TETRA TECH

September 14, 2021

Mr. Bradford Billings
New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Subject: **Closure Request**
ConocoPhillips (Heritage Concho)
Burch Keely Unit #205 Release
PLSS Unit Letter O, Section 26, Township 17S, Range 29 East
Eddy County, New Mexico
2RP-1834
Incident ID nJMW1322830932

Mr. Billings:

On behalf of ConocoPhillips, Tetra Tech, Inc. (Tetra Tech) submits the following Closure Request for a release that occurred from an injection line associated with the ConocoPhillips (Heritage Concho) Burch Keely Unit #205 injection well (API No. 30-015-03133). The release footprint is located in Public Land Survey System (PLSS) Unit Letter O, Section 26, Township 17 South, Range 29 East, in Eddy County, New Mexico (Site). The approximate release point occurred at coordinates 32.80244°, -104.04331°, as shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico C-141 Initial Report (Appendix A), on August 1, 2013 a release of 10 barrels (bbls) of produced water occurred when a ditcher hit a buried fiberglass injection line. A vacuum truck recovered 8 bbls of produced water during the initial response. The initial C-141 was submitted to the New Mexico Oil Conservation Division (NMOCD) on August 13, 2013. The release was subsequently assigned the Remediation Permit (RP) number 2RP-1834 and the Incident ID nJMW1322830932. This Incident ID is included in an Agreed Compliance Order between Concho Resources, Inc. and NMOCD, signed on November 20, 2018.

A second release occurred when a fitting failed on the fiberglass line on August 14, 2013, resulting in an additional total of 75 bbls of produced water released into the pasture near the Burch Keely Unit #205 injection well. The failed fitting was replaced and a vacuum truck recovered 50 bbls of produced water during the initial response activities. The initial C-141 for the second release was submitted to NMCOD on August 15, 2013, and the release was assigned the RP number 2RP-1835.

Although the 2RP-1834 release was assessed by Concho Resources, Inc. (Concho) in conjunction with the 2RP-1835 release in September 2013 and June 2014, and remediation of both releases occurred in October 2014 in accordance with the former NMOCD Guidelines for Remediation of Leaks, Spills, and Releases dated August 13, 1993, closure documentation was only submitted for the 2RP-1835 release. This report serves to summarize the assessment and remediation activities previously taken at the 2RP-1834 release site in order to obtain final closure for the reported release.

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

SITE CHARACTERIZATION

A site characterization was performed and no watercourses, sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, playa lakes, 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.

Based on data from the New Mexico Office of the State Engineer (NMOSE), there is one (1) water well located within a 3,100-meter (approximately 1.9-mile) radius of the release location. The average depth to groundwater is 76 feet. The site characterization data is shown in Appendix B.

REGULATORY FRAMEWORK

Based upon the release footprint location 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 and in accordance with Table I of 19.15.29.12 NMAC, the remediation RRALs for the Site are as follows:

Constituent	Remediation RRAL
Chloride	10,000 mg/kg
TPH (GRO+DRO+ORO)	2,500 mg/kg
BTEX	50 mg/kg
Benzene	10 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 feet bgs) outside of active oil and gas operations are as follows:

Constituent	Reclamation Requirements
Chloride	600 mg/kg
TPH (GRO+DRO+ORO)	100 mg/kg

SITE ASSESSMENT SUMMARY

According to information provided by ConocoPhillips and Heritage Concho, the second release from the injection line to the Burch Keely Unit #205 injection well (2RP-1835) coincided with the first release (2RP-1834) extent. Both releases occurred in the pasture north of the well pad, where the released produced water pooled in the depressions between surrounding dunes. The second release was significantly larger (75 bbls) than the first release (10 bbls), and encompassed an area approximately 90-ft by 60-ft and 70-ft by 30-ft large (Figure 3). Soil assessment activities were conducted at the Site for both releases in September 2013 and June 2014. A Work Plan dated September 18, 2014 documented the results of the assessment activities and was submitted to NMOCD for the 2RP-1835 release (Appendix C). The Work Plan was approved as written by NMOCD in an email dated October 20, 2014 (Appendix D). A summary of the assessment activities and results are presented below.

On September 3, 2013, Tetra Tech personnel installed five (5) hand auger borings (AH-1 through AH-5) within the combined release area to assess the impacted soils. To complete vertical delineation of chloride impacts, an additional boring (BH-1) was installed using an air rotary drill rig on June 18, 2014. Boring locations are presented in Figure 3.

A total of fifty-five samples collected from the six (6) borings were submitted to TraceAnalysis, Inc. in Lubbock, TX and analyzed for TPH by EPA method 8015 modified, BTEX by EPA Method 8021B, and chloride by EPA Method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in the Work Plan (Appendix C).

The results of the assessment sampling activities are summarized in Table 1. There were no analytical sampling results that exceeded the Site RRALs for BTEX or TPH. Analytical results associated with all boring locations exceeded the Site RRAL for chloride (10,000 mg/kg) to depths ranging from 3.5 feet bgs at boring location AH-5 to 8.5 feet bgs at boring location AH-1. Chloride concentrations declined with depth to 148 mg/kg in the 29-30 ft bgs sampling interval collected at BH-1, completing vertical delineation of the release.

REMEDIATION SUMMARY

In accordance with the approved Work Plan, Tetra Tech supervised the removed of impacted soils in October 2014. Soils in the vicinity of boring locations BH-1, AH-1, and AH-2 were excavated to a depth of approximately 3.5 feet below the surrounding surface. Once excavated, those areas were then lined with a 40-mil liner to cap the remaining impacted soils. Additionally, the areas around boring locations AH-3, AH-4, and AH-5 were excavated to depths of 4 feet bgs, 6 feet bgs, and 3 feet bgs, respectively. Remediation extents are presented in Figure 4. A total of 380 cubic yards of impacted soils were transported to an approved disposal facility and the excavated areas were backfilled with clean soil to surface grade.

A final Closure Report dated December 3, 2014 was submitted to the NMOCD for the 2RP-1835 release (Appendix E). Final approval for the closure of the 2RP-1835 release was documented in the Final C-141 form on April 3, 2015 (Appendix F).

CONCLUSION

Based on the remediation work proposed for the combined release Site, as documented under the RP number 2RP-1835 for the second release, ConocoPhillips requests closure for the 2RP-1834/ nJMW1322830932 release. The final C-141 form is enclosed in Appendix A.

If you have any questions concerning the remediation activities for the Site, please call me at 432-687-8123, or email at clair.gonzales@tetratech.com.

