TETRA TECH

January 13, 2022

District Supervisor
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Release Characterization and Closure Request
ConocoPhillips
Heritage Concho
BKU Central Battery SWD (BKU 221)
Unit Letter J, Section 24, Township 17 South, Range 29 East
Eddy County, New Mexico
Incident ID# nAB1430052012

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips (COP) to assess a Heritage Concho release and subsequent remedial actions taken at the Burch Keely Unit (BKU) Central Battery Saltwater Disposal (SWD) facility, which is adjacent to the BKU #221 well (API No. 30-015-27764). The release footprint is located in Public Land Survey System (PLSS) Unit Letter J, Section 24, Township 17 South, Range 29 East, in Eddy County, New Mexico (Site). The approximate release point occurred at coordinates 32.819596°, -104.026344°, as shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico Oil Conservation District (NMOCD) C-141 Initial Report, the release was discovered on October 10, 2014. The C-141 reports that the release was caused by a failed plunger on a triplex pump. Approximately 45 barrels (bbls) of produced water were released into an approximately 10-foot by 30-foot bermed containment. Vacuum trucks were dispatched to recover approximately 40 bbls of produced water, and the pump was replaced. The release stayed within the bermed containment, with no release to pasture. The New Mexico Oil Conservation District (NMOCD) approved the initial C-141 on October 27, 2014 and subsequently assigned the release the Incident ID nAB1430052012. The initial C-141 form is included in Appendix A.

SITE CHARACTERIZATION

A site characterization was performed and no sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, playa lakes, stream bodies, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the distances specified in 19.15.29 New Mexico Administrative Code (NMAC). The Site is in an area of low karst potential.

There are no water wells listed in the New Mexico Office of the State Engineer (NMOSE database located within approximately ½ mile (800 meters) of the site. According to data from two (2) water wells listed in the NMOSE database within approximately 2.5 miles (4,000 meters) of the site, the depth to groundwater is 78 feet below ground surface (bgs). The site characterization data are presented in Appendix B.

Tetra Tech
901 West Wall St., Suite 100, Midland, TX 79701
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

REGULATORY FRAMEWORK

Based upon the release footprint and in accordance with Subsection E of 19.15.29.12 NMAC, per 19.15.29.11 NMAC, the site characterization data was used to determine recommended remedial action levels (RRALs) for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX), total petroleum hydrocarbons (TPH), and chlorides in soil.

Based on the site characterization, established depth to groundwater, and in accordance with Table I of 19.15.29.12 NMAC, the RRALs for the Site are as follows:

Constituent	Site RRALs
Chloride	10,000 mg/kg
TPH	2,500 mg/kg
BTEX	50 mg/kg

Additionally, in accordance with the NMOCD guidance *Procedures for Implementation of the Spill Rule (19.15.29 NMAC)* (September 6, 2019), the following reclamation requirements for surface soils (0-4 ft bgs) outside of active oil and gas operations are as follows:

Constituent	Reclamation Requirements
Chloride	600 mg/kg
TPH	100 mg/kg
BTEX	50 mg/kg

INITIAL RESPONSE ACTIVITIES AND CLOSURE REQUEST

Following the release and prior to sampling, Concho called a daylighting crew to the Site to spot lines. To do so, a trench was excavated by means of a hydrovac truck. The trench revealed twenty-four (24) buried lines that run throughout the facility.

Concho submitted a letter dated March 18, 2015 to NMOCD following the initial response actions, requesting deferral of remediation at the facility due to safety concerns for those excavating. The deferral letter is included as Appendix C. In an email dated March 20, 2015, NMOCD agreed that the Site is a good candidate for deferment, but required that a Site delineation be performed to the extent that can be achieved safely. The NMOCD correspondence is included as Appendix D.

SITE ASSESSMENT AND SAMPLING RESULTS

In order to comply with the NMOCD directive given in the March 20, 2015 email, Concho was onsite on March 20, 2019 to install two hand auger soil borings (AH-1 and AH-2) within the release extent to total depths of 4.5 feet, where refusal was met. The exact sample locations within the release extent were not documented. A total of ten (10) soil samples were collected from the two borings and sent to Xenco Laboratories in Midland, Texas to be analyzed for chloride via EPA Method 300.0, TPH via EPA Method 8015M and BTEX via EPA Method 8261B. A copy of the laboratory analytical report and chain-of-custody documentation are included in Appendix E.

Analytical results from the 2019 assessment activities are summarized in Table 1. All analytical results were below the applicable Site RRALs for soils in active oil and gas production areas.

SITE RECLAMATION AND RESTORATION PLAN

Based on the site characterization, the impacted surface area of the release on the production lease pad meets the remediation standards of Table I of 19.15.29.12 NMAC. As these areas are needed for production operations, final reclamation of any impact within the lease pad areas shall take place in accordance with 19.15.29.12 and 19.15.29.13 NMAC once the Site is no longer being used for oil and gas

operations. Therefore, reclamation of the soils located within the confines of the BKU Central Battery SWD lease pad will be delayed until the abandonment of the facility and the full pad reclamation.

CONCLUSION

Based on the results of the site assessment, ConocoPhillips considers the current release footprint to be fully delineated. All analytical results associated with the on-pad site assessment were below applicable Site RRALs following the initial response actions; therefore, no further remediation of the release footprint is necessary. The remaining contamination is on an active, developed oil and gas production pad, fully delineated, and does not cause an imminent risk to human health, the environment, or groundwater. The impacted surface area occurring on the developed pad at the site was remediated to meet the standards of Table I of 19.15.29.12 NMAC during the initial response activities.

Based on the above, ConocoPhillips respectfully requests closure for this release. Final reclamation shall take place in accordance with 19.15.29.13 NMAC once the site is no longer being used for oil and gas operations. The final C-141 forms are enclosed in Appendix A. If you have any questions concerning the soil assessment activities for the Site, please call me at (512) 739-7874.

Sincerely,
Tetra Tech, Inc.

Samantha Abbott, P.G.
Project Manager

cc:
Mr. Ike Tavarez, RMR – ConocoPhillips
Mr. Charles Beauvais, BU – ConocoPhillips

LIST OF ATTACHMENTS

Figures:

Figure 1 – Overview Map
Figure 2 – Topographic Map
Figure 3 – Approximate Release Extent

