[Dakota Neel]
[HSE Coordinator]

April 14, 2019

Bradford Billings
Oil Conservation Division
1220 S. St Francis Dr. #3
Santa Fe, NM 87505

Crystal Weaver
BLM Carlsbad Field Office
620 E. Greene Street
Carlsbad NM 88220

**Re: Closure Request**
**Roy Batty Federal Com #001H**
**API #: 30-025-41099**
**RP#: 1RP-4983**
**Unit Letter M, Section 11, Township 24S, Range 33E**
**Lea County, NM**

Mr. Billings/Ms. Weaver,

COG Operating, LLC (COG) is pleased to submit the following closure report for the Roy Batty Federal Com #001H. This release occurred on February 28, 2018. Following the release an assessment of impacted soils was conducted. A remediation work plan was submitted to and subsequently approved by the New Mexico Oil Conservation Division (NMOCD) and Bureau of Land Management (BLM).

**BACKGROUND**

On February 28, 2018, a produced water release occurred on the Roy Batty Federal Com #001H flowline. The ball valve on the SWD line was discovered to be in the open position resulting in the release of approximately fifteen (15) barrels of produced water with zero (0) barrels of produced water recovered.

Remediation activities were conducted in accordance with the approved work plan and NMOCD stipulations.

## CONFIRMATION SOIL SAMPLING RESULTS

| Roy Batty Federal Com #001H | | | | | |
|---|---|---|---|---|---|
| Sample ID | Date | Chloride mg/Kg | Benzene mg/Kg | BTEX mg/Kg | TPH mg/Kg |
| | | | | | |
| T1- North | 11/28/2018 | 208 | <0.050 | <0.300 | <10.0 |
| T1- East | 12/4/2018 | 64 | <0.050 | 0.402 | 92 |
| T1- West | 11/28/2018 | 32 | <0.050 | 0.5 | 543 |
| | | | | | |
| T2- South | 11/9/2018 | 48 | <0.050 | <0.300 | 358 |
| T2- East | 11/9/2018 | <16.0 | <0.050 | <0.300 | <10.0 |
| T2- West | 11/9/2018 | 32 | <0.050 | <0.300 | <10.0 |
| | | | | | |

## REMEDIAL ACTIONS

- The impacted areas of T1 and T2 were excavated to a depth of four (4) feet below ground surface (bgs).
- Confirmation sidewall samples were collected from the excavation per NMOCD stipulations.
- A 20 mil plastic liner was installed at approximately four (4) bgs.
- The excavation was backfilled with clean “like” material, and contoured to match the surrounding terrain. The site will be mechanically seeded using the landowner’s preferred seed mixture.

Should you have any questions or concerns please do not hesitate to contact me.

Sincerely,

Dakota Neel
HSE Coordinator
dneel2@concho.com

Enclosed:

Appendix I: Site Diagram
Appendix II: Final C-141
Appendix III: Initial C-141 (Copy)
Appendix IV: Approved Work plan
Appendix V: Confirmation Analytical Report

# APPENDIX I

# Roy Batty Federal Com #001H

2/28/2018
1RP-4983
Unit Letter "M", Section 11, Township 24 South, Range 33 East
Lea County, New Mexico

Legend
- AOI
- Sample Points

T1 North
T1 West
T1
T1 East
T2
T2 West
T2 East
T2 South

N

80 ft



Google Earth

# APPENDIX II

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. This release has been remediated in accordance to the NMOCD approved workplan.

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: Dakota Neel

Printed Name: Dakota Neel

Title: HSE Coordinator

E-mail Address: dneel2@concho.com

Date: 4/14/2019 Phone: 575-746-2010

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Ashley Maxwell

Approval Date: 11/22/2022 Expiration Date:

Conditions of Approval: Attached ☐

* Attach Additional Sheets If Necessary

# APPENDIX III

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<br>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