Sincerely,

Tetra Tech, Inc.

Clair Gonzales
Project Manager

cc:
Mr. Ike Tavarez - ConocoPhillips
Mr. Charles Beauvais - ConocoPhillips

LIST OF ATTACHMENTS

Figures:

Tables:

Appendices:

FIGURES

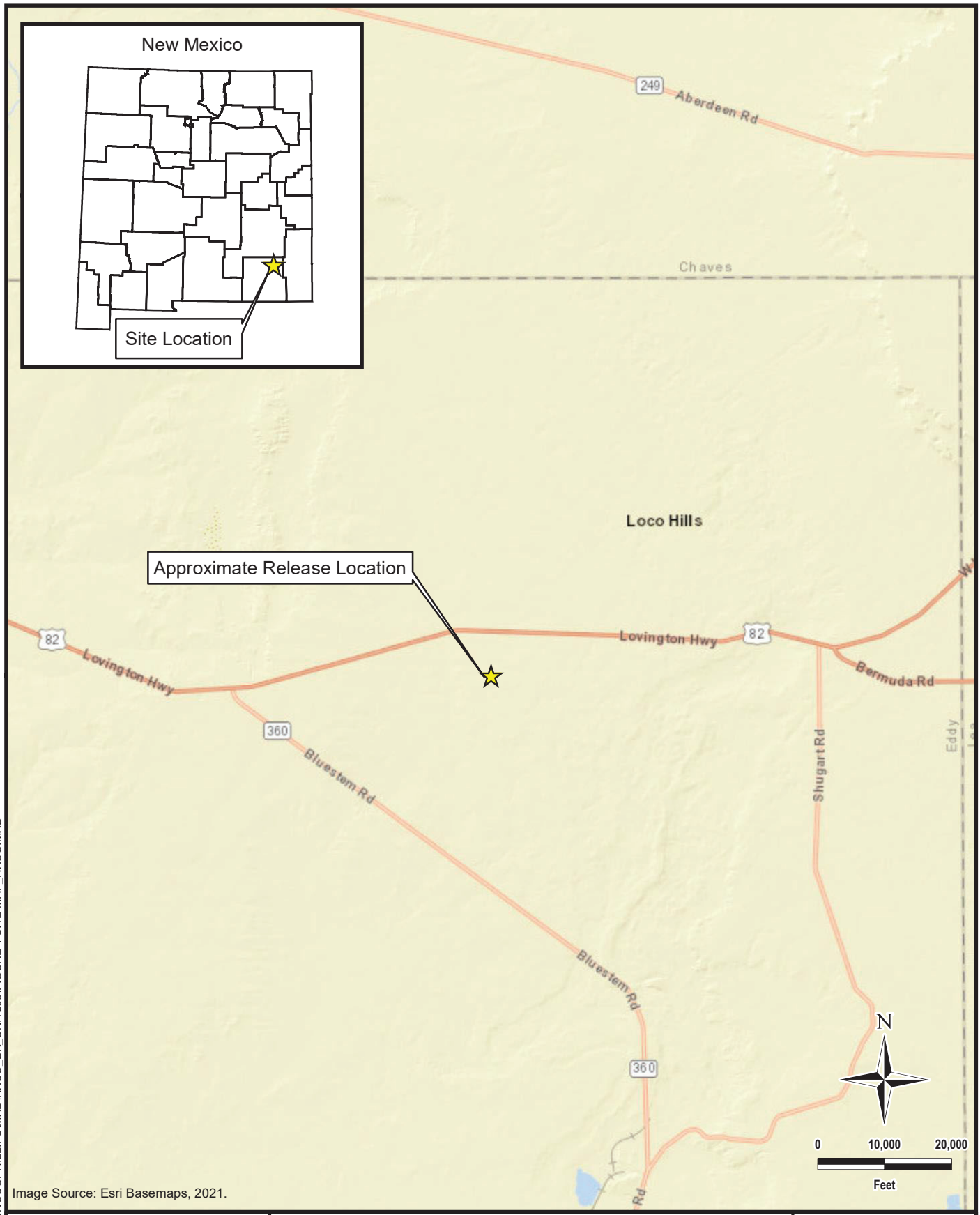

Image Source: Esri Basemaps, 2021.

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\HXCO_BK_UNIT205\FIGURE 1 SITE MAP_HXCO.MXD

TETRA TECH
www.tetratech.com
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Midland, Texas 79701
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Fax: (432) 682-3946

