



APPROVED

By Olivia Yu at 3:24 pm, Jul 26, 2018

NMOCD approves of the proposed additional delineation to be completed for the area represented by T-3 in conjunction with proposed remediation for 1RP-4950. Confirmation sidewall and bottom samples required for each area with different depths of excavation.

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

Ryan Mann
New Mexico State Land Office
2827 N. Dal Paso Suite 117
Hobbs, New Mexico 88240
rmann@slo.state.nm.us

Re: Soil Investigation Summary and Proposed Remediation Workplan
Redtail State COM #001H (1RP-4950)
GPS: N 32.340015 W 103.639053
Unit Letter "A", Section 2, Township 23 South, Range 32 East, NMPM
Lea County, New Mexico

Dear Ms. Yu and Mr. Mann,

2M Environmental Services, LLC. (2M), on behalf of COG Operating, LLC. (Concho), has prepared this Soil Investigation Summary and Proposed Remediation Workplan (Workplan) for the Redtail State COM #001H Release Site (Release Site). The purpose of this Workplan is to propose remediation activities designed to advance the Redtail State 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 "A", Section 2, Township 23 South, Range 32 East, in Lea County, New Mexico. The subject property is administered by the New Mexico State Land Office (NMSLO). The GPS coordinates for the site are N 32.340015 W 103.639053. A Site Location Map and Site Detail and Soil Sample Locations Map are provided as Figure 1 and Figure 2, respectively.

On January 30, 2018, a produced water release occurred at the Redtail State COM #001H. The release was the result of a hole developing in the water leg, which resulted in the release of produced water within the unlined bermed containment. On January 30, 2018, Concho submitted a Release Notification

and Corrective Action Form (Form C-141) was submitted to the NMOCD District 1 Office located in Hobbs, New Mexico and the release was assigned the incident number 1RP-4950. The release was reported as approximately ten (10) barrels of produced water released with approximately eight (8) barrels of produced water recovered, resulting in a net loss of approximately two (2) 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 2, Township 23 South, Range 32 East. A reference map utilized by the NMOCD Hobbs District Office indicates groundwater should be encountered at approximately four hundred seventy-five (475) feet below ground surface (bgs). 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 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, zero (0) 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 5,000 mg/Kg for total petroleum hydrocarbons (TPH). Chloride remediation levels for the Release Site will be 600 mg/Kg, per NMOCD request.

On March 1, 2018, 2M, on behalf of Concho, utilized a hand auger and/or a backhoe to collect six (6) delineation soil samples (T-1 @ 1', T-1 @ 2', T-2 @ 1', T-2 @ 2', T-3 @ 1', and T-3 @ 2') from the stained surface soil. In addition to the soil samples described above, four (4) soil samples (North @ 1', East @ 1', West @ 1', and South @ 1') were collected utilizing a hand auger and/or backhoe approximately five (5) feet from the outer perimeter of the stained surface soil. 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 1, 2018, Concho proposes the following field activities designed to remediate the Redtail State COM #001H:

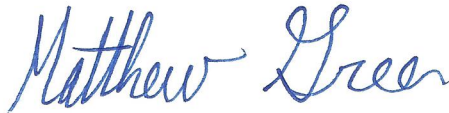
- Utilizing a backhoe, the area represented by sample point T-1 will be aesthetically addressed.
- The area represented by sample point T-2 will be excavated to approximately one and a half (1.5) feet bgs. One (1) confirmation soil sample will be collected from the excavated area and submitted for chloride analysis. If analytical results indicate chloride concentration are above 600 mg/Kg then the area will be excavated to a depth of two (2) feet bgs.
- Concurrently with excavation activities, the areas represented by sample point T-3 and North @ 1' will be vertically and horizontally delineated until confirmation soil samples indicate chloride concentrations are below 600 mg/Kg.
- Due to safety concerns, excavation activities inside the earthen firewall of the battery will be conducted in a manner that protects the structural integrity of the production equipment.
- Excavated soil will be temporarily stockpiled on a plastic liner adjacent to the excavation pending transport under manifest to a NMOCD approved disposal facility.
- Concho will backfill the excavation with locally purchased non-impacted "like" soil or caliche.

- Prepare and submit a "Remediation Summary and Site Closure Request" to the NMOCD and NMSLO.

Concho is prepared to begin the activities outlined in this Proposed Remediation Workplan on NMOCD and NMSLO 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, P.G.
President
2M Environmental Services, LLC.