# APPENDIX IV

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,

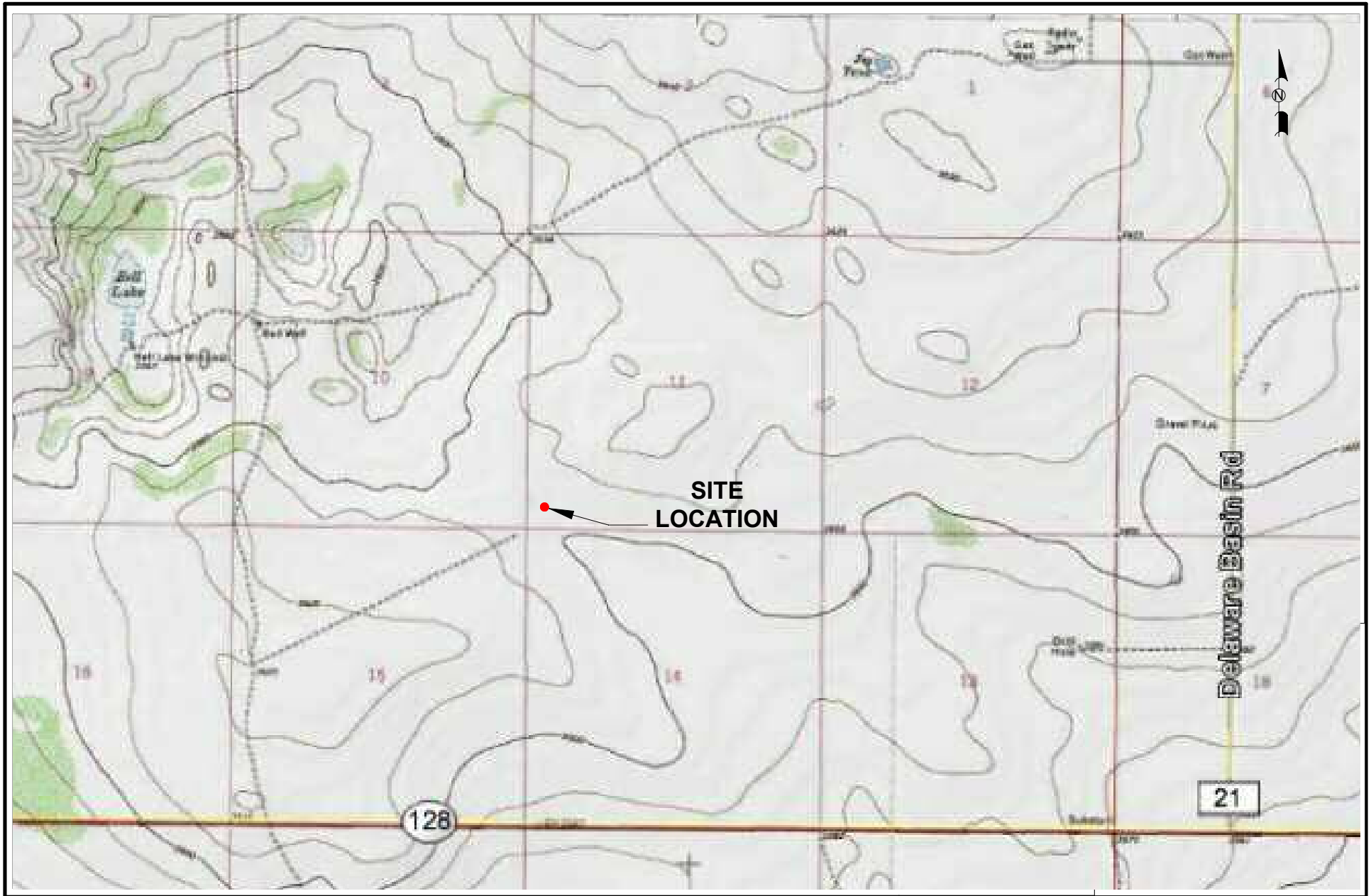
Matthew Green

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

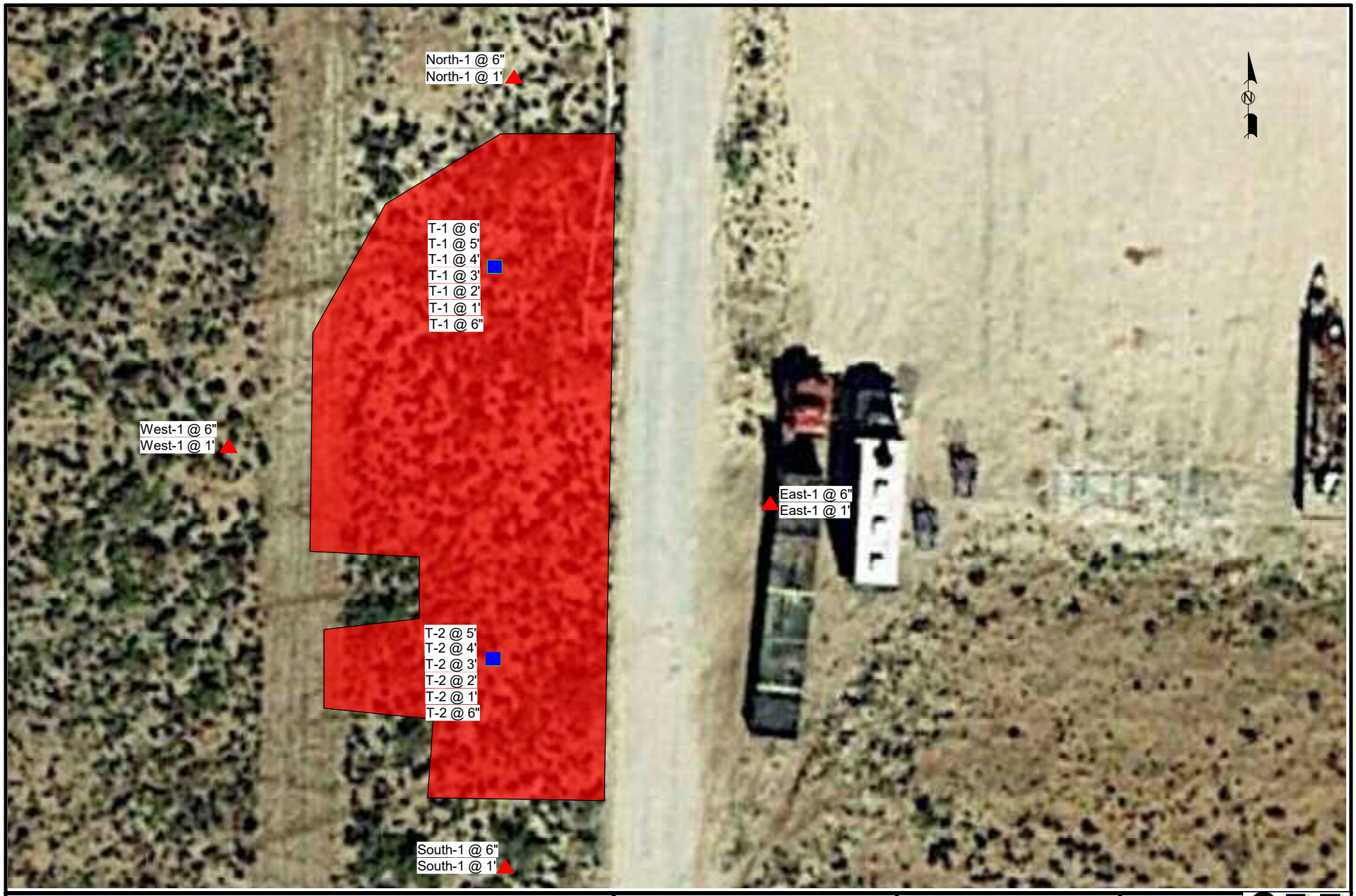
COG Operating LLC

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.
1219 W. University Blvd.
Odessa TEXAS, 79764

Project: COG Tequiza Federal 001H
Project Number: [none]
Project Manager: Matt Green

Fax:

## 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 |

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

## South-1 @6"

**8C20016-01 (Soil)**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Permian Basin Environmental Lab, L.P.** | | | | | | | | | |
| **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)**

**Permian Basin Environmental Lab, L.P.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **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 | |

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|---|---|---|
| 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)**

**Permian Basin Environmental Lab, L.P.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **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 | |

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|---|---|---|
| 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 | |

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|---|---|---|
| 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)**

**Permian Basin Environmental Lab, L.P.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **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 | |

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|---|---|---|
| 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 | |

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

## 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* | | | |

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

## 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* | | | |

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

## 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 | |

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

## 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 | |

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

## 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* | | | |

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

## 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

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