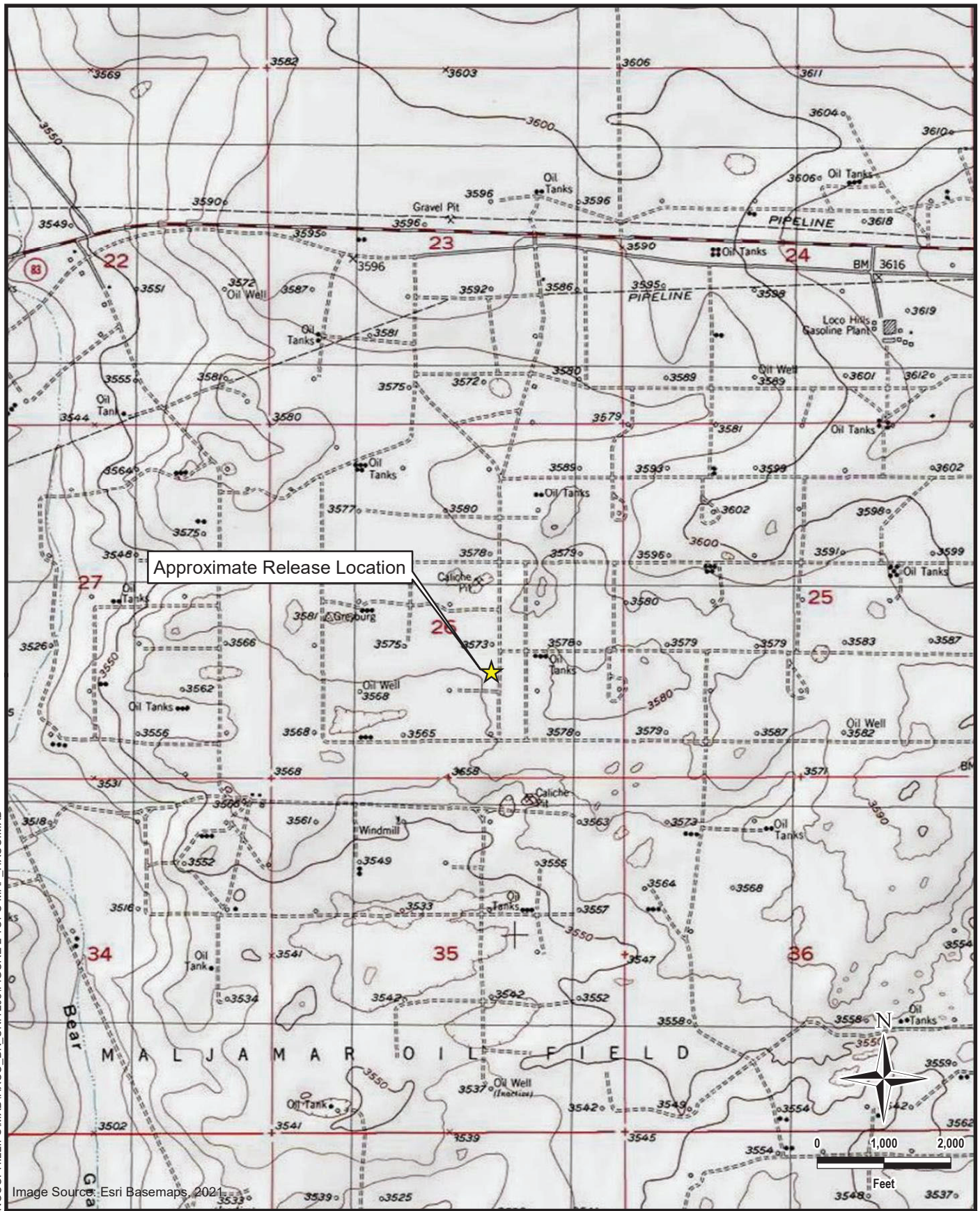
CONOCOPHILLIPS

2RP-1834
(32.80244°, -104.04331°)
EDDY COUNTY, NEW MEXICO

BURCH KEELY UNIT #205
SITE LOCATION MAP

PROJECT NO.:	212C-MD-02571
DATE:	AUGUST 17, 2021
DESIGNED BY:	AAM

Figure No.
1



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\HXCO_BK_UNIT205\FIGURE 2 TOPO MAP_HXCO.MXD

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CONOCOPHILLIPS

2RP-1834
(32.80244°, -104.04331°)
EDDY COUNTY, NEW MEXICO

BURCH KEELY UNIT #205
TOPOGRAPHIC MAP

PROJECT NO.:	212C-MD-02571
DATE:	AUGUST 17, 2021
DESIGNED BY:	AAM

Figure No.
2

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\HXCO_BK_UNIT205\FIGURE 3 RELEASE_HXCO.MXD

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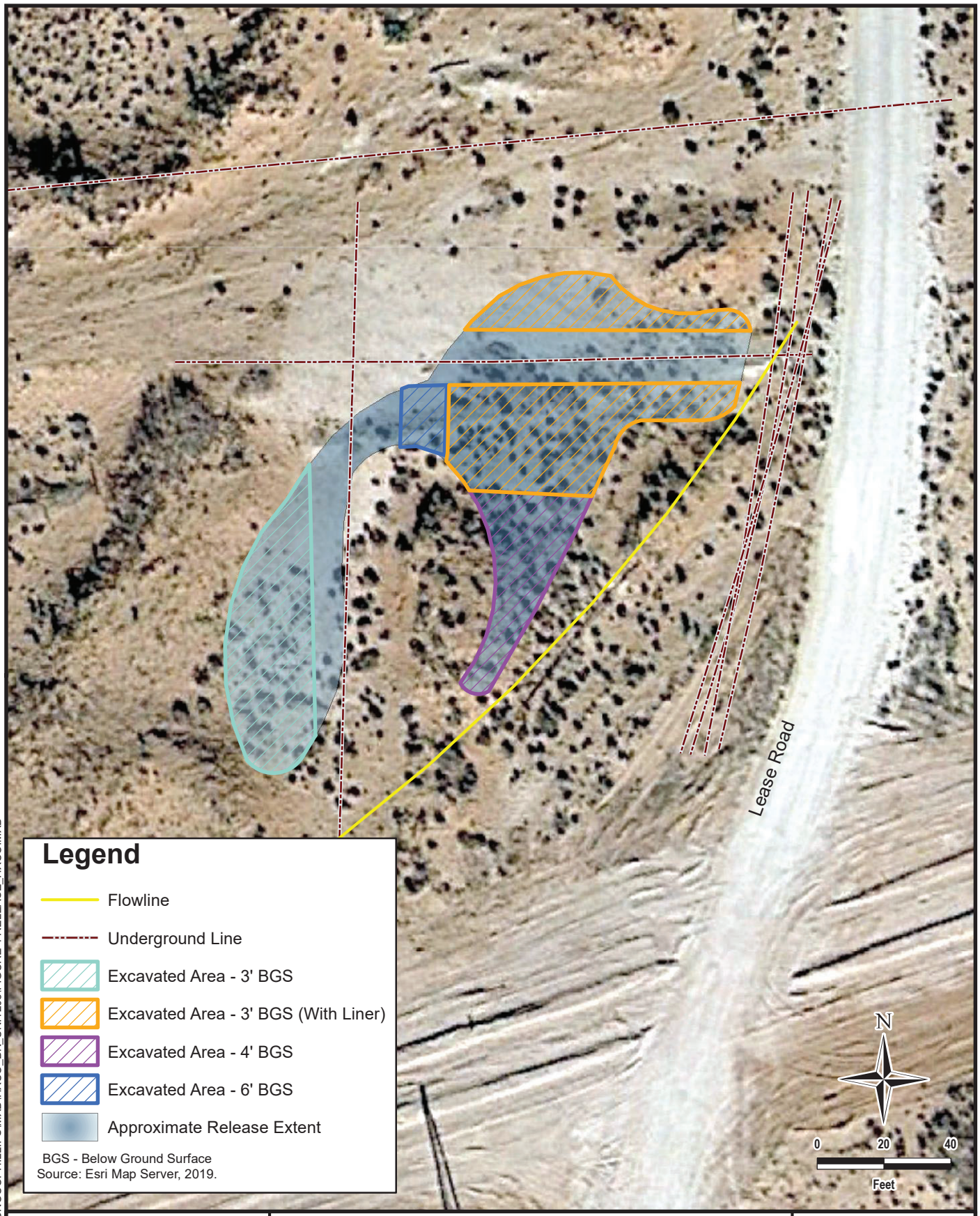
CONOCOPHILLIPS