Attachments:

Figure 1 - Site Location Map
Figure 2 - Site Detail and Soil Sample Locations 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

Redtail State COM #001H Tank Battery
Lea County, TX

Scale: 1" = 2000'

CAD By: JR

Checked By: MG

Date: March 18, 2018

Lat. N 32.340015°, Long. W 103.6390533°





LEGEND:

- ▲ Horizontal Delineation Soil Sample Location
- Vertical Soil Sample Location
- Excavate Area to <600 mg/Kg for chlorides
- Excavate Area to 2' bgs
- Aesthetically Address the Area

Figure 2
 Site Details &
 Soil Sample Location Map
 COG Operating LLC
 Redtail State COM #001H Tank Battery
 Lea County, TX

Scale: 1" = 30'

CAD By: AR

Checked By: MG

Draft: March 18, 2018

Lat. N 32.340015°, Long. W 103.6390533°

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

COG OPERATING, LLC

REDTAIL STATE COM #001H 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						50				5,000	600
North @ 1'	3/1/2018	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<0.00398	<15.0	31.1	<15.0	31.1	998
East @ 1'	3/1/2018	<0.00200	<0.00200	<0.00200	<0.00399	<0.00200	<0.00399	<0.00399	<15.0	<15.0	<15.0	<15.0	26.5
West @ 1'	3/1/2018	<0.00201	<0.00201	<0.00201	<0.00402	<0.00201	<0.00402	<0.00402	<15.0	<15.0	<15.0	<15.0	233
T-2 @ 1'	3/1/2008	<0.00200	<0.00200	<0.00200	<0.00401	<0.00200	<0.00401	<0.00401	<15.0	<15.0	<15.0	<15.0	1,310
T-2 @ 2'	3/1/2018	<0.00200	<0.00200	<0.00200	<0.00401	<0.00200	<0.00401	<0.00401	<14.9	<14.9	<14.9	<14.9	70.5
T-3 @ 1'	3/1/2018	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<0.00398	<15.0	<15.0	<15.0	<15.0	1,140
T-3 @ 2'	3/1/2018	<0.00200	<0.00200	<0.00200	<0.00401	<0.00200	<0.00401	<0.00401	<14.9	<14.9	<14.9	<14.9	1,480
T-1 @ 1'	3/1/2018	<0.00200	<0.00200	<0.00200	<0.00401	<0.00200	<0.00401	<0.00401	<15.0	19.1	<15.0	19.1	419
T-1 @ 2'	3/1/2018	<0.00202	<0.00202	<0.00202	<0.00403	<0.00202	<0.00403	<0.00403	<15.0	<15.0	<15.0	<15.0	585
South @ 1'	3/1/2018	<0.00201	<0.00201	<0.00201	<0.00402	<0.00201	<0.00402	<0.00402	<15.0	<15.0	<15.0	<15.0	<4.95



Certificate of Analysis Summary 578121

2M Enviromental Services LLC, Odessa, TX

Project Name: COG Redtail State COM #001H



Project Id:

Contact: Matt Green

Project Location: Lea County NM

Date Received in Lab: Fri Mar-02-18 04:41 pm

Report Date: 13-MAR-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	578121-001	578121-002	578121-003	578121-004	578121-005	578121-006
	<i>Field Id:</i>	North @ 1'	East @ 1'	West @ 1'	T-2 @ 1'	T-2 @ 2'	T-3 @ 1'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-01-18 09:05	Mar-01-18 09:10	Mar-01-18 09:15	Mar-01-18 10:10	Mar-01-18 10:15	Mar-01-18 10:40
BTEX by EPA 8021B	<i>Extracted:</i>	Mar-09-18 17:00	Mar-09-18 17:00	Mar-09-18 17:00	Mar-09-18 17:00	Mar-12-18 08:00	Mar-09-18 17:00
	<i>Analyzed:</i>	Mar-10-18 07:08	Mar-10-18 07:27	Mar-10-18 07:45	Mar-10-18 08:41	Mar-12-18 09:46	Mar-10-18 09:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00399 0.00399	<0.00402 0.00402	<0.00401 0.00401	<0.00401 0.00401	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	Mar-12-18 11:40	Mar-12-18 11:40	Mar-12-18 11:40	Mar-12-18 11:40	Mar-12-18 11:40	Mar-12-18 11:40
	<i>Analyzed:</i>	Mar-12-18 19:26	Mar-13-18 03:28	Mar-13-18 03:37	Mar-13-18 03:45	Mar-13-18 03:54	Mar-13-18 04:20
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		998 4.96	26.5 4.99	233 4.96	1310 5.00	70.5 4.93	1140 5.00
TPH By SW8015 Mod	<i>Extracted:</i>	Mar-10-18 16:00	Mar-10-18 16:00	Mar-10-18 16:00	Mar-10-18 16:00	Mar-10-18 16:00	Mar-10-18 16:00
	<i>Analyzed:</i>	Mar-11-18 12:25	Mar-11-18 13:27	Mar-11-18 13:47	Mar-11-18 14:07	Mar-11-18 14:26	Mar-11-18 14:48
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Diesel Range Organics (DRO)		31.1 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Total TPH		31.1 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0