**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: [X] Standard [ ] TRRP [ ] NPDES

(lab use only) ORDER #: 8C20016

| LAB # (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: 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 | 0511 |

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 |

| | | |
|---|---|---|
| 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@1'

**8C27003-01 (Soil)**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Permian Basin Environmental Lab, L.P.** | | | | | | | | | |
| **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)**

**Permian Basin Environmental Lab, L.P.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **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)**

**Permian Basin Environmental Lab, L.P.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **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 | |

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|---|---|---|
| 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)**

**Permian Basin Environmental Lab, L.P.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **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 | |

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|---|---|---|
| 2M Environmental Services, LLC. | Project: COG Roy Batty Federal COM 1H | Fax: |
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| 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 | |

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|---|---|---|
| 2M Environmental Services, LLC. | Project: COG Roy Batty Federal COM 1H | Fax: |
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| Odessa TEXAS, 79764 | Project Manager: Matt Green | |

**T-2@3'**

**8C27003-08 (Soil)**

**Permian Basin Environmental Lab, L.P.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **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 | |

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| 2M Environmental Services, LLC. | Project: COG Roy Batty Federal COM 1H | Fax: |
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| Odessa TEXAS, 79764 | Project Manager: Matt Green | |

**T-2@4'**

**8C27003-09 (Soil)**

**Permian Basin Environmental Lab, L.P.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **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 | |

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| 2M Environmental Services, LLC. | Project: COG Roy Batty Federal COM 1H | Fax: |
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| Odessa TEXAS, 79764 | Project Manager: Matt Green | |

