dry		966			18.4	20	
Duplicate (P8D0202-DUP2)		**Source: 8C27003-08**		Prepared: 04/02/18 Analyzed: 04/03/18						
Chloride	8470	29.4	mg/kg dry		8470			0.0208	20	
Matrix Spike (P8D0202-MS1)		**Source: 8C26001-27**		Prepared: 04/02/18 Analyzed: 04/03/18						
Chloride	1900	1.12	mg/kg dry	1120	966	83.5	80-120			

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P8C2802 - General Preparation (GC)										
Blank (P8C2802-BLK1)				Prepared & Analyzed: 03/28/18						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*97.3*		*"*	*100*		*97.3*	*70-130*			
Surrogate: o-Terphenyl	*50.7*		*"*	*50.0*		*101*	*70-130*			
LCS (P8C2802-BS1)				Prepared & Analyzed: 03/28/18						
C6-C12	1050	25.0	mg/kg wet	1000		105	75-125			
>C12-C28	962	25.0	"	1000		96.2	75-125			
Surrogate: 1-Chlorooctane	*114*		*"*	*100*		*114*	*70-130*			
Surrogate: o-Terphenyl	*58.9*		*"*	*50.0*		*118*	*70-130*			
LCS Dup (P8C2802-BSD1)				Prepared & Analyzed: 03/28/18						
C6-C12	1040	25.0	mg/kg wet	1000		104	75-125	0.803	20	
>C12-C28	979	25.0	"	1000		97.9	75-125	1.82	20	
Surrogate: 1-Chlorooctane	*128*		*"*	*100*		*128*	*70-130*			
Surrogate: o-Terphenyl	*51.8*		*"*	*50.0*		*104*	*70-130*			
Matrix Spike (P8C2802-MS1)	**Source: 8C28002-02**			Prepared: 03/28/18 Analyzed: 03/29/18						
C6-C12	952	25.3	mg/kg dry	1010	69.6	87.4	75-125			
>C12-C28	3000	25.3	"	1010	2700	29.8	75-125			
Surrogate: 1-Chlorooctane	*128*		*"*	*101*		*127*	*70-130*			
Surrogate: o-Terphenyl	*49.2*		*"*	*50.5*		*97.4*	*70-130*			
Matrix Spike Dup (P8C2802-MSD1)	**Source: 8C28002-02**			Prepared: 03/28/18 Analyzed: 03/29/18						
C6-C12	931	25.3	mg/kg dry	1010	69.6	85.3	75-125	2.43	20	
>C12-C28	3040	25.3	"	1010	2700	34.1	75-125	13.5	20	
Surrogate: 1-Chlorooctane	*128*		*"*	*101*		*126*	*70-130*			
Surrogate: o-Terphenyl	*56.0*		*"*	*50.5*		*111*	*70-130*			

Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
BULK	Samples received in Bulk soil containers
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Brent Barron Date: 4/3/2018

Brent Barron, Laboratory Director/Technical Director

PBELAB

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Permian Basin Environmental Lab, LP
10014 S. County Road 1213
Midland, Texas 79706

Phone: 432-661-4184

Project Manager: Matt Green
Company Name: 2M Environmental Services, LLC.
Company Address: 1219 W. University Blvd.
City/State/Zip: Odessa, Texas 79764
Telephone No: (432)230-3763 Fax No:
Sampler Signature: Matthew Green e-mail: mgreen@2m-environmental.com

Project Name: COG Roy Batty Federal COM 1H
Project #:
Project Loc: Lea County, NM
PO #:
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only) ORDER #: 827003

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TOTAL: TPH: 418.1 8015M 8015B	TPH: TX 1005 Ext TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides E 300			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	T-1 @ 1'			3/8/2018	923		1	x								S	X								X			X				X
2	T-1 @ 2'			3/8/2018	931		1	x								S	X								X			X				X
3	T-1 @ 3'			3/8/2018	948		1	x								S	X								X			X				X
4	T-1 @ 4'			3/8/2018	1003		1	x								S	X								X			X				X
5	T-1 @ 5'			3/8/2018	1012		1	x								S	X								X			X				X
6	T-2 @ 1'			3/8/2018	1115		1	x								S	X								X			X				X
7	T-2 @ 2'			3/8/2018	1120		1	x								S	X								X			X				X
8	T-2 @ 3'			3/8/2018	1125		1	x								S	X								X			X				X
9	T-2 @ 4'			3/8/2018	1132		1	x								S	X								X			X				X
10	T-2 @ 5'			3/8/2018	1144		1	x								S	X								X			X				X

Special Instructions:

	Date	Time		Date	Time
Relinquished by: Matthew Green	3-27-18	130	Received by: Tori Mishler	3-27-18	1:30
Relinquished by: Tori Mishler	3-27-18	4:34	Received by:		
Relinquished by:			Received by PBEL:	3/27/18	1635

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt:
Received: 3.2 °C
Adjusted: 3.2 °C Factor 3.6 4

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

Form C-141
Revised April 3, 2017

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**: Roy Batty Federal Com #001H**	Facility Type**: Well**

Surface Owner: Private	Mineral Owner: Federal	API No.: 30-025-41099

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	11	24S	33E					Lea

Latitude: 32.225435 **Longitude**: -103.550182 NAD83

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 15bbls	Volume Recovered: 0bbls
Source of Release: Flowline	Date and Hour of Occurrence: 2/28/2018	Date and Hour of Discovery: 2/28/2018 10:00am
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A ball valve on the SWD line was discovered to be open. The valve handle was removed and a bull plug was installed.

Describe Area Affected and Cleanup Action Taken.*

The release impacted the pasture adjacent to the lease road. Concho will have the spill area evaluated for 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: Sheldon Hitchcock	OIL CONSERVATION DIVISION Approved by Environmental Specialist:	
Printed Name: Sheldon L. Hitchcock		
Title: HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: slhitchcock@concho.com	Conditions of Approval:	Attached ☐
Date: 3/2/2018 Phone: 575-746-2010		

* Attach Additional Sheets If Necessary