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

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 578121

2M Enviromental Services LLC, Odessa, TX

Project Name: COG Redtail State COM #001H



Project Id:

Contact: Matt Green

Project Location: Lea County NM

Date Received in Lab: Fri Mar-02-18 04:41 pm

Report Date: 13-MAR-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	578121-007	578121-008	578121-009	578121-010		
	<i>Field Id:</i>	T-3 @ 2'	T-1 @ 1'	T-1 @ 2'	South @1'		
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Mar-01-18 10:45	Mar-01-18 11:20	Mar-01-18 11:25	Mar-01-18 11:45		
BTEX by EPA 8021B	<i>Extracted:</i>	Mar-09-18 17:00	Mar-09-18 17:00	Mar-09-18 17:00	Mar-09-18 17:00		
	<i>Analyzed:</i>	Mar-10-18 09:43	Mar-10-18 10:01	Mar-10-18 10:19	Mar-10-18 10:37		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201		
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201		
m,p-Xylenes		<0.00401 0.00401	<0.00401 0.00401	<0.00403 0.00403	<0.00402 0.00402		
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201		
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201		
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201		
Chloride by EPA 300	<i>Extracted:</i>	Mar-12-18 11:40	Mar-12-18 11:40	Mar-12-18 11:40	Mar-12-18 11:40		
	<i>Analyzed:</i>	Mar-13-18 04:29	Mar-13-18 04:38	Mar-13-18 04:47	Mar-13-18 04:56		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		1480 24.8	419 4.92	585 4.92	<4.95 4.95		
TPH By SW8015 Mod	<i>Extracted:</i>	Mar-10-18 16:00	Mar-10-18 16:00	Mar-10-18 16:00	Mar-10-18 16:00		
	<i>Analyzed:</i>	Mar-11-18 15:08	Mar-11-18 15:30	Mar-11-18 15:50	Mar-11-18 16:10		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Diesel Range Organics (DRO)		<14.9 14.9	19.1 15.0	<15.0 15.0	<15.0 15.0		
Oil Range Hydrocarbons (ORO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total TPH		<14.9 14.9	19.1 15.0	<15.0 15.0	<15.0 15.0		

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

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Jessica Kramer

Jessica Kramer
Project Assistant

Analytical Report 578121

for 2M Enviromental Services LLC

Project Manager: Matt Green
COG Redtail State COM #001H

13-MAR-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

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

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

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)



13-MAR-18

Project Manager: **Matt Green**
2M Enviromental Services LLC
1219 W University Blvd
Odessa, TX 79764

Reference: XENCO Report No(s): **578121**
COG Redtail State COM #001H
Project Address: Lea County NM

Matt Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 578121. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 578121 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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Sample Cross Reference 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North @ 1'	S	03-01-18 09:05		578121-001
East @ 1'	S	03-01-18 09:10		578121-002
West @ 1'	S	03-01-18 09:15		578121-003
T-2 @ 1'	S	03-01-18 10:10		578121-004
T-2 @ 2'	S	03-01-18 10:15		578121-005
T-3 @ 1'	S	03-01-18 10:40		578121-006
T-3 @ 2'	S	03-01-18 10:45		578121-007
T-1 @ 1'	S	03-01-18 11:20		578121-008
T-1 @ 2'	S	03-01-18 11:25		578121-009
South @1'	S	03-01-18 11:45		578121-010



CASE NARRATIVE

Client Name: 2M Enviromental Services LLC

Project Name: COG Redtail State COM #001H

Project ID:
Work Order Number(s): 578121

Report Date: 13-MAR-18
Date Received: 03/02/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3043352 BTEX by EPA 8021B

Lab Sample ID 578121-007 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 578121-001, -002, -003, -004, -006, -007, -008, -009, -010.