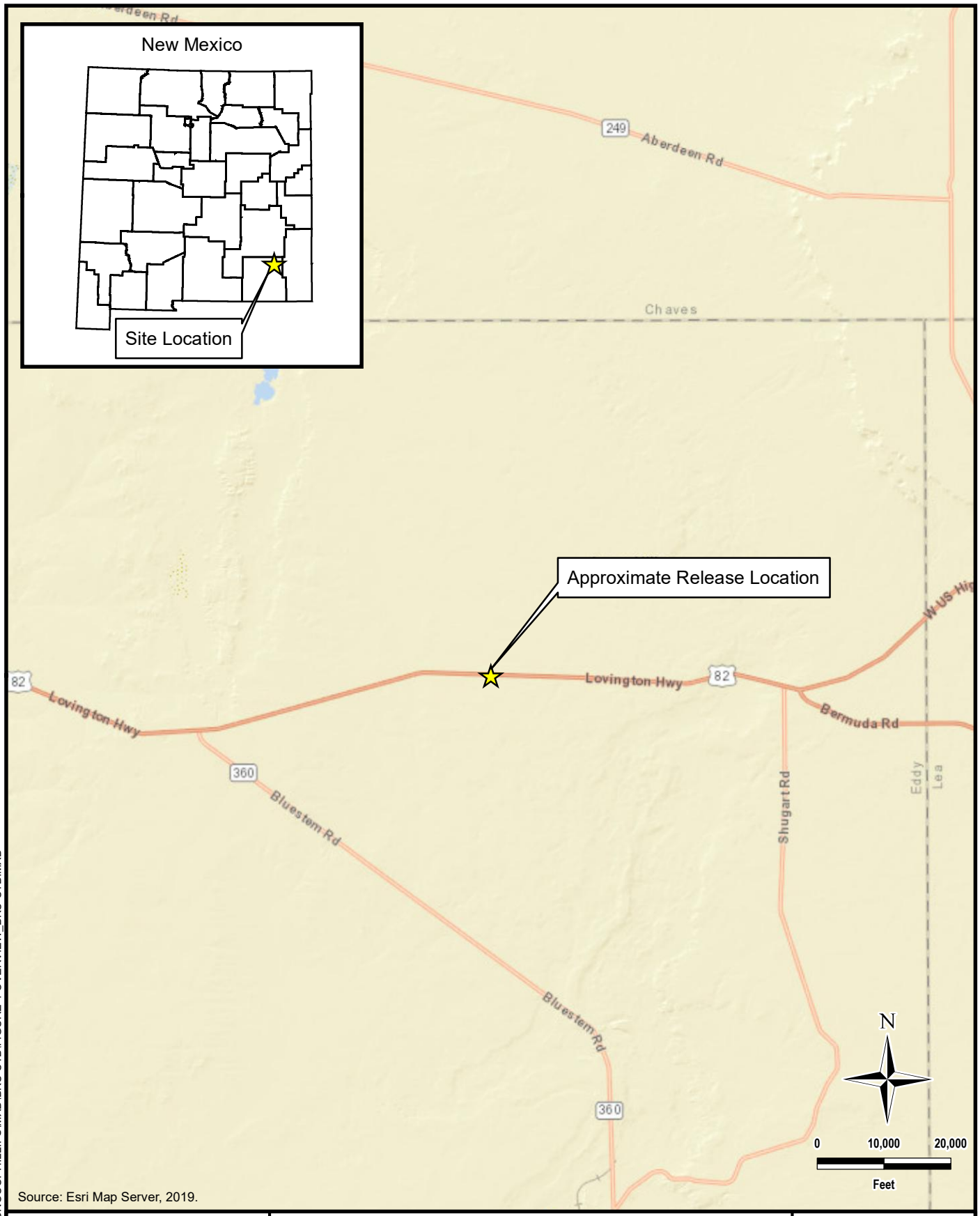
Tables:

Table 1 – Summary of Analytical Results – Soil Assessment

Appendices:

Appendix A – C-141 Forms
Appendix B – Site Characterization Data
Appendix C – Deferment Request Letter (March 18, 2015)
Appendix D – NMOCD Correspondence
Appendix E – Laboratory Analytical Data

FIGURES



Source: Esri Map Server, 2019.

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\BKU CTB\FIGURE 1 OVERVIEW_BKU CTB.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

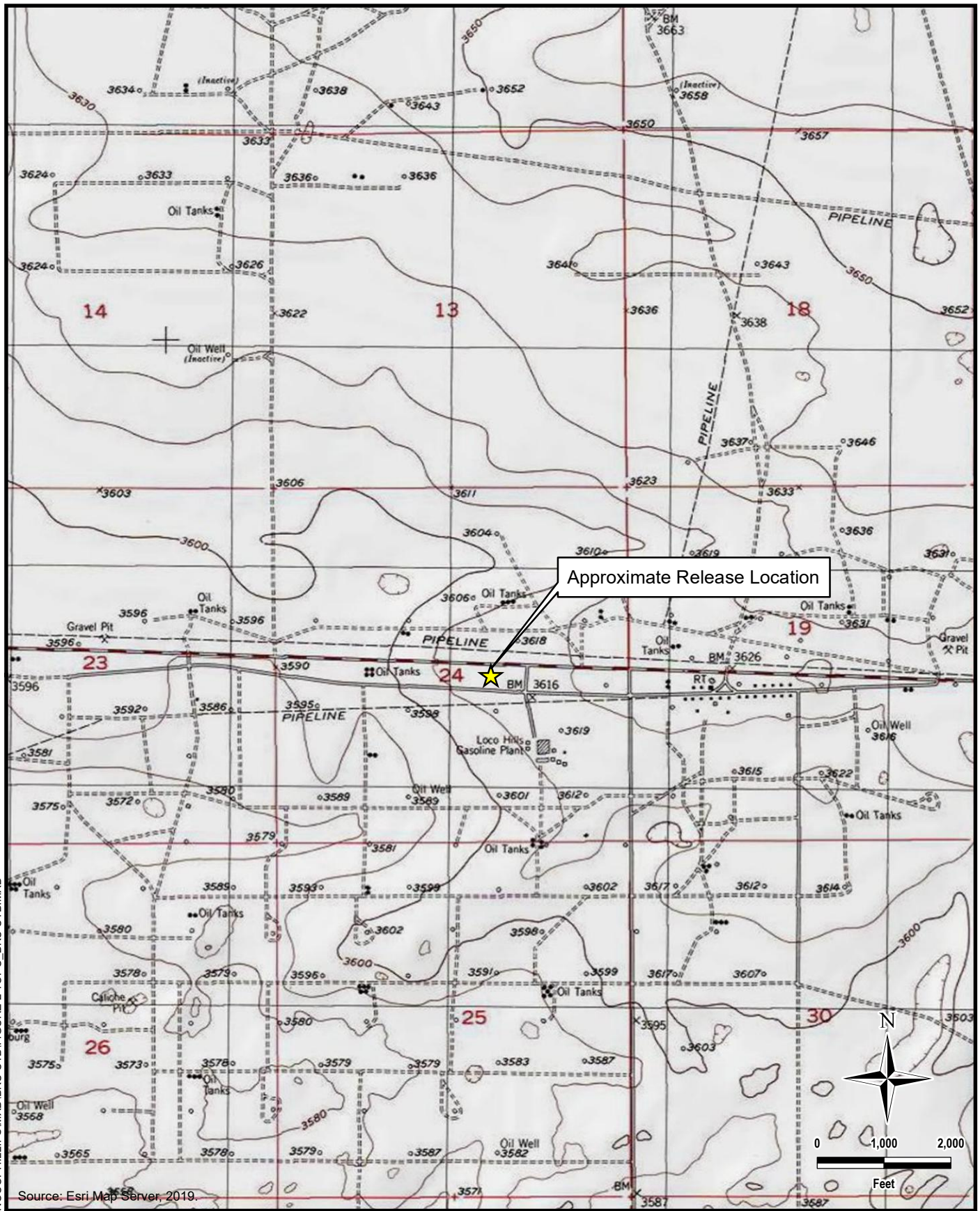
CONOCOPHILLIPS - HERITAGE CONCHO

INCIDENT ID# NAB1430052012
(32.819596°, -104.026344°)
EDDY COUNTY, NEW MEXICO

BKU CENTRAL BATTERY SWD (BKU 221)
OVERVIEW MAP

PROJECT NO.:	212C-MD-02623
DATE:	DECEMBER 22, 2021
DESIGNED BY:	AAM

Figure No.
1



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\BKU CTB\FIGURE 2 TOPO_BKU CTB.MXD