**T-2@5'**

**8C27003-10 (Soil)**

**Permian Basin Environmental Lab, L.P.**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **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 | |

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| Odessa TEXAS, 79764 | Project Manager: Matt Green | |

## 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* | | | |

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| Odessa TEXAS, 79764 | Project Manager: Matt Green | |

## 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* | | | |

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| Odessa TEXAS, 79764 | Project Manager: Matt Green | |

## 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 | | | |

| | | |
|---|---|---|
| 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 | |

## 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* | | | |

| | | |
|---|---|---|
| 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 | |

## 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 | 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 | 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: 3.4 °C Factor | 3.6 |

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<br>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

# APPENDIX V

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

November 15, 2018

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: ROY BATTERY FEDERAL COM #1H

Enclosed are the results of analyses for samples received by the laboratory on 11/13/18 12:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

| | | | |
|---|---|---|---|
| Received: | 11/13/2018 | Sampling Date: | 11/09/2018 |
| Reported: | 11/15/2018 | Sampling Type: | Soil |
| Project Name: | ROY BATTERY FEDERAL COM #1H | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Tamara Oldaker |
| Project Location: | NOT GIVEN | | |

### Sample ID: T 1 - BTM (H803295-01)

**BTEX 8021B** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 11/14/2018 | ND | 1.82 | 90.8 | 2.00 | 1.37 | |
| Toluene* | <0.050 | 0.050 | 11/14/2018 | ND | 2.01 | 101 | 2.00 | 4.62 | |
| Ethylbenzene* | <0.050 | 0.050 | 11/14/2018 | ND | 2.10 | 105 | 2.00 | 4.65 | |
| Total Xylenes* | <0.150 | 0.150 | 11/14/2018 | ND | 6.39 | 107 | 6.00 | 4.19 | |
| Total BTEX | <0.300 | 0.300 | 11/14/2018 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *100 %* *73.3-129*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: AC

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **8200** | 16.0 | 11/15/2018 | ND | 432 | 108 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 11/14/2018 | ND | 188 | 94.1 | 200 | 4.48 | |
| DRO >C10-C28* | <10.0 | 10.0 | 11/14/2018 | ND | 196 | 98.2 | 200 | 2.83 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 11/14/2018 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *94.3 %* *41-142*

*Surrogate: 1-Chlorooctadecane* *99.2 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

| | | | |
|---|---|---|---|
| Received: | 11/13/2018 | Sampling Date: | 11/09/2018 |
| Reported: | 11/15/2018 | Sampling Type: | Soil |
| Project Name: | ROY BATTERY FEDERAL COM #1H | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Tamara Oldaker |
| Project Location: | NOT GIVEN | | |

### Sample ID: T 2 - BTM (H803295-02)

**BTEX 8021B** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 11/14/2018 | ND | 1.82 | 90.8 | 2.00 | 1.37 | |
| Toluene* | <0.050 | 0.050 | 11/14/2018 | ND | 2.01 | 101 | 2.00 | 4.62 | |
| Ethylbenzene* | <0.050 | 0.050 | 11/14/2018 | ND | 2.10 | 105 | 2.00 | 4.65 | |
| Total Xylenes* | <0.150 | 0.150 | 11/14/2018 | ND | 6.39 | 107 | 6.00 | 4.19 | |
| Total BTEX | <0.300 | 0.300 | 11/14/2018 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *101 %* *73.3-129*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: AC

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **144** | 16.0 | 11/15/2018 | ND | 432 | 108 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 11/14/2018 | ND | 188 | 94.1 | 200 | 4.48 | |
| DRO >C10-C28* | <10.0 | 10.0 | 11/14/2018 | ND | 196 | 98.2 | 200 | 2.83 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 11/14/2018 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *83.3 %* *41-142*

*Surrogate: 1-Chlorooctadecane* *85.4 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

| | | | |
|---|---|---|---|
| Received: | 11/13/2018 | Sampling Date: | 11/09/2018 |
| Reported: | 11/15/2018 | Sampling Type: | Soil |
| Project Name: | ROY BATTERY FEDERAL COM #1H | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Tamara Oldaker |
| Project Location: | NOT GIVEN | | |

### Sample ID: T 1 - NORTH (H803295-03)

**BTEX 8021B** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 11/14/2018 | ND | 1.82 | 90.8 | 2.00 | 1.37 | |
| Toluene* | <0.050 | 0.050 | 11/14/2018 | ND | 2.01 | 101 | 2.00 | 4.62 | |
| Ethylbenzene* | <0.050 | 0.050 | 11/14/2018 | ND | 2.10 | 105 | 2.00 | 4.65 | |
| Total Xylenes* | <0.150 | 0.150 | 11/14/2018 | ND | 6.39 | 107 | 6.00 | 4.19 | |
| Total BTEX | <0.300 | 0.300 | 11/14/2018 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *100 %* *73.3-129*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: AC