2RP-1834
(32.80244°, -104.04331°)
EDDY COUNTY, NEW MEXICO

BURCH KEELY UNIT #205
APPROXIMATE RELEASE EXTENT AND SITE ASSESSMENT

PROJECT NO.:	212C-MD-02571
DATE:	AUGUST 17, 2021
DESIGNED BY:	AAM

Figure No.
3



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\HXCO_BK_UNIT205\FIGURE 4 RELEASE_HXCO.MXD

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CONOCOPHILLIPS

2RP-1834
(32.80244°, -104.04331°)
EDDY COUNTY, NEW MEXICO

BURCH KEELY UNIT #205
APPROXIMATE REMEDIATION EXTENTS

PROJECT NO.:	212C-MD-02571
DATE:	SEPTEMBER 08, 2021
DESIGNED BY:	AAM

Figure No.
4

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT - 1RP-1834
CONOCOPHILLIPS
HERITAGE CONCHO
BURCH KEELY UNIT #205 RELEASE
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth Interval	Chloride[1]	BTEX[2]					TPH[3]		
				Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO[4]	DRO	Total TPH
		ft. bgs	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
AH-1	9/3/2013	0-1	***2,770***	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<4.00	<50.0	<50.0
		1-1.5	***3,650***	-	-	-	-	-	-	-	-
		2-2.5	***20,400***	-	-	-	-	-	-	-	-
		3-3.5	***17,000***	-	-	-	-	-	-	-	-
		4-4.5	***14,700***	-	-	-	-	-	-	-	-
		5-5.5	***12,900***	-	-	-	-	-	-	-	-
		6-6.5	***11,200***	-	-	-	-	-	-	-	-
		7-7.5	6,230	-	-	-	-	-	-	-	-
		8-8.5	***10,800***	-	-	-	-	-	-	-	-
		9-9.5	4,050	-	-	-	-	-	-	-	-
AH-2	9/3/2013	0-1	***3,830***	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<4.00	141	***141***
		1-1.5	***5,680***	-	-	-	-	-	-	-	-
		2-2.5	***22,100***	-	-	-	-	-	-	-	-
		3-3.5	***7,740***	-	-	-	-	-	-	-	-
		4-4.5	***11,800***	-	-	-	-	-	-	-	-
		5-5.5	7,390	-	-	-	-	-	-	-	-
		6-6.5	5,810	-	-	-	-	-	-	-	-
		7-7.5	2,730	-	-	-	-	-	-	-	-
		8-8.5	4,260	-	-	-	-	-	-	-	-
		9-9.5	1,420	-	-	-	-	-	-	-	-
AH-3	9/3/2013	0-1	***3,260***	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<4.00	<50.0	<50.0
		1-1.5	***7,040***	-	-	-	-	-	-	-	-
		2-2.5	***17,800***	-	-	-	-	-	-	-	-
		3-3.5	***13,800***	-	-	-	-	-	-	-	-
		4-4.5	***1,790***	-	-	-	-	-	-	-	-
		5-5.5	675	-	-	-	-	-	-	-	-
		6-6.5	445	-	-	-	-	-	-	-	-
AH-4	9/3/2013	0-1	***12,500***	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<4.00	<50.0	<50.0
		1-1.5	***8,880***	-	-	-	-	-	-	-	-
		2-2.5	***2,650***	-	-	-	-	-	-	-	-
		3-3.5	***4,990***	-	-	-	-	-	-	-	-
		4-4.5	***20,400***	-	-	-	-	-	-	-	-
		5-5.5	***10,200***	-	-	-	-	-	-	-	-
		6-6.5	8,240	-	-	-	-	-	-	-	-
		7-7.5	347	-	-	-	-	-	-	-	-
		8-8.5	327	-	-	-	-	-	-	-	-
		9-9.5	3,120	-	-	-	-	-	-	-	-
AH-5	9/3/2013	0-1	***5,240***	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<4.00	<50.0	<50.0
		1-1.5	***20,800***	-	-	-	-	-	-	-	-
		2-2.5	***6,690***	-	-	-	-	-	-	-	-
		3-3.5	***4,110***	-	-	-	-	-	-	-	-
		4-4.5	559	-	-	-	-	-	-	-	-
		5-5.5	1,770	-	-	-	-	-	-	-	-
		6-6.5	495	-	-	-	-	-	-	-	-
		7-7.5	299	-	-	-	-	-	-	-	-
BH-1	6/18/2014	0-1	429	-	-	-	-	-	-	-	-
		2-3	<20.0	-	-	-	-	-	-	-	-
		4-5	2,220	-	-	-	-	-	-	-	-
		6-7	***12,900***	-	-	-	-	-	-	-	-
		9-10	3,100	-	-	-	-	-	-	-	-
		14-15	5,520	-	-	-	-	-	-	-	-
		19-20	4,040	-	-	-	-	-	-	-	-
		24-25	1,380	-	-	-	-	-	-	-	-
		29-30	148	-	-	-	-	-	-	-	-
		34-35	296	-	-	-	-	-	-	-	-

NOTES:

ft. Feet
bgs Below ground surface
ppm Parts per million
mg/kg Milligrams per kilogram
TPH Total Petroleum Hydrocarbons
GRO Gasoline range organics
DRO Diesel range organics

Bold and italicized values indicate exceedance of proposed Remediation RRALs and Reclamation Requirements.

Excavation Depth

Liner Depth

APPENDIX A
C-141 Forms

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

RECEIVED
AUG 13 2013
NMOCD ARTESIA

Form C-141
Revised October 10, 2003
Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

nJMW1322830932

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC 229137	Contact	Pat Ellis
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Burch Kelly Unit #205	Facility Type	Injection Line

Surface Owner	Mineral Owner	Lease No. (API#)
Federal		30-015-03133

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	26	17S	29E					Eddy

Latitude 32.80008 **Longitude** 104.04331

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 10bbls	Volume Recovered 8bbls
Source of Release Injection line	Date and Hour of Occurrence 08-01-2013	Date and Hour of Discovery 08-01-2013 11:00am
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 ditcher hit a buried fiberglass injection line. The line has been repaired and back in service.

Describe Area Affected and Cleanup Action Taken.*

Initially 10bbls of produced water were released from a fiberglass injection line that was struck by a ditcher. We were able to recover 8bbls of produced water with a vacuum truck. All free fluids have been removed. A work plan will presented to the NMOCD/BLM 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: Robert Grubbs

Printed Name: Robert Grubbs Jr.