TETRA TECH

www.tetratech.com

901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

CONOCOPHILLIPS - HERITAGE CONCHO

INCIDENT ID# NAB1430052012
(32.819596°, -104.026344°)
EDDY COUNTY, NEW MEXICO

BKU CENTRAL BATTERY SWD (BKU 221)
TOPOGRAPHIC MAP

PROJECT NO.:	212C-MD-02623
DATE:	DECEMBER 22, 2021
DESIGNED BY:	AAM

Figure No.
2

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\BKU CTB\FIGURE 3 RELEASE_BKU CTB.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

CONOCOPHILLIPS - HERITAGE CONCHO

INCIDENT ID# NAB1430052012
(32.819596°, -104.026344°)
EDDY COUNTY, NEW MEXICO

BKU CENTRAL BATTERY SWD (BKU 221)
APPROXIMATE RELEASE EXTENT

PROJECT NO.:	212C-MD-02623
DATE:	DECEMBER 22, 2021
DESIGNED BY:	AAM

Figure No.
3

TABLE

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT - 2RP-2565
HERITAGE CONCHO
BKU CENTRAL BATTERY SWD RELEASE
LEA COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride[1]		BTEX[2]												TPH[3]									
					Benzene		Toluene		Ethylbenzene		m,p-Xylenes		o-Xylene		Total Xylenes		Total BTEX		GRO		DRO		MRO		Total TPH	
		ft. bgs	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	
AH-1	3/20/2019	0-1	300		< 0.00201		< 0.00201		< 0.00201		< 0.00402		< 0.00201		< 0.00201		< 0.00201		< 15.0		22.3		< 15.0		22.3	
		1.5	231		< 0.00199		< 0.00199		< 0.00199		< 0.00398		< 0.00199		< 0.00199		< 0.00199		< 15.0		< 15.0		< 15.0		< 15.0	
		2.5	302		< 0.00199		< 0.00199		< 0.00199		< 0.00398		< 0.00199		< 0.00199		< 0.00199		< 14.9		< 14.9		< 14.9		< 14.9	
		3.5	439		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		4.5 (Refusal)	955		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
AH-2	3/20/2019	0-1	127		< 0.00200		< 0.00200		< 0.00200		< 0.00400		< 0.00200		< 0.00200		< 0.00200		< 15.0		< 15.0		< 15.0		< 15.0	
		1.5	105		< 0.00200		< 0.00200		< 0.00200		< 0.00401		< 0.00200		< 0.00200		< 0.00200		< 15.0		18.3		< 15.0		18.3	
		2.5	24.8		< 0.00201		< 0.00201		< 0.00201		< 0.00402		< 0.00201		< 0.00201		< 0.00201		< 15.0		27.4		< 15.0		27.4	
		3.5	31.3		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		4.5 (Refusal)	32.0		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	

NOTES:

ft. Feet

bgs Below ground surface

mg/kg Milligrams per kilogram

TPH Total Petroleum Hydrocarbons

GRO Gasoline range organics

DRO Diesel range organics

MRO Motor Oil range organics

NS Sample not analyzed for parameter

1 EPA Method 300.0

2 EPA Method 8021B

3 Method SW8015 Mod

APPENDIX A
C-141 Forms

NM OIL CONSERVATION
ARTESIA DISTRICT
OCT 24 2014
RECEIVED

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 August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

nAB1430052012

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: BKU Central Tank Battery SWD (BKU221)	Facility Type: Facility

Surface Owner: Fee	Mineral Owner: Fee	API No. N/A 30-015-27764

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	24	17S	29E	N/A	N/A	N/A	N/A	Eddy

32.8197 **Latitude** N32° 49.180 **Longitude** W104° 01.569 104.0262

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 45 bbls PW	Volume Recovered: 40 bbls PW
Source of Release: Pump failure	Date and Hour of Occurrence: 10-10-2014 12:00 pm	Date and Hour of Discovery: 10-10-2014 12:00 pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher – OCD	
By Whom? Amanda Trujillo	Date and Hour: 10-16-2014 8:01 pm	
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.*
The release was caused by a plunger on a triplex pump failing. Vacuum trucks were dispatched to remove any standing fluids and the pump was replaced.

Describe Area Affected and Cleanup Action Taken.*

The impacted area was with in the bermed facility in an area approximately 10'x30'. Concho will have the spill site sampled to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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: A. Trujillo

Printed Name: Amanda Trujillo

Title: Senior Environmental Coordinator

E-mail Address: atrujillo@concho.com

Date: October 24, 2014 Phone: 575-748-6940

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Mike Bratcher

Approval Date: 10/27/14 Expiration Date: NA

Conditions of Approval: Remediation per O.C.D. Rules & Guidelines SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 11/27/14

Attached ☐

2RP-2565

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☐ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☐ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☐ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☐ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☐ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☐ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☐ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☐ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☐ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☐ Description of 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 OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Bradford Billings Date: _____