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **6500** | 16.0 | 11/15/2018 | ND | 432 | 108 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 11/14/2018 | ND | 188 | 94.1 | 200 | 4.48 | |
| DRO >C10-C28* | <10.0 | 10.0 | 11/14/2018 | ND | 196 | 98.2 | 200 | 2.83 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 11/14/2018 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *88.0 %* *41-142*

*Surrogate: 1-Chlorooctadecane* *91.6 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

| | | | |
|---|---|---|---|
| Received: | 11/13/2018 | Sampling Date: | 11/09/2018 |
| Reported: | 11/15/2018 | Sampling Type: | Soil |
| Project Name: | ROY BATTERY FEDERAL COM #1H | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Tamara Oldaker |
| Project Location: | NOT GIVEN | | |

### Sample ID: T 1 - WEST (H803295-04)

**BTEX 8021B** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 11/14/2018 | ND | 1.82 | 90.8 | 2.00 | 1.37 | |
| Toluene* | <0.050 | 0.050 | 11/14/2018 | ND | 2.01 | 101 | 2.00 | 4.62 | |
| Ethylbenzene* | <0.050 | 0.050 | 11/14/2018 | ND | 2.10 | 105 | 2.00 | 4.65 | |
| Total Xylenes* | <0.150 | 0.150 | 11/14/2018 | ND | 6.39 | 107 | 6.00 | 4.19 | |
| Total BTEX | <0.300 | 0.300 | 11/14/2018 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *100 %* *73.3-129*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: AC

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **1630** | 16.0 | 11/15/2018 | ND | 432 | 108 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 11/14/2018 | ND | 188 | 94.1 | 200 | 4.48 | |
| DRO >C10-C28* | <10.0 | 10.0 | 11/14/2018 | ND | 196 | 98.2 | 200 | 2.83 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 11/14/2018 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *95.6 %* *41-142*

*Surrogate: 1-Chlorooctadecane* *98.6 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

| | | | |
|---|---|---|---|
| Received: | 11/13/2018 | Sampling Date: | 11/09/2018 |
| Reported: | 11/15/2018 | Sampling Type: | Soil |
| Project Name: | ROY BATTERY FEDERAL COM #1H | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Tamara Oldaker |
| Project Location: | NOT GIVEN | | |

### Sample ID: T 1 - EAST (H803295-05)

**BTEX 8021B** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 11/15/2018 | ND | 1.82 | 90.8 | 2.00 | 1.37 | |
| Toluene* | <0.050 | 0.050 | 11/15/2018 | ND | 2.01 | 101 | 2.00 | 4.62 | |
| Ethylbenzene* | <0.050 | 0.050 | 11/15/2018 | ND | 2.10 | 105 | 2.00 | 4.65 | |
| Total Xylenes* | <0.150 | 0.150 | 11/15/2018 | ND | 6.39 | 107 | 6.00 | 4.19 | |
| Total BTEX | <0.300 | 0.300 | 11/15/2018 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *101 %* *73.3-129*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: AC

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **12200** | 16.0 | 11/15/2018 | ND | 432 | 108 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 11/15/2018 | ND | 188 | 94.1 | 200 | 4.48 | |
| DRO >C10-C28* | <10.0 | 10.0 | 11/15/2018 | ND | 196 | 98.2 | 200 | 2.83 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 11/15/2018 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *87.9 %* *41-142*

*Surrogate: 1-Chlorooctadecane* *86.9 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

| | | | |
|---|---|---|---|
| Received: | 11/13/2018 | Sampling Date: | 11/09/2018 |
| Reported: | 11/15/2018 | Sampling Type: | Soil |
| Project Name: | ROY BATTERY FEDERAL COM #1H | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Tamara Oldaker |
| Project Location: | NOT GIVEN | | |

### Sample ID: T 2 - SOUTH (H803295-06)

**BTEX 8021B** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 11/15/2018 | ND | 1.82 | 90.8 | 2.00 | 1.37 | |
| Toluene* | <0.050 | 0.050 | 11/15/2018 | ND | 2.01 | 101 | 2.00 | 4.62 | |
| Ethylbenzene* | <0.050 | 0.050 | 11/15/2018 | ND | 2.10 | 105 | 2.00 | 4.65 | |
| Total Xylenes* | <0.150 | 0.150 | 11/15/2018 | ND | 6.39 | 107 | 6.00 | 4.19 | |
| Total BTEX | <0.300 | 0.300 | 11/15/2018 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *101 %* *73.3-129*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: AC