Title: Senior Environmental Coordinator

E-mail Address: rgrubbs@concho.com

Date: 8-13-2013 Phone: 432-661-6601

OIL CONSERVATION DIVISION

Approved by District Supervisor: Signed By Mike Bratcher

Approval Date: AUG 16 2013 Expiration Date:

Conditions of Approval:
Remediation per OCD Rule & Guidelines, & like approval by BLM. SUBMIT REMEDIATION PROPOSAL NO LATER THAN: September 16, 2013

Attached ☐

2RP-1834

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

Incident ID	nJMW1322830932
District RP	2RP-1834
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?	76 (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	nJMW1322830932
District RP	2RP-1834
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: Ike Tavarez Title: Program Manager, Remediation

Signature: Date: 9/14/2021

email: Ike.Tavarez@conocophillips.com Telephone: 432-685-2573

OCD Only

Received by: Date:

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	nJMW1322830932
District RP	2RP-1834
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: Ike Tavarez Title: Program Manager, Remediation

Signature:  Date: 10/07/2021

email: Ike.Tavarez@conocophillips.com Telephone: 432-685-2573

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:  Date: 2/10/2023

Printed Name: Brittany Hall Title: Environmental Specialist

APPENDIX B
Site Characterization Data

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

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 589572.73 **Northing (Y):** 3629529.27 **Radius:** 800

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 11807 POD1	RA	ED	1	2	3	22	17S	29E	587360	3631585	3020	131	76	55

Average Depth to Water: **76 feet**

Minimum Depth: **76 feet**

Maximum Depth: **76 feet**

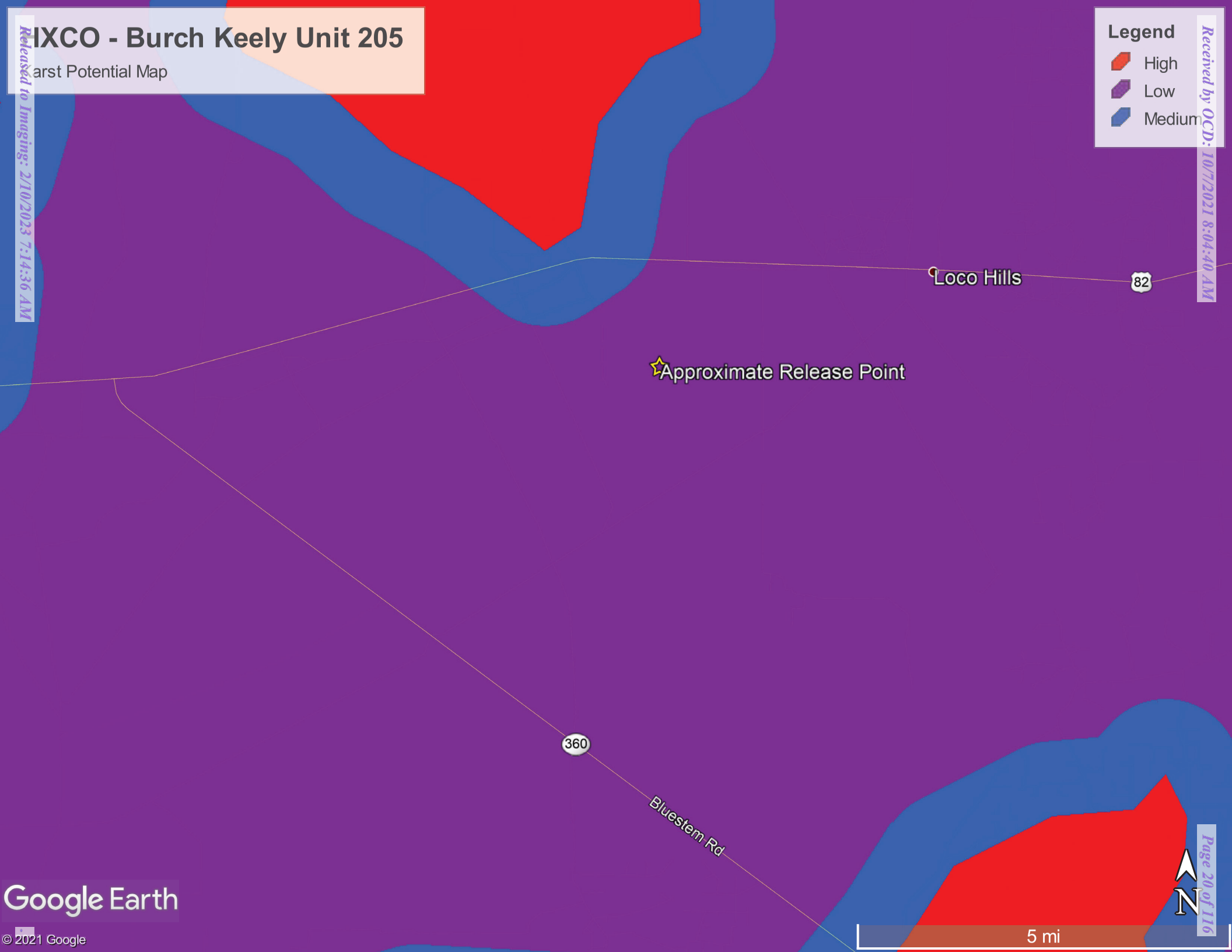
Record Count: 1

UTMNAD83 Radius Search (in meters):