Printed Name: _____ Title: _____

APPENDIX B
Site Characterization Data

OCD Waterbodies

11/30/2021, 11:39:43 AM

OSE Water-bodies

PLJV Probable Playas

OSE Streams

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

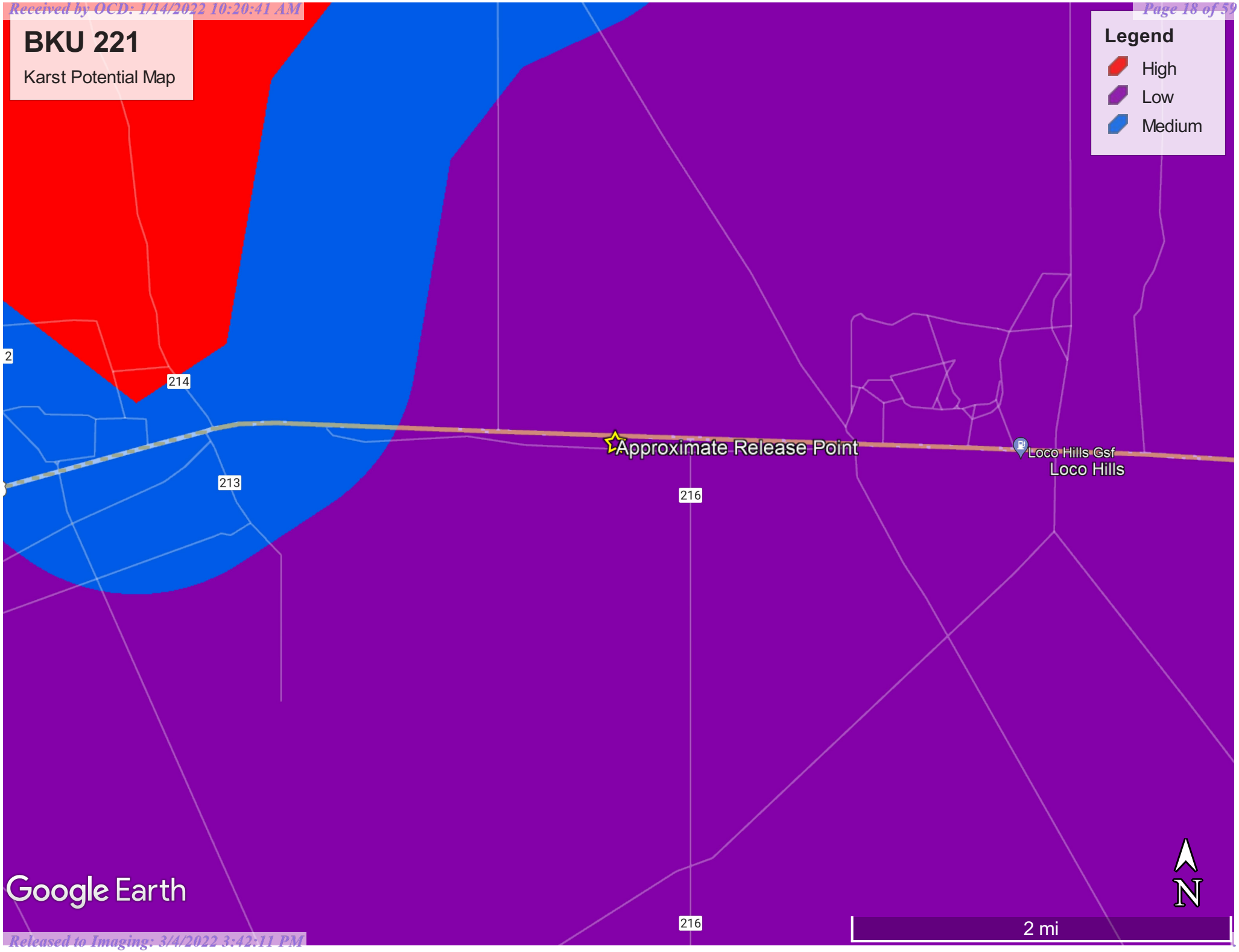
Esri, HERE, Garmin, iPC, Maxar

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division

BKU 221

Karst Potential Map



New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 11914 POD1	RA	ED	2	4	2	20	17S	30E	594801	3632002	3671	85	80	5
RA 11807 POD1	RA	ED	1	2	3	22	17S	29E	587360	3631585	3783	131	76	55

Average Depth to Water: **78 feet**

Minimum Depth: **76 feet**

Maximum Depth: **80 feet**

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 591141 **Northing (Y):** 3631707 **Radius:** 4000

APPENDIX C
Deferral Request Letter
(March 18, 2015)

CONCHO

Amanda Trujillo
Senior Environmental Coordinator

March 18, 2015

Oil Conservation Division
District 2 – Artesia
811 S. First St.
Artesia, NM 88210

Mr. Bratcher,

This letter is in response to the C-141 Initial report dated October 24, 2014 for the BKU Central Tank Battery SWD. This release was caused by a plunger on a triplex pump failing and causing the release of 45 bbls of produced water. The impacted area was confined to the bermed area of the facility. This area is classified as a site ranking of zero with depth to groundwater at 175' to 200' depth per the Chevron Trend Maps (2003).

Prior to sampling a daylighting crew was called in to spot lines and a trench was excavated by means of a hydrovac truck. The trench revealed 24 buried lines. These lines run throughout the facility. At this time COG Operating LLC would like to request closure based on safety concerns for those excavating. Cleanup to meet NMOCD RRALs for a site ranking of zero can be addressed at the time of abandonment. If you have any additional questions or would like to discuss this further, Please feel free to contact me at 575-748-6930.

Sincerely,

A Trujillo

Amanda Trujillo

Enclosed

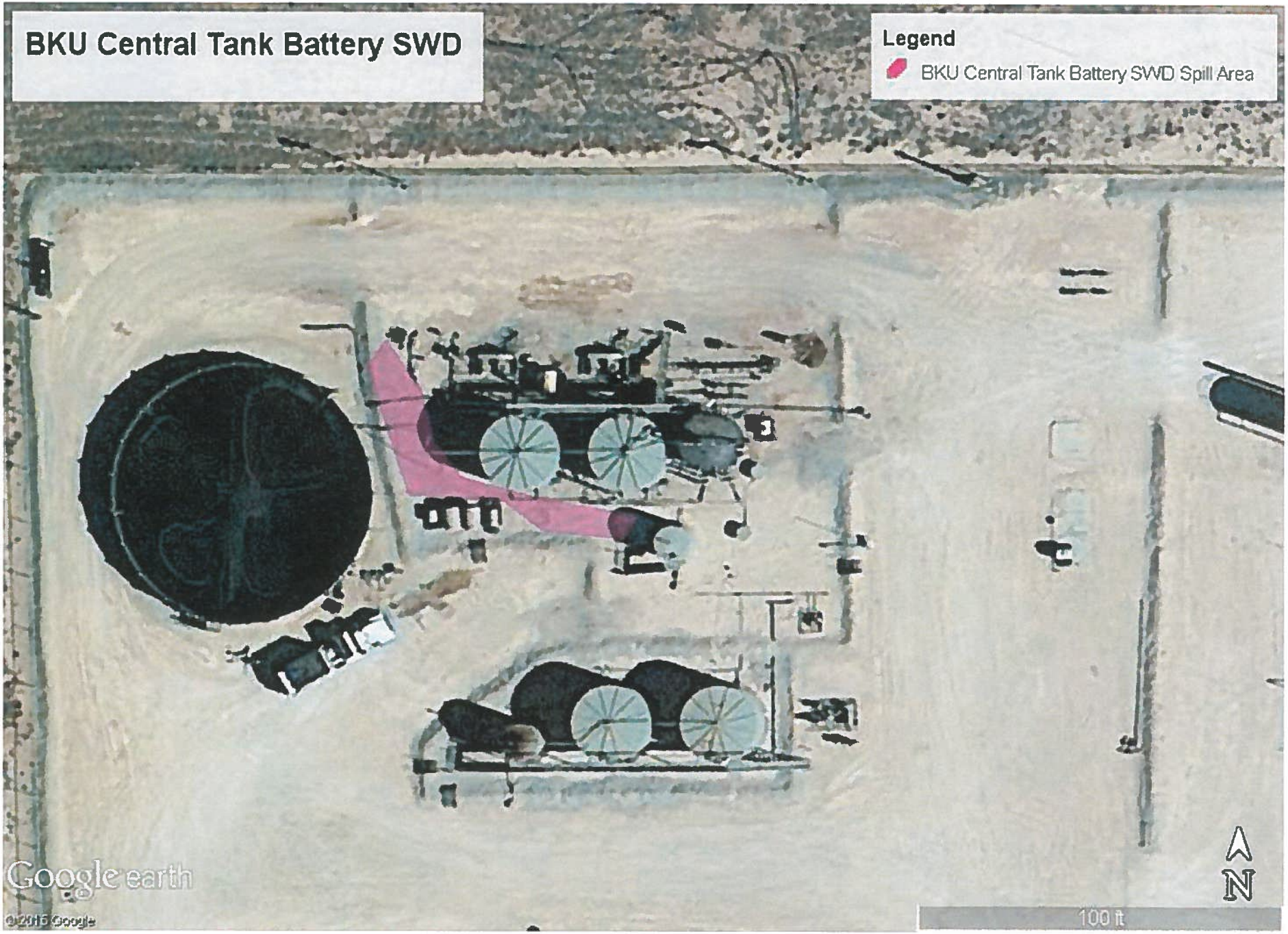
(1) Site Diagram
(2) C-141 Final
(3) C-141 Initial Copy