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **48.0** | 16.0 | 11/15/2018 | ND | 432 | 108 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 11/14/2018 | ND | 188 | 94.1 | 200 | 4.48 | |
| DRO >C10-C28* | <10.0 | 10.0 | 11/14/2018 | ND | 196 | 98.2 | 200 | 2.83 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 11/14/2018 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *87.0 %* *41-142*

*Surrogate: 1-Chlorooctadecane* *93.0 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

| | | | |
|---|---|---|---|
| Received: | 11/13/2018 | Sampling Date: | 11/09/2018 |
| Reported: | 11/15/2018 | Sampling Type: | Soil |
| Project Name: | ROY BATTERY FEDERAL COM #1H | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Tamara Oldaker |
| Project Location: | NOT GIVEN | | |

### Sample ID: T 2 - EAST (H803295-07)

**BTEX 8021B** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 11/15/2018 | ND | 1.82 | 90.8 | 2.00 | 1.37 | |
| Toluene* | <0.050 | 0.050 | 11/15/2018 | ND | 2.01 | 101 | 2.00 | 4.62 | |
| Ethylbenzene* | <0.050 | 0.050 | 11/15/2018 | ND | 2.10 | 105 | 2.00 | 4.65 | |
| Total Xylenes* | <0.150 | 0.150 | 11/15/2018 | ND | 6.39 | 107 | 6.00 | 4.19 | |
| Total BTEX | <0.300 | 0.300 | 11/15/2018 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *100 %* *73.3-129*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: AC

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <16.0 | 16.0 | 11/15/2018 | ND | 432 | 108 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 11/14/2018 | ND | 188 | 94.1 | 200 | 4.48 | |
| DRO >C10-C28* | <10.0 | 10.0 | 11/14/2018 | ND | 196 | 98.2 | 200 | 2.83 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 11/14/2018 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *91.1 %* *41-142*

*Surrogate: 1-Chlorooctadecane* *96.9 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

| | | | |
|---|---|---|---|
| Received: | 11/13/2018 | Sampling Date: | 11/09/2018 |
| Reported: | 11/15/2018 | Sampling Type: | Soil |
| Project Name: | ROY BATTERY FEDERAL COM #1H | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Tamara Oldaker |
| Project Location: | NOT GIVEN | | |

### Sample ID: T 2 - WEST (H803295-08)

**BTEX 8021B** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 11/15/2018 | ND | 1.82 | 90.8 | 2.00 | 1.37 | |
| Toluene* | <0.050 | 0.050 | 11/15/2018 | ND | 2.01 | 101 | 2.00 | 4.62 | |
| Ethylbenzene* | <0.050 | 0.050 | 11/15/2018 | ND | 2.10 | 105 | 2.00 | 4.65 | |
| Total Xylenes* | <0.150 | 0.150 | 11/15/2018 | ND | 6.39 | 107 | 6.00 | 4.19 | |
| Total BTEX | <0.300 | 0.300 | 11/15/2018 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *101 %* *73.3-129*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: AC

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **32.0** | 16.0 | 11/15/2018 | ND | 432 | 108 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 11/15/2018 | ND | 188 | 94.1 | 200 | 4.48 | |
| DRO >C10-C28* | <10.0 | 10.0 | 11/15/2018 | ND | 196 | 98.2 | 200 | 2.83 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 11/15/2018 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *84.0 %* *41-142*

*Surrogate: 1-Chlorooctadecane* *84.7 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

1 OF 1

# CARDINAL Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

| | | | |
|---|---|---|---|
| Company Name: | Concho Resources | BILL TO | |
| Project Manager: | Sheldon Hitchcock | P.O. #: | |
| Address: | 2407 Pecos Avenue | Company: | COG |
| City: | Artesia | State: NM Zip: 88210 | Attn: Robert McNeill |
| Phone #: | 575-703-6475 | Fax #: | Address: |
| Project #: | | Project Owner: Concho | City: |
| Project Name: | ROY BATTY FEDERAL COM #1H | | State: Zip: |
| Project Location: | | | Phone #: |
| Sampler Name: | | | Fax #: |

| FOR LAB USE ONLY Lab I.D. | Sample I.D. | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX: GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER : | PRESERV.: ACID/BASE: | ICE / COOL | OTHER : | SAMPLING: DATE | TIME | ANALYSIS REQUEST: BTEX | TPH - EXTENDED | CHLORIDES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H803295 | | | | | | | | | | | | | | | | | |
| 1 | T1 - BTM | | | | | X | | | | | | | 11-9-18 | 2:00 PM | X | X | X |
| 2 | T2 - BTM | | | | | | | | | | | | | 2:05 PM | X | X | X |
| 3 | T1 - NORTH | | | | | | | | | | | | | 2:10 PM | X | X | X |
| 4 | T1 - WEST | | | | | | | | | | | | | 2:15 PM | X | X | X |
| 5 | T1 - EAST | | | | | | | | | | | | | 2:20 PM | X | X | X |
| 6 | T2 - SOUTH | | | | | | | | | | | | | 2:25 PM | X | X | X |
| 7 | T2 - EAST | | | | | | | | | | | | | 2:30 PM | X | X | X |
| 8 | T2 - WEST | | | | | | | | | | | | | 2:35 PM | X | X | X |