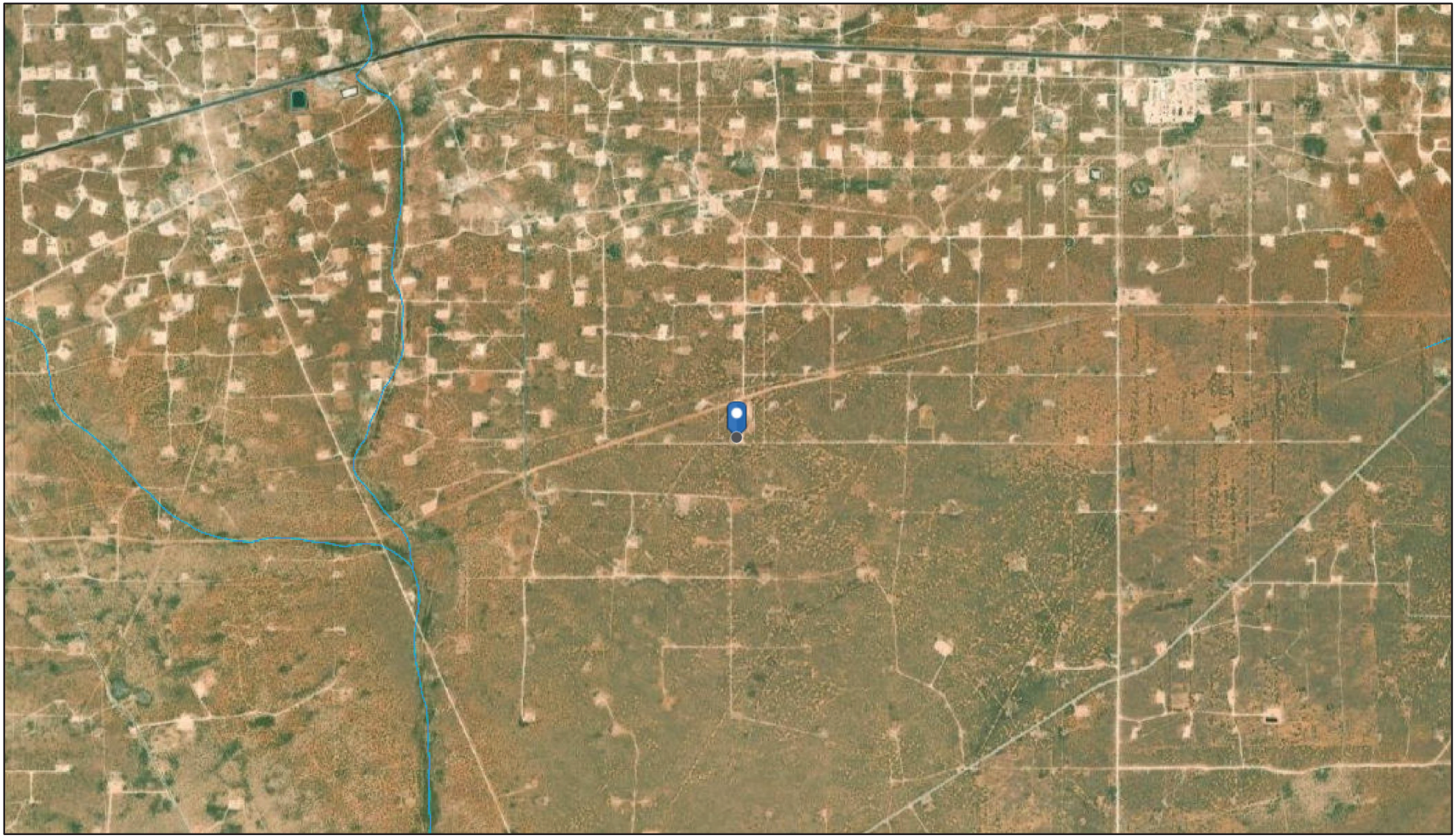
Easting (X): 589572.73 **Northing (Y):** 3629529.27 **Radius:** 3100

IXCO - Burch Keely Unit 205

arst Potential Map



HXCO - Burch Keely Unit 205 - OCD Waterbodies



8/16/2021, 11:23:50 AM

OSE Water-bodies

PLJV Probable Playas

OSE Streams

1:36,112

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

Esri, HERE, Garmin, 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

APPENDIX C
2RP-1835 Work Plan
(September 18, 2014)

SITE INFORMATION

Report Type: Work Plan

General Site Information:						
Site:	Burch Keely Unit #205					
Company:	COG Operating LLC					
Section, Township and Range	Unit O	Sec 26	T 17S	R 29E		
Lease Number:	API-30-015-03133					
County:	Eddy County					
GPS:	32 48.163° N			104 02.567° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	In Loco Hills from the intersection of CR 217 and HWY 82 travel WEST on HWY 82 for approximately 3.1 miles, and turn SOUTH onto lease road for 1.2 miles to the location on the west side of the lease road.					

Release Data:	
Date Released:	8/14/2013
Type Release:	Produced water
Source of Contamination:	Fiberglass Line
Fluid Released:	75 bbls
Fluids Recovered:	50 bbls

Official Communication:			
Name:	Robert McNeill		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	One Concho Center		4000 N. Big Spring St.
	600 W. Illinois Ave.		
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 682-4559
Fax:	(432) 684-7137		
Email:	rmcneill@conchoresources.com		ike.tavarez@tetratech.com

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

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

TETRA TECH

September 18, 2014

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210

Re: Work Plan for the COG Operating LLC., Burch Keely Unit #205, Unit O, Section 26, Township 17 South, Range 97 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Burch Keely Unit #205, Unit O, Section 26, Township 17 South, Range 97 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32 48.163 °, W 104 02.567°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on August 14, 2013, and released approximately seventy five (75) barrels of produced water from a failed fitting on a fiberglass water line. To alleviate the problem, COG personnel replaced the fitting to prevent a reoccurrence. Fifty (50) barrels of produced water was recovered. The spill initiated in the pasture affecting an area approximately 90' X 60' and 70' x 30'. The initial C-141 form is enclosed in Appendix A.

Groundwater

According to the NM State Engineers Well Report, two (2) water wells were listed in Section 34 with depth to groundwater of approximately 60' below surface. The Geology and Groundwater Conditions in Southern Eddy County, New Mexico Resource shows groundwater depth of approximately 150' below surface. The NMOC groundwater map shows a depth to groundwater of approximately 150' below surface. The groundwater data is shown in Appendix B.

Tetra Tech
4000 North Big Spring, Midland, TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

TETRA TECH

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

Auger holes

On September 3, 2013, Tetra Tech personnel inspected and sampled the spill area. Five (5) auger holes (AH-1 through AH-5) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, none of the samples showed BTEX or TPH concentrations above the RRAL. Auger holes (AH-1 and AH-2) showed elevated chloride concentrations down to 9.5' below surface with chloride highs of 20,400 mg/kg and 22,100 mg/kg at 2.5' below surface, respectively. The areas of auger holes (AH-1 and AH2) were not vertically defined.

The areas of auger holes (AH-3, AH-4 and AH-5) all showed elevated chloride concentrations with chloride highs of 17,800 mg/kg at 2.5', 20,400 mg/kg at 4.5', and 20,800 mg/kg at 1.5' below surface, respectively. Auger holes (AH-3, AH-4, and AH-5) showed a decline in chloride concentrations with depth with chloride concentrations of 445 mg/kg at 6.5', 327 mg/kg at 8.5' and 299 mg/kg at 7.5' below surface, respectively. However, in the areas of auger holes (AH-4 and AH-5) the chloride concentrations increase or spiked to 3,120 mg/kg at 9.5' and 1,770 mg/kg at 5.5' below depth, respectively; possibly due to cross contamination.