CORPORATE ADDRESS
One Concho Center | 600 West Illinois Avenue | Midland, Texas 79701
PHONE 432.683.7443 | FAX 432.683.7441

LOCAL ADDRESS
Concho West | 2208 Main Street | Artesia, New Mexico 88210
PHONE 575.748.6940 | FAX 575.746.2096

March 16, 2015

BKU Central Tank Battery SWD



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 August 8, 2011

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	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: BKU Central Tank Battery SWD	Facility Type: Facility

Surface Owner: Fee	Mineral Owner: Fee	API No. N/A

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	24	17S	29E	N/A	N/A	N/A	N/A	Eddy

Latitude N32' 49.180 **Longitude** W104' 01.569

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 45 bbls PW	Volume Recovered: 40 bbls PW
Source of Release: Pump failure	Date and Hour of Occurrence: 10-10-2014 12:00 pm	Date and Hour of Discovery: 10-10-2014 12:00 pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher – OCD	
By Whom? Amanda Trujillo	Date and Hour: 10-16-2014 8:01 pm	
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.*
The release was caused by a plunger on a triplex pump failing. Vacuum trucks were dispatched to remove any standing fluids and the pump was replaced.

Describe Area Affected and Cleanup Action Taken.*

Prior to sampling a daylighting crew was called into spot lines and a trench was excavated by means of a hydrovac truck. The trench revealed 24 buried lines. These lines run throughout the facility. At this time COG Operating LLC would like to request closure based on safety concerns for those excavating. Cleanup to meet NMOCD RRALs for a site ranking of zero can be addressed at the time of abandonment.

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: A Trujillo	OIL CONSERVATION DIVISION
Printed Name: Amanda Trujillo	Approved by Environmental Specialist:
Title: Senior Environmental Coordinator	Approval Date: / Expiration Date:
E-mail Address: atrujillo@concho.com	Conditions of Approval: / Attached ☐
Date: March 16, 2015 Phone: 575-748-6940	

Attach Additional Sheets If Necessary

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 August 8, 2011

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	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: BKU Central Tank Battery SWD	Facility Type: Facility

Surface Owner: Fee	Mineral Owner: Fee	API No. N/A

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	24	17S	29E	N/A	N/A	N/A	N/A	Eddy

Latitude N32' 49.180 **Longitude** W104' 01.569

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 45 bbls PW	Volume Recovered: 40 bbls PW
Source of Release: Pump failure	Date and Hour of Occurrence: 10-10-2014 12:00 pm	Date and Hour of Discovery: 10-10-2014 12:00 pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher – OCD	
By Whom? Amanda Trujillo	Date and Hour: 10-16-2014 8:01 pm	
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.*
The release was caused by a plunger on a triplex pump failing. Vacuum trucks were dispatched to remove any standing fluids and the pump was replaced.

Describe Area Affected and Cleanup Action Taken.*

The impacted area was with in the bermed facility in an area approximately 10'x30'. Concho will have the spill site sampled to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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: A Trujillo	OIL CONSERVATION DIVISION
Printed Name: Amanda Trujillo	Approved by Environmental Specialist:
Title: Senior Environmental Coordinator	Approval Date: / Expiration Date:
E-mail Address: atrujillo@concho.com	Conditions of Approval: / Attached ☐
Date: October 24, 2014 Phone: 575-748-6940	

Attach Additional Sheets If Necessary

APPENDIX D
NMOCD Correspondence

From: Amanda Trujillo
To: Patterson, Heather, EMNRD
Subject: RE: (Closure Letter) Burch Keely Water Flood Central Tank Battery
Date: Tuesday, March 24, 2015 3:02:38 PM
Attachments: image001.png

Heather,

I have no issue with supplying you with delineation samples however I feel it is too dangerous to sample on this site. The metal teeth on a hand agar can puncture a conduit or line. I personally would not feel comfortable sampling myself or asking another person to do it. I have attached a picture of the open trench for your consideration. I understand where your position on closure and I'd be happy to discuss other options. If you would like we can meet this week or next.

Thank you,

Amanda Trujillo
Senior Environmental Coordinator
COG Operating LLC
Cell: 505.350.1336
Office: 575.748.6930
atrujillo@concho.com

2407 Pecos Ave.
Artesia , NM 88210

From: Patterson, Heather, EMNRD [mailto:Heather.Patterson@state.nm.us]
Sent: Friday, March 20, 2015 9:50 AM
To: Amanda Trujillo; Bratcher, Mike, EMNRD
Cc: Lupe Carrasco; Garrett Merket
Subject: RE: (Closure Letter) Burch Keely Water Flood Central Tank Battery

RE: COG * BKU Central Tank Battery SWD * 30-015-27764 * 2RP-2565

Amanda,

While I agree that this site is a good candidate for cleanup deferment, the OCD cannot approve one

without a site delineation. Please delineate the site to the extent that can be achieved safely. Once that delineation is supplied to the OCD we will be able to grant your remediation deferment.

If you have any questions or concerns please contact me,

Heather Patterson
Environmental Specialist
NMOCD District II
Office (575)748-1283 ext.101
Cell (575)703-0228

From: Amanda Trujillo [mailto:ATrujillo@concho.com]
Sent: Wednesday, March 18, 2015 5:34 PM
To: Bratcher, Mike, EMNRD; Patterson, Heather, EMNRD
Cc: Lupe Carrasco; Garrett Merket
Subject: (Closure Letter) Burch Keely Water Flood Central Tank Battery

Mr. Bratcher,

Attached is a closure request for the Burch Keely Water Flood Central Tank Battery. Please feel free to contact me if you have any additional questions or concerns.

Thank you,

Amanda Trujillo
Senior Environmental Coordinator
COG Operating LLC
Cell: 505.350.1336
Office: 575.748.6930
atrujillo@concho.com

2407 Pecos Ave.
Artesia , NM 88210

From: Amanda Trujillo
Sent: Friday, October 24, 2014 4:16 PM
To: 'Bratcher, Mike, EMNRD'; 'Patterson, Heather, EMNRD'

Subject: (C-141 Initial) Burch Keely Water Flood Central Tank Battery

Mr. Bratcher,

Attached is a C-141 for your consideration. Please feel free to contact me if you have any questions or concerns.