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

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

Batch: LBA-3043503 BTEX by EPA 8021B

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

Batch: LBA-3043530 Chloride by EPA 300

Lab Sample ID 578297-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 578121-001, -002, -003, -004, -005, -006, -007, -008, -009, -010.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: **North @ 1'**

Matrix: Soil

Date Received: 03.02.18 16.41

Lab Sample Id: 578121-001

Date Collected: 03.01.18 09.05

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 03.12.18 11.40

Basis: Wet Weight

Seq Number: 3043530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	998	4.96	mg/kg	03.12.18 19.26		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.10.18 16.00

Basis: Wet Weight

Seq Number: 3043517

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.11.18 12.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	31.1	15.0	mg/kg	03.11.18 12.25		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.11.18 12.25	U	1
Total TPH	PHC635	31.1	15.0	mg/kg	03.11.18 12.25		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	03.11.18 12.25	
o-Terphenyl	84-15-1	96	%	70-135	03.11.18 12.25	



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: **North @ 1'**

Matrix: Soil

Date Received: 03.02.18 16.41

Lab Sample Id: 578121-001

Date Collected: 03.01.18 09.05

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.09.18 17.00

Basis: Wet Weight

Seq Number: 3043352

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.10.18 07.08	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.10.18 07.08	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.10.18 07.08	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.10.18 07.08	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.10.18 07.08	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.10.18 07.08	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.10.18 07.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	70-130	03.10.18 07.08		
1,4-Difluorobenzene	540-36-3	79	%	70-130	03.10.18 07.08		



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: East @ 1'
Lab Sample Id: 578121-002

Matrix: Soil
Date Collected: 03.01.18 09.10

Date Received: 03.02.18 16.41

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043530

Prep Method: E300P
% Moisture:
Date Prep: 03.12.18 11.40
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.5	4.99	mg/kg	03.13.18 03.28		1

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3043517

Prep Method: TX1005P
% Moisture:
Date Prep: 03.10.18 16.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.11.18 13.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.11.18 13.27	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.11.18 13.27	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.11.18 13.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	84	%	70-135	03.11.18 13.27		
o-Terphenyl	84-15-1	82	%	70-135	03.11.18 13.27		



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: East @ 1'

Matrix: Soil

Date Received: 03.02.18 16.41

Lab Sample Id: 578121-002

Date Collected: 03.01.18 09.10

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.09.18 17.00

Basis: Wet Weight

Seq Number: 3043352

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.10.18 07.27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.10.18 07.27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.10.18 07.27	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.10.18 07.27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.10.18 07.27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.10.18 07.27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.10.18 07.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	03.10.18 07.27		
1,4-Difluorobenzene	540-36-3	74	%	70-130	03.10.18 07.27		



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: **West @ 1'**

Matrix: Soil

Date Received: 03.02.18 16.41

Lab Sample Id: 578121-003

Date Collected: 03.01.18 09.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 03.12.18 11.40

Basis: Wet Weight

Seq Number: 3043530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	233	4.96	mg/kg	03.13.18 03.37		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.10.18 16.00

Basis: Wet Weight

Seq Number: 3043517

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.11.18 13.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.11.18 13.47	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.11.18 13.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.11.18 13.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	03.11.18 13.47	
o-Terphenyl	84-15-1	79	%	70-135	03.11.18 13.47	



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: **West @ 1'**

Matrix: Soil

Date Received: 03.02.18 16.41

Lab Sample Id: 578121-003

Date Collected: 03.01.18 09.15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.09.18 17.00

Basis: Wet Weight

Seq Number: 3043352

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.10.18 07.45	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.10.18 07.45	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.10.18 07.45	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.10.18 07.45	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.10.18 07.45	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.10.18 07.45	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.10.18 07.45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	03.10.18 07.45		
1,4-Difluorobenzene	540-36-3	90	%	70-130	03.10.18 07.45		



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: T-2 @ 1'
Lab Sample Id: 578121-004

Matrix: Soil
Date Collected: 03.01.18 10.10

Date Received: 03.02.18 16.41

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3043530

Prep Method: E300P

% Moisture:

Date Prep: 03.12.18 11.40

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1310	5.00	mg/kg	03.13.18 03.45		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3043517

Prep Method: TX1005P

% Moisture:

Date Prep: 03.10.18 16.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.11.18 14.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.11.18 14.07	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.11.18 14.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.11.18 14.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	03.11.18 14.07	
o-Terphenyl	84-15-1	103	%	70-135	03.11.18 14.07	



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: T-2 @ 1'
Lab Sample Id: 578121-004

Matrix: Soil
Date Collected: 03.01.18 10.10

Date Received: 03.02.18 16.41

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.09.18 17.00

Basis: Wet Weight

Seq Number: 3043352

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.10.18 08.41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.10.18 08.41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.10.18 08.41	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.10.18 08.41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.10.18 08.41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.10.18 08.41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.10.18 08.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	03.10.18 08.41		
1,4-Difluorobenzene	540-36-3	87	%	70-130	03.10.18 08.41		