| | | | |
|---|---|---|---|
| Relinquished By: | Date: 11-13-18 | Received By: | Phone Result: ☐ Yes ☐ No Add'l Phone #: |
| | Time: 12:40 | | Fax Result: ☐ Yes ☐ No Add'l Fax #: |
| Relinquished By: | Date: | Received By: | REMARKS: |
| | Time: | | |
| Delivered By: (Circle One) Sampler - UPS - Bus - Other: 4.6° #97 | Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No | CHECKED BY: (Initials) T.O. | |

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

November 28, 2018

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: ROY BATTERY FEDERAL COM #1H

Enclosed are the results of analyses for samples received by the laboratory on 11/27/18 11:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## *Analytical Results For:*

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

| | | | |
|---|---|---|---|
| Received: | 11/27/2018 | Sampling Date: | 11/27/2018 |
| Reported: | 11/28/2018 | Sampling Type: | Soil |
| Project Name: | ROY BATTERY FEDERAL COM #1H | Sampling Condition: | ** (See Notes) |
| Project Number: | NONE GIVEN | Sample Received By: | Tamara Oldaker |
| Project Location: | LEA CO., NM | | |

### Sample ID: T - 1 N. (H803461-01)

**Chloride, SM4500Cl-B** **mg/kg** **Analyzed By: AC**

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **208** | 16.0 | 11/28/2018 | ND | 432 | 108 | 400 | 3.77 | |

### Sample ID: T - 1 E. (H803461-02)

**Chloride, SM4500Cl-B** **mg/kg** **Analyzed By: AC**

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **6800** | 16.0 | 11/28/2018 | ND | 432 | 108 | 400 | 3.77 | |

### Sample ID: T - 1 W. (H803461-03)

**Chloride, SM4500Cl-B** **mg/kg** **Analyzed By: AC**

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **32.0** | 16.0 | 11/28/2018 | ND | 432 | 108 | 400 | 3.77 | |

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

PG 1 of 1



CARDINAL Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

| | |
|---|---|
| Company Name: Concho Resources | **BILL TO** |
| Project Manager: Sheldon Hitchcock | P.O. #: |
| Address: 2407 Pecos Avenue | Company: COG |
| City: Artesia State: NM Zip: 88210 | Attn: Robert McNeill |
| Phone #: 575-703-6475 Fax #: | Address: |
| Project #: Project Owner: Concho | City: |
| Project Name: Roy Batty Fed Com #1 | State: Zip: |
| Project Location: Lea Co NM | Phone #: |
| Sampler Name: Sheldon Hitchcom | Fax #: |

| FOR LAB USE ONLY | | | | MATRIX | | | | | | | PRESERV. | | | SAMPLING | | ANALYSIS REQUEST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab I.D. | Sample I.D. | (G)RAB OR (C)OMP. | # CONTAINERS | GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER : | ACID/BASE: | ICE / COOL | OTHER : | DATE | TIME | Chlorides |
| H803461 | | | | | | | | | | | | | | | |
| 1 | T-1 N. | G | 1 | | | / | | | | | / | | 11/27/18 | 9:10 | X |
| 2 | T-1 E. | G | 1 | | | / | | | | | / | | | 9:15 | X |
| 3 | T-1 W. | G | 1 | | | / | | | | | / | | | 9:20 | X |

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

| | | | |
|---|---|---|---|
| Relinquished By: | Date: 11-27-18 | Received By: | Phone Result: ☐ Yes ☐ No Add'l Phone #: |
| | Time: 11:00 | | Fax Result: ☐ Yes ☐ No Add'l Fax #: |
| Relinquished By: | Date: | Received By: | REMARKS: Rush |
| | Time: | | |

| Delivered By: (Circle One) | Sample Condition | CHECKED BY: (Initials) |
|---|---|---|
| Sampler - UPS - Bus - Other: 26.7° #97 | Cool: ☐ Yes ☑ No Intact: ☑ Yes ☐ No | TO |

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

December 11, 2018

DAKOTA NEEL

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: ROY BATTERY FEDERAL COM #1H