Thank you,

Amanda Trujillo
Senior Environmental Coordinator
COG Operating LLC
Cell: 505.350.1336
Office: 575.748.6930
atrujillo@concho.com

2407 Pecos Ave.
Artesia , NM 88210

From: Amanda Trujillo
Sent: Wednesday, October 15, 2014 8:01 PM
To: Bratcher, Mike, EMNRD; 'Patterson, Heather, EMNRD'
Subject: (Notification) Burch Keely Water flood Central Tank Battery

Mr. Bratcher,

COG Operating LLC is reporting a release on the Burch Keely Water flood Central Tank Battery
Section 24 Township 24S Range 29E
The release occurred at 12:00 pm on 10/10/2014.
Released: Produced Water 45 bbls
Recovered: Produced Water 40 bbls
The release was caused by a pump failure. The site is being evaluated for clean-up and a C-141 will be submitted. If you have any additional questions please feel free to contact me.

Thank you,

Amanda Trujillo
Senior Environmental Coordinator
COG Operating LLC
Cell: 505.350.1336
Office: 575.748.6930
atrujillo@concho.com

2208 W. Main St.
Artesia , NM 88210

CONFIDENTIALITY NOTICE: The information in this email may be confidential and/or privileged. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein, is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you.

APPENDIX E
Laboratory Analytical Data

Certificate of Analysis Summary 618648

COG Operating LLC, Artesia, NM

Project Name: BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Project Id:

Contact: Ike Tavarez

Project Location: Eddy County, NM

Date Received in Lab: Fri Mar-22-19 02:54 pm

Report Date: 27-MAR-19

Project Manager: Brandi Ritcherson

Analysis Requested													
	Lab Id:	618648-001		618648-002		618648-003		618648-004		618648-005		618648-006	
	Field Id:	AH-1 0-1'		AH-1 1.5'		AH-1 2.5		AH-1 3.5		AH-1 4.5' (Refusal)		AH-2 0-1'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-20-19 00:00		Mar-20-19 00:00		Mar-20-19 00:00		Mar-20-19 00:00		Mar-20-19 00:00		Mar-20-19 00:00	
BTEX by EPA 8021B	***Extracted:***	Mar-26-19 16:00		Mar-26-19 16:00		Mar-26-19 16:00						Mar-26-19 16:00	
	Analyzed:	Mar-27-19 04:00		Mar-27-19 04:19		Mar-27-19 05:33						Mar-27-19 05:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					mg/kg	RL
Benzene		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199					<0.00200	0.00200
Toluene		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199					<0.00200	0.00200
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199					<0.00200	0.00200
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398	<0.00398	0.00398					<0.00400	0.00400
o-Xylene		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199					<0.00200	0.00200
Total Xylenes		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199					<0.00200	0.00200
Total BTEX		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199					<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	Mar-23-19 16:45		Mar-23-19 16:45		Mar-23-19 16:45		Mar-23-19 16:45		Mar-23-19 16:45		Mar-23-19 16:45	
	Analyzed:	Mar-23-19 20:11		Mar-23-19 20:29		Mar-23-19 20:34		Mar-23-19 20:40		Mar-23-19 20:52		Mar-23-19 20:58	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		300	5.02	231	5.00	302	4.96	439	5.01	955	5.02	127	5.00
TPH By SW8015 Mod	***Extracted:***	Mar-23-19 11:00		Mar-23-19 11:00		Mar-23-19 11:00						Mar-23-19 11:00	
	Analyzed:	Mar-24-19 11:32		Mar-23-19 20:49		Mar-23-19 21:09						Mar-23-19 22:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					mg/kg	RL
Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<14.9	14.9					<15.0	15.0
Diesel Range Organics		22.3	15.0	<15.0	15.0	<14.9	14.9					<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9					<15.0	15.0
Total TPH		22.3	15.0	<15.0	15.0	<14.9	14.9					<15.0	15.0

Brandi Ritcherson
Project Manager

Certificate of Analysis Summary 618648

COG Operating LLC, Artesia, NM

Project Name: BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Project Id:

Contact: Ike Tavarez

Project Location: Eddy County, NM

Date Received in Lab: Fri Mar-22-19 02:54 pm

Report Date: 27-MAR-19

Project Manager: Brandi Ritcherson

Analysis Requested													
	Lab Id:	618648-007		618648-008		618648-009		618648-010					
	Field Id:	AH-2 1.5'		AH-2 2.5'		AH-2 3.5		AH-2 4.5' (Refusal)					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Mar-20-19 00:00		Mar-20-19 00:00		Mar-20-19 00:00		Mar-20-19 00:00					
BTEX by EPA 8021B	***Extracted:***	Mar-26-19 16:00		Mar-26-19 16:00									
	Analyzed:	Mar-27-19 06:11		Mar-27-19 06:30									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		<0.00200	0.00200	<0.00201	0.00201								
Toluene		<0.00200	0.00200	<0.00201	0.00201								
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201								
m,p-Xylenes		<0.00401	0.00401	<0.00402	0.00402								
o-Xylene		<0.00200	0.00200	<0.00201	0.00201								
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201								
Total BTEX		<0.00200	0.00200	<0.00201	0.00201								
Chloride by EPA 300	***Extracted:***	Mar-23-19 16:45		Mar-23-19 16:45		Mar-23-19 17:00		Mar-23-19 17:00					
	Analyzed:	Mar-23-19 21:04		Mar-23-19 21:09		Mar-23-19 20:55		Mar-23-19 22:28					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		105	4.97	24.8	5.01	21.3	5.03	32.0	5.02				
TPH By SW8015 Mod	***Extracted:***	Mar-23-19 11:00		Mar-23-19 11:00									
	Analyzed:	Mar-23-19 23:06		Mar-23-19 23:26									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0								
Diesel Range Organics		18.3	15.0	27.4	15.0								
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0								
Total TPH		18.3	15.0	27.4	15.0								

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Brandi Ritcherson
Project Manager

Final 1.000

Analytical Report 618648

for

COG Operating LLC

Project Manager: Ike Tavarez

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

27-MAR-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

27-MAR-19

Project Manager: **Ike Tavarez**
COG Operating LLC
2407 Pecos Avenue
Artesia, NM 88210

Reference: XENCO Report No(s): **618648**
BKU Central Tank Battery SWD (10-10-14) 2RP-2565
Project Address: Eddy County, NM

Ike Tavarez:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 618648. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 618648 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brandi Ritcherson
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-1 0-1'	S	03-20-19 00:00		618648-001
AH-1 1.5'	S	03-20-19 00:00		618648-002
AH-1 2.5	S	03-20-19 00:00		618648-003
AH-1 3.5	S	03-20-19 00:00		618648-004
AH-1 4.5' (Refusal)	S	03-20-19 00:00		618648-005
AH-2 0-1'	S	03-20-19 00:00		618648-006
AH-2 1.5'	S	03-20-19 00:00		618648-007
AH-2 2.5'	S	03-20-19 00:00		618648-008
AH-2 3.5	S	03-20-19 00:00		618648-009
AH-2 4.5' (Refusal)	S	03-20-19 00:00		618648-010

CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Project ID:
Work Order Number(s): *618648*

Report Date: *27-MAR-19*
Date Received: *03/22/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3083516 BTEX by EPA 8021B

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

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-1 0-1'**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-001	Date Collected:	03.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.23.19 16.45	Basis:	Wet Weight
Seq Number:	3083128				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**300**	5.02	mg/kg	03.23.19 20.11		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.23.19 11.00	Basis:	Wet Weight
Seq Number:	3083123				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.24.19 11.32	U	1
Diesel Range Organics	C10C28DRO	**22.3**	15.0	mg/kg	03.24.19 11.32		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.24.19 11.32	U	1
Total TPH	PHC635	**22.3**	15.0	mg/kg	03.24.19 11.32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	03.24.19 11.32	
o-Terphenyl	84-15-1	102	%	70-135	03.24.19 11.32	

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-1 0-1'**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-001	Date Collected:	03.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.26.19 16.00	Basis:	Wet Weight
Seq Number:	3083516				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.27.19 04.00	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.27.19 04.00	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.27.19 04.00	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.27.19 04.00	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.27.19 04.00	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.27.19 04.00	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.27.19 04.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.27.19 04.00	
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.27.19 04.00	

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-1 1.5'**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-002	Date Collected:	03.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.23.19 16.45	Basis:	Wet Weight
Seq Number:	3083128				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**231**	5.00	mg/kg	03.23.19 20.29		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.23.19 11.00	Basis:	Wet Weight
Seq Number:	3083123				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.23.19 20.49	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	03.23.19 20.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.23.19 20.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.23.19 20.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	03.23.19 20.49	
o-Terphenyl	84-15-1	99	%	70-135	03.23.19 20.49	

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-1 1.5'**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-002	Date Collected:	03.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.26.19 16.00	Basis:	Wet Weight
Seq Number:	3083516				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.27.19 04.19	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.27.19 04.19	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.27.19 04.19	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.27.19 04.19	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.27.19 04.19	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.27.19 04.19	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.27.19 04.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	03.27.19 04.19	
4-Bromofluorobenzene	460-00-4	128	%	70-130	03.27.19 04.19	

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-1 2.5**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-003	Date Collected:	03.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.23.19 16.45	Basis:	Wet Weight
Seq Number:	3083128				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**302**	4.96	mg/kg	03.23.19 20.34		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.23.19 11.00	Basis:	Wet Weight
Seq Number:	3083123				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<14.9	14.9	mg/kg	03.23.19 21.09	U	1
Diesel Range Organics	C10C28DRO	<14.9	14.9	mg/kg	03.23.19 21.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	03.23.19 21.09	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.23.19 21.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	03.23.19 21.09	
o-Terphenyl	84-15-1	99	%	70-135	03.23.19 21.09	

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-1 2.5**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-003	Date Collected:	03.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.26.19 16.00	Basis:	Wet Weight
Seq Number:	3083516				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.27.19 05.33	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.27.19 05.33	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.27.19 05.33	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.27.19 05.33	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.27.19 05.33	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.27.19 05.33	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.27.19 05.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.27.19 05.33	
1,4-Difluorobenzene	540-36-3	99	%	70-130	03.27.19 05.33	

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-1 3.5**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-004	Date Collected:	03.20.19 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.23.19 16.45	Basis:	Wet Weight
Seq Number:	3083128				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**439**	5.01	mg/kg	03.23.19 20.40		1

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-1 4.5' (Refusal)**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-005	Date Collected:	03.20.19 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.23.19 16.45	Basis:	Wet Weight
Seq Number:	3083128				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**955**	5.02	mg/kg	03.23.19 20.52		1

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-2 0-1'**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-006	Date Collected:	03.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.23.19 16.45	Basis:	Wet Weight
Seq Number:	3083128				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**127**	5.00	mg/kg	03.23.19 20.58		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.23.19 11.00	Basis:	Wet Weight
Seq Number:	3083123				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.23.19 22.07	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	03.23.19 22.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.23.19 22.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.23.19 22.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	03.23.19 22.07	
o-Terphenyl	84-15-1	95	%	70-135	03.23.19 22.07	

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-2 0-1'**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-006	Date Collected:	03.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.26.19 16.00	Basis:	Wet Weight
Seq Number:	3083516				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 05.52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 05.52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 05.52	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.27.19 05.52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 05.52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 05.52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 05.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.27.19 05.52	
4-Bromofluorobenzene	460-00-4	118	%	70-130	03.27.19 05.52	

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-2 1.5'**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-007	Date Collected:	03.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.23.19 16.45	Basis:	Wet Weight
Seq Number:	3083128				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**105**	4.97	mg/kg	03.23.19 21.04		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.23.19 11.00	Basis:	Wet Weight
Seq Number:	3083123				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.23.19 23.06	U	1
Diesel Range Organics	C10C28DRO	**18.3**	15.0	mg/kg	03.23.19 23.06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.23.19 23.06	U	1
Total TPH	PHC635	**18.3**	15.0	mg/kg	03.23.19 23.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	03.23.19 23.06	
o-Terphenyl	84-15-1	112	%	70-135	03.23.19 23.06	

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-2 1.5'**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-007	Date Collected:	03.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.26.19 16.00	Basis:	Wet Weight
Seq Number:	3083516				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 06.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 06.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 06.11	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.27.19 06.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 06.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 06.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 06.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	126	%	70-130	03.27.19 06.11	
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.27.19 06.11	

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-2 2.5'**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-008	Date Collected:	03.20.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.23.19 16.45	Basis:	Wet Weight
Seq Number:	3083128				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**24.8**	5.01	mg/kg	03.23.19 21.09		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.23.19 11.00	Basis:	Wet Weight
Seq Number:	3083123				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.23.19 23.26	U	1
Diesel Range Organics	C10C28DRO	**27.4**	15.0	mg/kg	03.23.19 23.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.23.19 23.26	U	1
Total TPH	PHC635	**27.4**	15.0	mg/kg	03.23.19 23.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	03.23.19 23.26	
o-Terphenyl	84-15-1	97	%	70-135	03.23.19 23.26	

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-2 2.5'**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-008	Date Collected:	03.20.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.26.19 16.00	Basis:	Wet Weight
Seq Number:	3083516				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.27.19 06.30	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.27.19 06.30	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.27.19 06.30	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.27.19 06.30	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.27.19 06.30	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.27.19 06.30	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.27.19 06.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.27.19 06.30	
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.27.19 06.30	

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-2 3.5**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-009	Date Collected:	03.20.19 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.23.19 17.00	Basis:	Wet Weight
Seq Number:	3083129				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**21.3**	5.03	mg/kg	03.23.19 20.55		1