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: T-2 @ 2'
Lab Sample Id: 578121-005

Matrix: Soil
Date Collected: 03.01.18 10.15

Date Received: 03.02.18 16.41

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043530

Prep Method: E300P
% Moisture:
Date Prep: 03.12.18 11.40
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	70.5	4.93	mg/kg	03.13.18 03.54		1

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3043517

Prep Method: TX1005P
% Moisture:
Date Prep: 03.10.18 16.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.11.18 14.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.11.18 14.26	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	03.11.18 14.26	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.11.18 14.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	92	%	70-135	03.11.18 14.26		
o-Terphenyl	84-15-1	95	%	70-135	03.11.18 14.26		



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: T-2 @ 2'
Lab Sample Id: 578121-005

Matrix: Soil
Date Collected: 03.01.18 10.15

Date Received: 03.02.18 16.41

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.12.18 08.00

Basis: Wet Weight

Seq Number: 3043503

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.12.18 09.46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.12.18 09.46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.12.18 09.46	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.12.18 09.46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.12.18 09.46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.12.18 09.46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.12.18 09.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	89	%	70-130	03.12.18 09.46		
4-Bromofluorobenzene	460-00-4	118	%	70-130	03.12.18 09.46		



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: T-3 @ 1'
Lab Sample Id: 578121-006

Matrix: Soil
Date Collected: 03.01.18 10.40

Date Received: 03.02.18 16.41

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3043530

Prep Method: E300P

% Moisture:

Date Prep: 03.12.18 11.40

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1140	5.00	mg/kg	03.13.18 04.20		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3043517

Prep Method: TX1005P

% Moisture:

Date Prep: 03.10.18 16.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.11.18 14.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.11.18 14.48	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.11.18 14.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.11.18 14.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	03.11.18 14.48	
o-Terphenyl	84-15-1	99	%	70-135	03.11.18 14.48	



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: T-3 @ 1'
Lab Sample Id: 578121-006

Matrix: Soil
Date Collected: 03.01.18 10.40

Date Received: 03.02.18 16.41

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.09.18 17.00

Basis: Wet Weight

Seq Number: 3043352

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.10.18 09.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.10.18 09.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.10.18 09.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.10.18 09.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.10.18 09.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.10.18 09.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.10.18 09.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	03.10.18 09.18		
1,4-Difluorobenzene	540-36-3	80	%	70-130	03.10.18 09.18		



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: T-3 @ 2'
Lab Sample Id: 578121-007

Matrix: Soil
Date Collected: 03.01.18 10.45

Date Received: 03.02.18 16.41

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043530

Prep Method: E300P
% Moisture:
Date Prep: 03.12.18 11.40
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1480	24.8	mg/kg	03.13.18 04.29		5

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3043517

Prep Method: TX1005P
% Moisture:
Date Prep: 03.10.18 16.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.11.18 15.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.11.18 15.08	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	03.11.18 15.08	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.11.18 15.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	92	%	70-135	03.11.18 15.08		
o-Terphenyl	84-15-1	96	%	70-135	03.11.18 15.08		



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: T-3 @ 2'
Lab Sample Id: 578121-007

Matrix: Soil
Date Collected: 03.01.18 10.45

Date Received: 03.02.18 16.41

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.09.18 17.00

Basis: Wet Weight

Seq Number: 3043352

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.10.18 09.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.10.18 09.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.10.18 09.43	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.10.18 09.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.10.18 09.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.10.18 09.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.10.18 09.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	124	%	70-130	03.10.18 09.43		
1,4-Difluorobenzene	540-36-3	79	%	70-130	03.10.18 09.43		



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: T-1 @ 1'
Lab Sample Id: 578121-008

Matrix: Soil
Date Collected: 03.01.18 11.20

Date Received: 03.02.18 16.41

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043530

Prep Method: E300P
% Moisture:
Date Prep: 03.12.18 11.40
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	419	4.92	mg/kg	03.13.18 04.38		1

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3043517

Prep Method: TX1005P
% Moisture:
Date Prep: 03.10.18 16.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.11.18 15.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	19.1	15.0	mg/kg	03.11.18 15.30		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.11.18 15.30	U	1
Total TPH	PHC635	19.1	15.0	mg/kg	03.11.18 15.30		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	03.11.18 15.30	
o-Terphenyl	84-15-1	95	%	70-135	03.11.18 15.30	



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: T-1 @ 1'
Lab Sample Id: 578121-008