TETRA TECH

Boreholes

On June 18, 2014, Tetra Tech personnel supervised the installation of a borehole in order to vertically delineate the chloride impact in the areas of auger holes (AH-1 and AH-2). A shallow underground line (Phillips pipeline) located in the center of the spill area. Due to access issues and safety concerns, one (1) borehole (BH-1) was installed between auger holes (AH-1 and AH-2). The area of BH-1 showed elevated chloride concentrations with a chloride high of 12,900 mg/kg at 6'-7' below surface, but declined with depth to 148 mg/kg at 29'-30' below surface. Based on the data, the impacted area was vertically defined.

Work Plan

COG proposes to remove impacted material as highlighted (green) in Table 1 and shown on Figure 4. The areas of auger holes (AH-1, AH-2, AH-3 and AH-5) will be excavated to a depth of approximately 3.0' to 4.0' and the area of auger hole (AH-4) will be excavated to a depth of approximately 6.0' below surface. Once the areas of AH-1 and AH-2 are excavated to the appropriate depth, the areas will be lined with a 40 mil liner to cap the remaining impact.

Due to proximity of the shallow line in the area, deeper excavation cannot be completed safely in the areas of AH-1 and AH-2. In addition, the high pressure underground line located in the vicinity AH-4 and AH-5 may also hinder some of the excavation for safety concerns.

The proposed excavation depths may not be reached due to wall cave ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safely concerns. As such, Tetra Tech will excavate the soils to the maximum extent practicable.

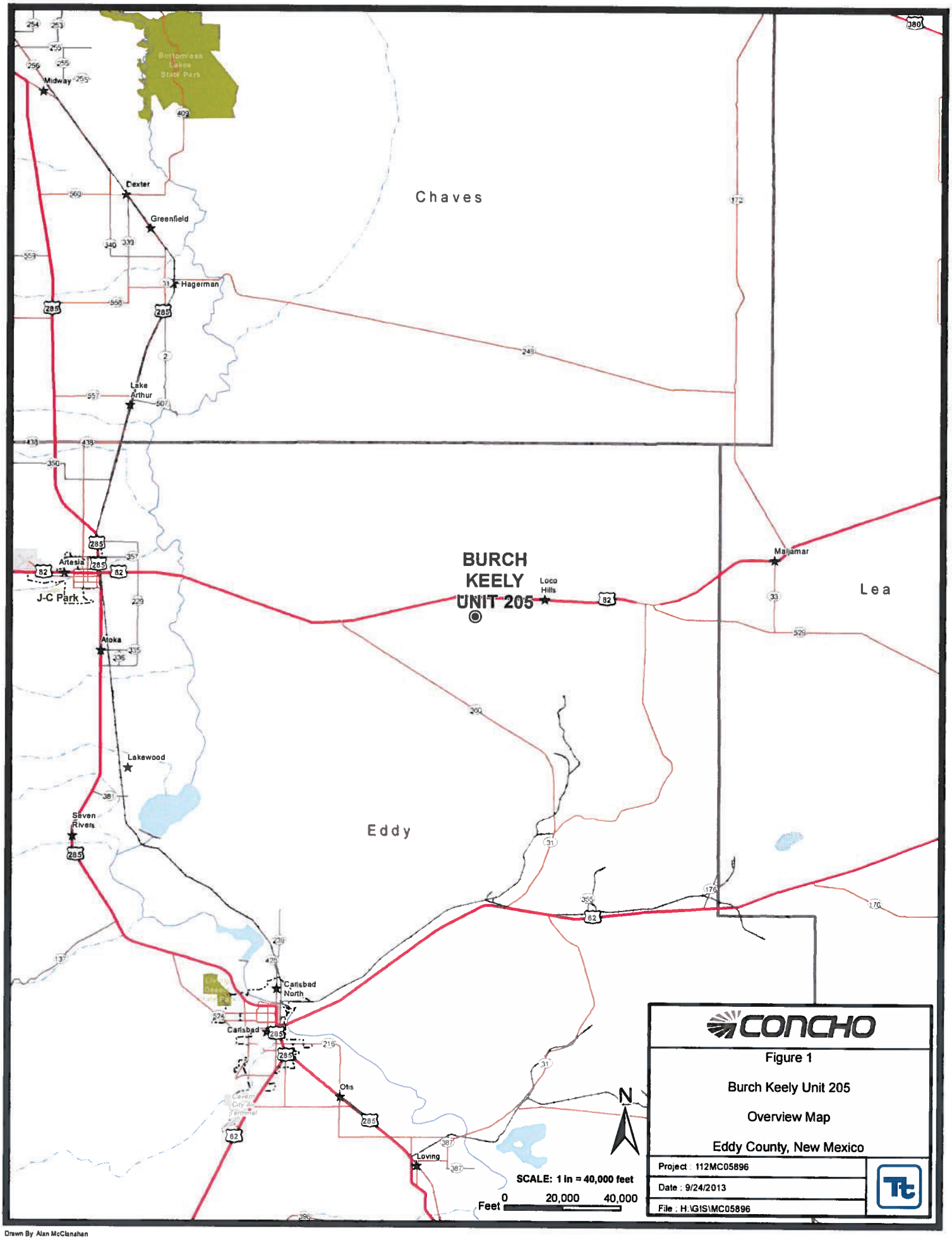
Upon completion, a final report will be submitted to the NMOCD. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