Enclosed are the results of analyses for samples received by the laboratory on 12/06/18 15:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

| | | | |
|---|---|---|---|
| Received: | 12/06/2018 | Sampling Date: | 12/04/2018 |
| Reported: | 12/11/2018 | Sampling Type: | Soil |
| Project Name: | ROY BATTERY FEDERAL COM #1H | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Tamara Oldaker |
| Project Location: | LEA CO., NM | | |

### Sample ID: T - 1 EAST (H803596-01)

**BTEX 8021B** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 12/08/2018 | ND | 1.95 | 97.3 | 2.00 | 1.76 | |
| Toluene* | <0.050 | 0.050 | 12/08/2018 | ND | 1.96 | 98.1 | 2.00 | 1.95 | |
| **Ethylbenzene*** | **0.076** | 0.050 | 12/08/2018 | ND | 1.90 | 95.1 | 2.00 | 2.12 | |
| **Total Xylenes*** | **0.327** | 0.150 | 12/08/2018 | ND | 5.71 | 95.1 | 6.00 | 1.84 | |
| **Total BTEX** | **0.402** | 0.300 | 12/08/2018 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *99.5 %* *73.3-129*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: AC

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **64.0** | 16.0 | 12/11/2018 | ND | 400 | 100 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 12/07/2018 | ND | 197 | 98.4 | 200 | 2.38 | |
| **DRO >C10-C28*** | **57.4** | 10.0 | 12/07/2018 | ND | 206 | 103 | 200 | 4.30 | |
| **EXT DRO >C28-C36** | **34.9** | 10.0 | 12/07/2018 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *99.9 %* *41-142*

*Surrogate: 1-Chlorooctadecane* *115 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Notes and Definitions

| | |
|---|---|
| QR-03 | The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values. |
| QM-07 | The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery. |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| RPD | Relative Percent Difference |
| ** | Samples not received at proper temperature of 6°C or below. |
| *** | Insufficient time to reach temperature. |
| - | Chloride by SM4500Cl-B does not require samples be received at or below 6°C |
| | Samples reported on an as received basis (wet) unless otherwise noted on report |

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

1 of 1

# CARDINAL Laboratories

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

| | | | |
|---|---|---|---|
| **Company Name:** | COG Operating LLC | **BILL TO** | |
| **Project Manager:** | Dakota Neel | **P.O. #:** | |
| **Address:** | 2407 Pecos Avenue | **Company:** | COG Operating LLC |
| **City:** | Artesia **State: NM** **Zip** 88210 | **Attn:** | Robert McNeill |
| **Phone #:** | (575) 746-2010 **Fax #:** | **Address:** | 600 W Illinois |
| **Project #:** | **Project Owner:** | **City:** | Midland |
| **Project Name:** | ROY BATTY FEDERAL Com #1 | **State: TX** | **Zip: 79701** |
| **Project Location:** | | **Phone #:** | (432) 221-0388 |
| **Sampler Name:** | Dakota Neel | **Fax #:** | |

| FOR LAB USE ONLY | | | | MATRIX | | | | | | PRESERV. | | | SAMPLING | | ANALYSIS REQUEST | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab I.D.** | **Sample I.D.** | (G)RAB OR (C)OMP. | # CONTAINERS | GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER : | ACID/BASE: | ICE / COOL | OTHER : | **DATE** | **TIME** | BTEX | TPH Extended | Chloride | | | | | | | | |
| H803596 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | T1 - EAST | | 1 | | | 1 | | | | | 1 | | 12-4-18 | 11:00am | ✓ | ✓ | ✓ | | | | | | | | |
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| | | | |
|---|---|---|---|
| **Relinquished By:** | Date: 12-6-18 | **Received By:** | |
| **Relinquished By:** | Time: 15:05 | **Received By:** | |
| | Date: | | |
| **Delivered By: (Circle One)** | Time: | | |
| **Sampler - UPS - Bus - Other:** | 5.9° #197 | **Sample Condition** Cool: ~~Yes~~ No; Intact: ~~Yes~~ No | **CHECKED BY: (Initials)** TC |

FORM-006 R 2.0

| | | | |
|---|---|---|---|
| **Phone Result:** | ☐ Yes | ☐ No | **Add'l Phone #:** |
| **Fax Result:** | ☐ Yes | ☐ No | **Add'l Fax #:** |
| **REMARKS:** | | | |

**District I**
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
**District II**
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
**District III**
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
**District IV**
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 160946

## CONDITIONS

| | |
|---|---|
| Operator:<br>COG OPERATING LLC<br>600 W Illinois Ave<br>Midland, TX 79701 | OGRID:<br>229137 |
| | Action Number:<br>160946 |
| | Action Type:<br>[IM-SD] Incident File Support Doc (ENV) (IM-BNF) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| amaxwell | None | 11/22/2022 |