Matrix: Soil
Date Collected: 03.01.18 11.20

Date Received: 03.02.18 16.41

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.09.18 17.00

Basis: Wet Weight

Seq Number: 3043352

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.10.18 10.01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.10.18 10.01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.10.18 10.01	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.10.18 10.01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.10.18 10.01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.10.18 10.01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.10.18 10.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	80	%	70-130	03.10.18 10.01		
4-Bromofluorobenzene	460-00-4	112	%	70-130	03.10.18 10.01		



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: T-1 @ 2'
Lab Sample Id: 578121-009

Matrix: Soil
Date Collected: 03.01.18 11.25

Date Received: 03.02.18 16.41

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043530

Prep Method: E300P
% Moisture:
Date Prep: 03.12.18 11.40
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	585	4.92	mg/kg	03.13.18 04.47		1

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3043517

Prep Method: TX1005P
% Moisture:
Date Prep: 03.10.18 16.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.11.18 15.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.11.18 15.50	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.11.18 15.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.11.18 15.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	94	%	70-135	03.11.18 15.50		
o-Terphenyl	84-15-1	99	%	70-135	03.11.18 15.50		



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: T-1 @ 2'
Lab Sample Id: 578121-009

Matrix: Soil
Date Collected: 03.01.18 11.25

Date Received: 03.02.18 16.41

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.09.18 17.00

Basis: Wet Weight

Seq Number: 3043352

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.10.18 10.19	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.10.18 10.19	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.10.18 10.19	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.10.18 10.19	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.10.18 10.19	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.10.18 10.19	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.10.18 10.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	03.10.18 10.19		
1,4-Difluorobenzene	540-36-3	85	%	70-130	03.10.18 10.19		



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: **South @1'**

Matrix: Soil

Date Received: 03.02.18 16.41

Lab Sample Id: 578121-010

Date Collected: 03.01.18 11.45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 03.12.18 11.40

Basis: Wet Weight

Seq Number: 3043530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	03.13.18 04.56	U	1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.10.18 16.00

Basis: Wet Weight

Seq Number: 3043517

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.11.18 16.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.11.18 16.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.11.18 16.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.11.18 16.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	03.11.18 16.10	
o-Terphenyl	84-15-1	81	%	70-135	03.11.18 16.10	



Certificate of Analytical Results 578121



2M Enviromental Services LLC, Odessa, TX

COG Redtail State COM #001H

Sample Id: **South @1'**

Matrix: Soil

Date Received: 03.02.18 16.41

Lab Sample Id: 578121-010

Date Collected: 03.01.18 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.09.18 17.00

Basis: Wet Weight

Seq Number: 3043352

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.10.18 10.37	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.10.18 10.37	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.10.18 10.37	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.10.18 10.37	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.10.18 10.37	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.10.18 10.37	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.10.18 10.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	79	%	70-130	03.10.18 10.37		
4-Bromofluorobenzene	460-00-4	114	%	70-130	03.10.18 10.37		

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

SDL Sample Detection Limit

LOD Limit of Detection

PQL Practical Quantitation Limit

MQL Method Quantitation Limit

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample

BLK

Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample

BKSD/LCSD

Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate

MS

Matrix Spike

MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



QC Summary 578121

2M Enviromental Services LLC COG Redtail State COM #001H

Analytical Method: Chloride by EPA 300

Seq Number: 3043530

MB Sample Id: 7640599-1-BLK

Matrix: Solid

LCS Sample Id: 7640599-1-BKS

Prep Method: E300P

Date Prep: 03.12.18

LCSD Sample Id: 7640599-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	271	108	267	107	90-110	1	20	mg/kg	03.12.18 19:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3043530

Parent Sample Id: 578121-001

Matrix: Soil

MS Sample Id: 578121-001 S

Prep Method: E300P

Date Prep: 03.12.18

MSD Sample Id: 578121-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	998	248	1180	73	1260	106	90-110	7	20	mg/kg	03.12.18 19:31	X

Analytical Method: Chloride by EPA 300

Seq Number: 3043530

Parent Sample Id: 578297-002

Matrix: Soil

MS Sample Id: 578297-002 S

Prep Method: E300P

Date Prep: 03.12.18

MSD Sample Id: 578297-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	242	97	257	103	90-110	6	20	mg/kg	03.13.18 05:13	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3043517