Certificate of Analytical Results 618648

COG Operating LLC, Artesia, NM

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Sample Id:	**AH-2 4.5' (Refusal)**	Matrix:	Soil	Date Received:	03.22.19 14.54
Lab Sample Id:	618648-010	Date Collected:	03.20.19 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	03.23.19 17.00	Basis:	Wet Weight
Seq Number:	3083129				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**32.0**	5.02	mg/kg	03.23.19 22.28		1

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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

QC Summary 618648

COG Operating LLC

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3083128 — Matrix: Solid — Date Prep: 03.23.19
MB Sample Id: 7674201-1-BLK — LCS Sample Id: 7674201-1-BKS — LCSD Sample Id: 7674201-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	246	98	246	98	90-110	0	20	mg/kg	03.23.19 18:11	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3083129 — Matrix: Solid — Date Prep: 03.23.19
MB Sample Id: 7674202-1-BLK — LCS Sample Id: 7674202-1-BKS — LCSD Sample Id: 7674202-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	249	100	254	102	90-110	2	20	mg/kg	03.23.19 20:42	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3083128 — Matrix: Soil — Date Prep: 03.23.19
Parent Sample Id: 618647-013 — MS Sample Id: 618647-013 S — MSD Sample Id: 618647-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	45.3	248	291	99	297	101	90-110	2	20	mg/kg	03.23.19 18:28	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3083128 — Matrix: Soil — Date Prep: 03.23.19
Parent Sample Id: 618647-014 — MS Sample Id: 618647-014 S — MSD Sample Id: 618647-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	39.4	250	286	99	285	98	90-110	0	20	mg/kg	03.23.19 19:54	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3083129 — Matrix: Soil — Date Prep: 03.23.19
Parent Sample Id: 618648-009 — MS Sample Id: 618648-009 S — MSD Sample Id: 618648-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	21.3	252	291	107	294	108	90-110	1	20	mg/kg	03.23.19 21:02	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 618648

COG Operating LLC

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3083129 — Matrix: Soil — Date Prep: 03.23.19
Parent Sample Id: 618648-010 — MS Sample Id: 618648-010 S — MSD Sample Id: 618648-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	32.0	251	290	103	289	102	90-110	0	20	mg/kg	03.23.19 22:35	

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3083123 — Matrix: Solid — Date Prep: 03.23.19
MB Sample Id: 7674187-1-BLK — LCS Sample Id: 7674187-1-BKS — LCSD Sample Id: 7674187-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<8.00	1000	1060	106	1010	101	70-135	5	20	mg/kg	03.23.19 17:56	
Diesel Range Organics	<8.13	1000	1160	116	1090	109	70-135	6	20	mg/kg	03.23.19 17:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		120		128		70-135	%	03.23.19 17:56
o-Terphenyl	121		118		114		70-135	%	03.23.19 17:56

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3083123 — Matrix: Soil — Date Prep: 03.23.19
Parent Sample Id: 618605-001 — MS Sample Id: 618605-001 S — MSD Sample Id: 618605-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	10100	1000	11700	160	11300	120	70-135	3	20	mg/kg	03.24.19 12:31	X
Diesel Range Organics	11000	1000	12200	120	12000	100	70-135	2	20	mg/kg	03.24.19 12:31	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		120		70-135	%	03.24.19 12:31
o-Terphenyl	127		127		70-135	%	03.24.19 12:31

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 618648

COG Operating LLC

BKU Central Tank Battery SWD (10-10-14) 2RP-2565

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

Seq Number: 3083516 Matrix: Solid Date Prep: 03.26.19

MB Sample Id: 7674413-1-BLK LCS Sample Id: 7674413-1-BKS LCSD Sample Id: 7674413-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0996	0.106	106	0.113	113	70-130	6	35	mg/kg	03.26.19 23:36	
Toluene	<0.000454	0.0996	0.103	103	0.109	109	70-130	6	35	mg/kg	03.26.19 23:36	
Ethylbenzene	<0.000563	0.0996	0.110	110	0.116	116	70-130	5	35	mg/kg	03.26.19 23:36	
m,p-Xylenes	<0.00101	0.199	0.214	108	0.227	114	70-130	6	35	mg/kg	03.26.19 23:36	
o-Xylene	<0.000343	0.0996	0.111	111	0.119	119	70-130	7	35	mg/kg	03.26.19 23:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		101		104		70-130	%	03.26.19 23:36
4-Bromofluorobenzene	108		115		122		70-130	%	03.26.19 23:36

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

Seq Number: 3083516 Matrix: Soil Date Prep: 03.26.19

Parent Sample Id: 618647-001 MS Sample Id: 618647-001 S MSD Sample Id: 618647-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.108	108	0.109	110	70-130	1	35	mg/kg	03.27.19 00:14	
Toluene	<0.000455	0.0998	0.0985	99	0.0981	99	70-130	0	35	mg/kg	03.27.19 00:14	
Ethylbenzene	<0.000564	0.0998	0.0936	94	0.0913	92	70-130	2	35	mg/kg	03.27.19 00:14	
m,p-Xylenes	<0.00101	0.200	0.180	90	0.175	88	70-130	3	35	mg/kg	03.27.19 00:14	
o-Xylene	<0.000344	0.0998	0.0938	94	0.0914	92	70-130	3	35	mg/kg	03.27.19 00:14	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	03.27.19 00:14
4-Bromofluorobenzene	121		122		70-130	%	03.27.19 00:14

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Analysis Request of Chain of Custody Record

CONCHO

One Concho
Center/600/Illinois
Avenue/Midland, Texas
Tel (432) 683-7443

618648

Client Name: COG	Site Manager: Ike Tavarez itavarez@concho.com
Project Name: BKU Central Tank Battery SWD (10-10-14) 2RP-7565	
Project Location: (county, state) Eddy County, NM	Project #:
Invoice to: COG	
Receiving Laboratory: Xenco	Sampler Signature: Robert Grubbs Jr
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)
	AH-1 0-1'	3/20/2019			X				X			1	
	AH-1 1.5'	3/20/2019			X				X			1	
	AH-1 2.5'	3/20/2019			X				X			1	
	AH-1 3.5'	3/20/2019			X				X			1	
	AH-1 4.5' (Refusal)	3/20/2019			X				X			1	
	AH-2 0-1'	3/20/2019			X				X			1	
	AH-2 1.5'	3/20/2019			X				X			1	
	AH-2 2.5'	3/20/2019			X				X			1	
	AH-2 3.5'	3/20/2019			X				X			1	
	AH-2 4.5' (Refusal)	3/20/2019			X				X			1	

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
X		X												X							
X		X												X							
X		X												X							
														X							
														X							
X		X												X							
X		X												X							
X		X												X							
														X							
														X							

Relinquished by: Date: Time:
3-22-19 1541

Received by: Date: Time:
BAR 3/20/19 1492

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY
Sample Temperature
3.1/3.0

REMARKS:

- [X] RUSH: Same Day 24 hr 48 hr **72 hr**
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 03/22/2019 02:54:00 PM

Work Order #: 618648

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 03/22/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 03/22/2019
Jessica Kramer

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 72500

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 72500
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	Site will need to address Section 13 of Rule 29 at P&A	3/4/2022