MB Sample Id: 7640555-1-BLK

Matrix: Solid

LCS Sample Id: 7640555-1-BKS

Prep Method: TX1005P

Date Prep: 03.10.18

LCSD Sample Id: 7640555-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	939	94	1050	105	70-135	11	35	mg/kg	03.11.18 11:45	
Diesel Range Organics (DRO)	<15.0	1000	830	83	930	93	70-135	11	35	mg/kg	03.11.18 11:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	84		85		107		70-135	%	03.11.18 11:45
o-Terphenyl	91		85		99		70-135	%	03.11.18 11:45

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

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

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

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



QC Summary 578121

2M Enviromental Services LLC COG Redtail State COM #001H

Analytical Method: TPH By SW8015 Mod

Seq Number: 3043517

Parent Sample Id: 578121-001

Matrix: Soil

MS Sample Id: 578121-001 S

Prep Method: TX1005P

Date Prep: 03.10.18

MSD Sample Id: 578121-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	893	89	877	88	70-135	2	35	mg/kg	03.11.18 12:49	
Diesel Range Organics (DRO)	31.1	999	802	77	801	77	70-135	0	35	mg/kg	03.11.18 12:49	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		96		70-135	%	03.11.18 12:49
o-Terphenyl	84		81		70-135	%	03.11.18 12:49

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043352

MB Sample Id: 7640531-1-BLK

Matrix: Solid

LCS Sample Id: 7640531-1-BKS

Prep Method: SW5030B

Date Prep: 03.09.18

LCSD Sample Id: 7640531-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0866	87	0.0838	84	70-130	3	35	mg/kg	03.10.18 03:08	
Toluene	<0.00200	0.0998	0.0805	81	0.0883	88	70-130	9	35	mg/kg	03.10.18 03:08	
Ethylbenzene	<0.00200	0.0998	0.0830	83	0.0907	91	70-130	9	35	mg/kg	03.10.18 03:08	
m,p-Xylenes	<0.00399	0.200	0.161	81	0.176	88	70-130	9	35	mg/kg	03.10.18 03:08	
o-Xylene	<0.00200	0.0998	0.0827	83	0.0906	91	70-130	9	35	mg/kg	03.10.18 03:08	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		93		111		70-130	%	03.10.18 03:08
4-Bromofluorobenzene	108		114		127		70-130	%	03.10.18 03:08

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043503

MB Sample Id: 7640672-1-BLK

Matrix: Solid

LCS Sample Id: 7640672-1-BKS

Prep Method: SW5030B

Date Prep: 03.12.18

LCSD Sample Id: 7640672-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0909	90	0.0883	88	70-130	3	35	mg/kg	03.12.18 06:55	
Toluene	<0.00202	0.101	0.0972	96	0.0942	94	70-130	3	35	mg/kg	03.12.18 06:55	
Ethylbenzene	<0.00202	0.101	0.111	110	0.109	109	70-130	2	35	mg/kg	03.12.18 06:55	
m,p-Xylenes	<0.00403	0.202	0.219	108	0.214	107	70-130	2	35	mg/kg	03.12.18 06:55	
o-Xylene	<0.00202	0.101	0.106	105	0.105	105	70-130	1	35	mg/kg	03.12.18 06:55	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		86		84		70-130	%	03.12.18 06:55
4-Bromofluorobenzene	110		119		118		70-130	%	03.12.18 06:55

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

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

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

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



QC Summary 578121

2M Enviromental Services LLC COG Redtail State COM #001H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043352

Parent Sample Id: 578121-007

Matrix: Soil

MS Sample Id: 578121-007 S

Prep Method: SW5030B

Date Prep: 03.09.18

MSD Sample Id: 578121-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0662	66	0.0570	56	70-130	15	35	mg/kg	03.10.18 03:44	X
Toluene	<0.00201	0.100	0.0678	68	0.0545	54	70-130	22	35	mg/kg	03.10.18 03:44	X
Ethylbenzene	<0.00201	0.100	0.0680	68	0.0533	53	70-130	24	35	mg/kg	03.10.18 03:44	X
m,p-Xylenes	<0.00402	0.201	0.132	66	0.103	51	70-130	25	35	mg/kg	03.10.18 03:44	X
o-Xylene	<0.00201	0.100	0.0670	67	0.0530	52	70-130	23	35	mg/kg	03.10.18 03:44	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		89		70-130	%	03.10.18 03:44
4-Bromofluorobenzene	121		114		70-130	%	03.10.18 03:44

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043503

Parent Sample Id: 578649-001

Matrix: Soil

MS Sample Id: 578649-001 S

Prep Method: SW5030B

Date Prep: 03.12.18

MSD Sample Id: 578649-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0584	59	0.0656	66	70-130	12	35	mg/kg	03.12.18 07:34	X
Toluene	<0.00199	0.0996	0.0607	61	0.0664	66	70-130	9	35	mg/kg	03.12.18 07:34	X
Ethylbenzene	<0.00199	0.0996	0.0666	67	0.0704	70	70-130	6	35	mg/kg	03.12.18 07:34	X
m,p-Xylenes	<0.00398	0.199	0.131	66	0.138	69	70-130	5	35	mg/kg	03.12.18 07:34	X
o-Xylene	<0.00199	0.0996	0.0651	65	0.0709	71	70-130	9	35	mg/kg	03.12.18 07:34	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		87		70-130	%	03.12.18 07:34
4-Bromofluorobenzene	120		129		70-130	%	03.12.18 07:34

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

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

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

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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST
12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Matt Green

Company Name: 2M Environmental Services, LLC.

Company Address: 1219 W. University Blvd.

City/State/Zip: Odessa, TX 79764

Telephone No: 432.614.6793

Fax No: 432.897.4976

Sampler Signature: Matt Green

e-mail: mgreen@2m-environmental.com

Project Name: COG Redtail State COM # 001H

Project #:

Project Loc: Lea County, NM

PO #:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: 578121

LAB # (lab use only)		FIELD CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO ₃	HCl	H ₂ SO ₄	NaOH	Na ₂ S ₂ O ₃	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 418.1 8015M 8015	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO ₄ , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg S	Volatiles	Semivolatiles	BTEX 8021B 5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides E 300.1	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
		North @ 1'				3/1/2018	905		1	X								Soil	X								X					X	
		East @ 1'				3/1/2018	910		1	X								Soil	X								X					X	
		West @ 1'				3/1/2018	915		1	X								Soil	X								X					X	
		T-2 @ 1'				3/1/2018	1010		1	X								Soil	X								X					X	
		T-2 @ 2'				3/1/2018	1015		1	X								Soil	X								X					X	
		T-3 @ 1'				3/1/2018	1040		1	X								Soil	X								X					X	
		T-3 @ 2'				3/1/2018	1045		1	X								Soil	X								X					X	
		T-1 @ 1'				3/1/2018	1120		1	X								Soil	X								X					X	
		T-1 @ 2'				3/1/2018	1125		1	X								Soil	X								X					X	
		South @ 1'				3/1/2018	1145		1	X								Soil	X								X					X	

Temp: 1.2

CF:(0-6; -0.2°C)

IR ID:R-8

Special Instructions:

Relinquished by: Matt Green Date: 3-2-18 Time: 1530 Received by: Matt Green Date: 3-2-18 Time: 1530

Relinquished by: Matt Green Date: 3-2-18 Time: 1530 Received by: Matt Green Date: 3-2-18 Time: 1530

Relinquished by: Matt Green Date: 3-2-18 Time: 1530 Received by: Matt Green Date: 3-2-18 Time: 1530

Temp: 1.2 IR ID: R-8
CF: (0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.0

Improving Chain of Custody
Custody seals on containers(s)
Custody seals on cooler(s)
Sample Hand Delivered
by Sampler/Client Rep. ?
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt: °C



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: 2M Enviromental Services LLC

Date/ Time Received: 03/02/2018 04:41:00 PM

Work Order #: 578121

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 03/05/2018

Checklist reviewed by:

Jessica Kramer

Date: 03/05/2018

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: REDTAIL STATE COM #001H	Facility Type: Battery	
Surface Owner: State	Mineral Owner: State	API No.: 30-025-40181

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	2	23S	32E	330	North	660	East	Lea

Latitude: 32.340015 Longitude: -103.6390533 NAD83

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 10 bbls PW	Volume Recovered: 8 bbls PW
Source of Release: Fittings/Connections	Date and Hour of Occurrence: 1/30/2018	Date and Hour of Discovery: 1/30/2018 11:00 AM
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.*

RECEIVED

By Olivia Yu at 3:36 pm, Feb 02, 2018

Describe Cause of Problem and Remedial Action Taken.*

This release was caused by a hole in the water leg. The water leg will be replaced.

Describe Area Affected and Cleanup Action Taken.*

The release remained within the unlined bermed containment. A vacuum truck was dispatched to recover all freestanding fluids. 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.

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:



Signature:

Printed Name: Dakota Neel

Title: HSE Coordinator

Approval Date: 2/2/2018

Expiration Date:

E-mail Address dneel2@concho.com

Conditions of Approval:

Attached ☒

Date: 1/31/2018

Phone: 575-746-2010

1RP-4950

nOY1803356383

pOY1803356624

* Attach Additional Sheets If Necessary