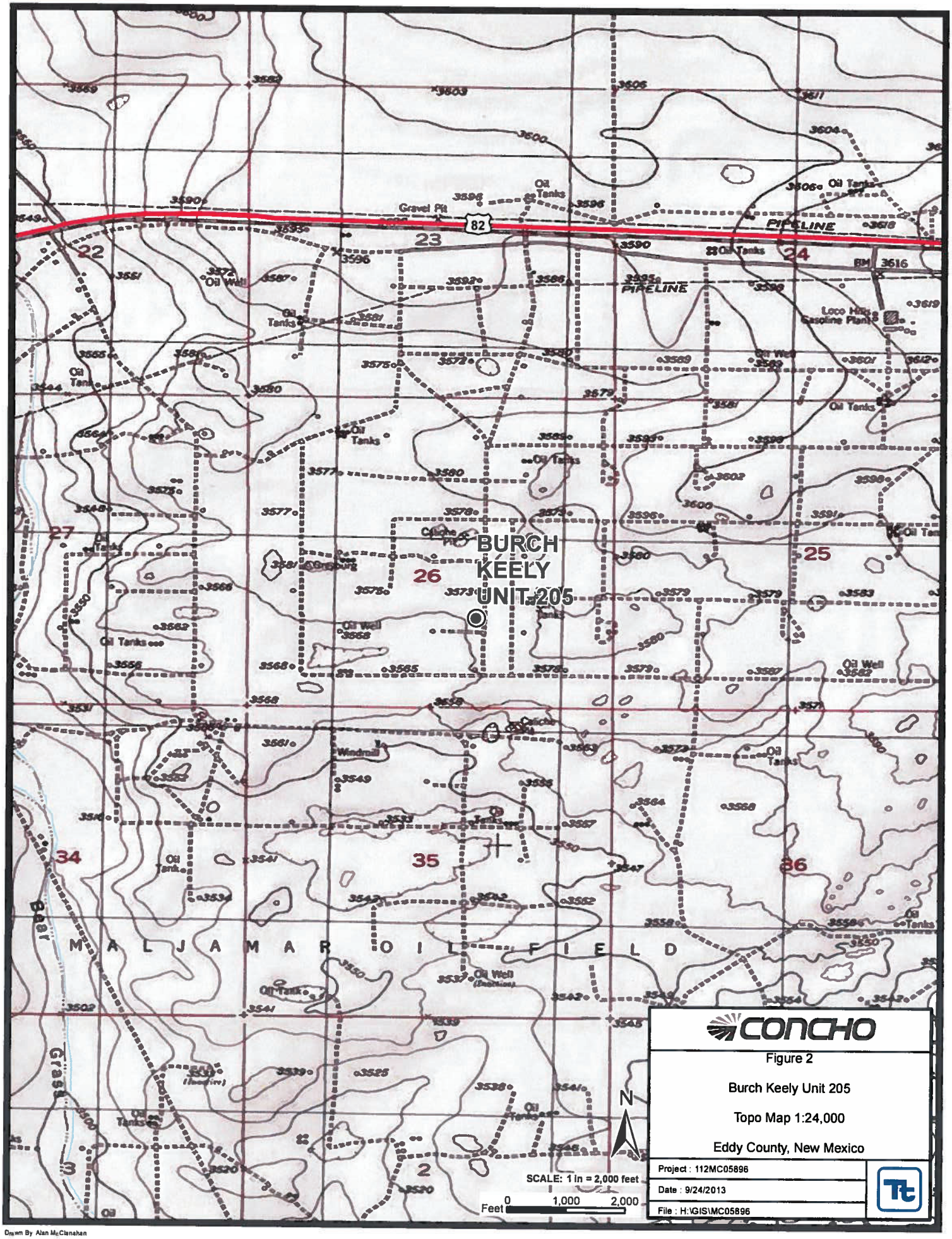
Ike Tavarez, P.G.
Senior Project Manager

cc: Robert McNeill – COG

Figures



Drawn By Alan McClanahan



CONCHO

Figure 2

Burch Keely Unit 205

Topo Map 1:24,000

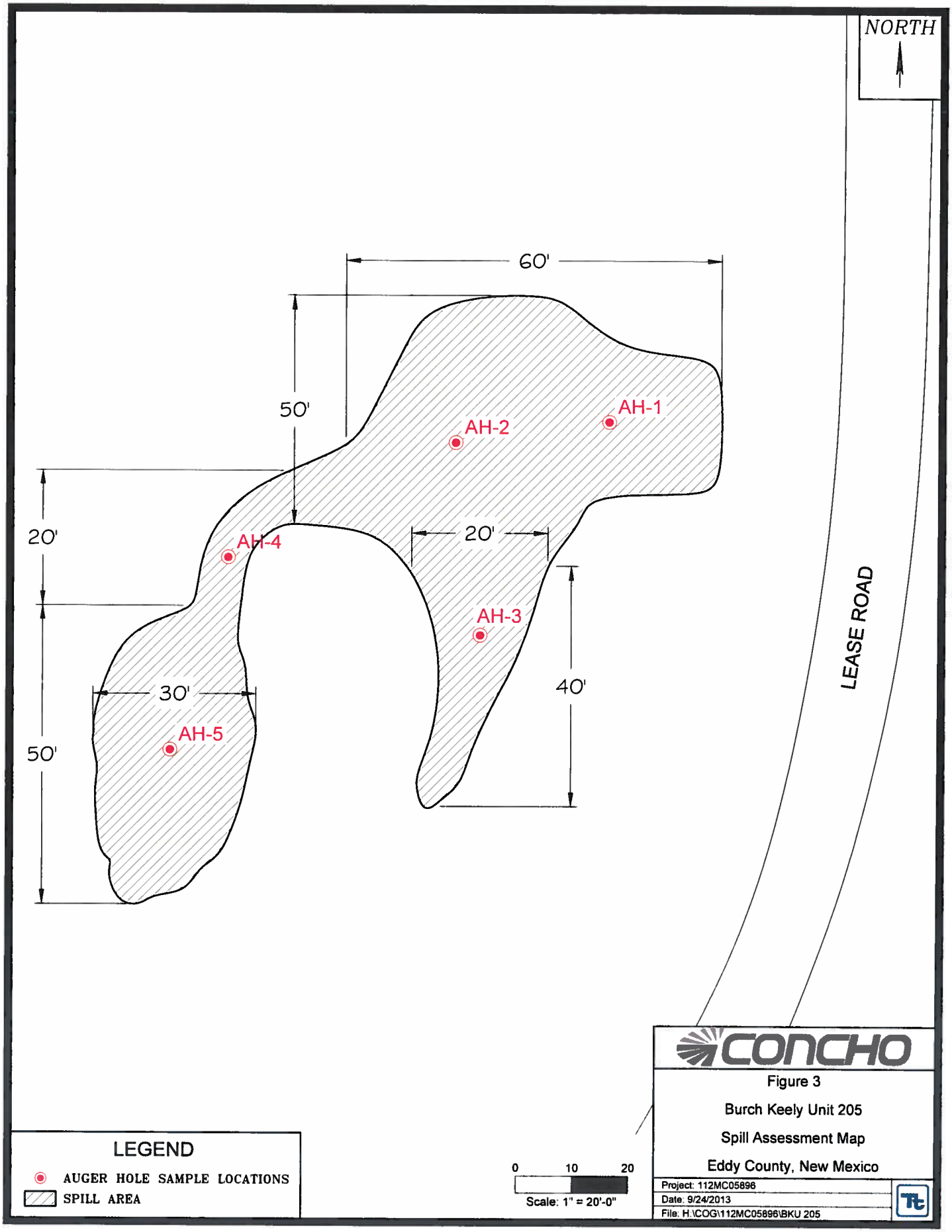
Eddy County, New Mexico

Project : 112MC05896

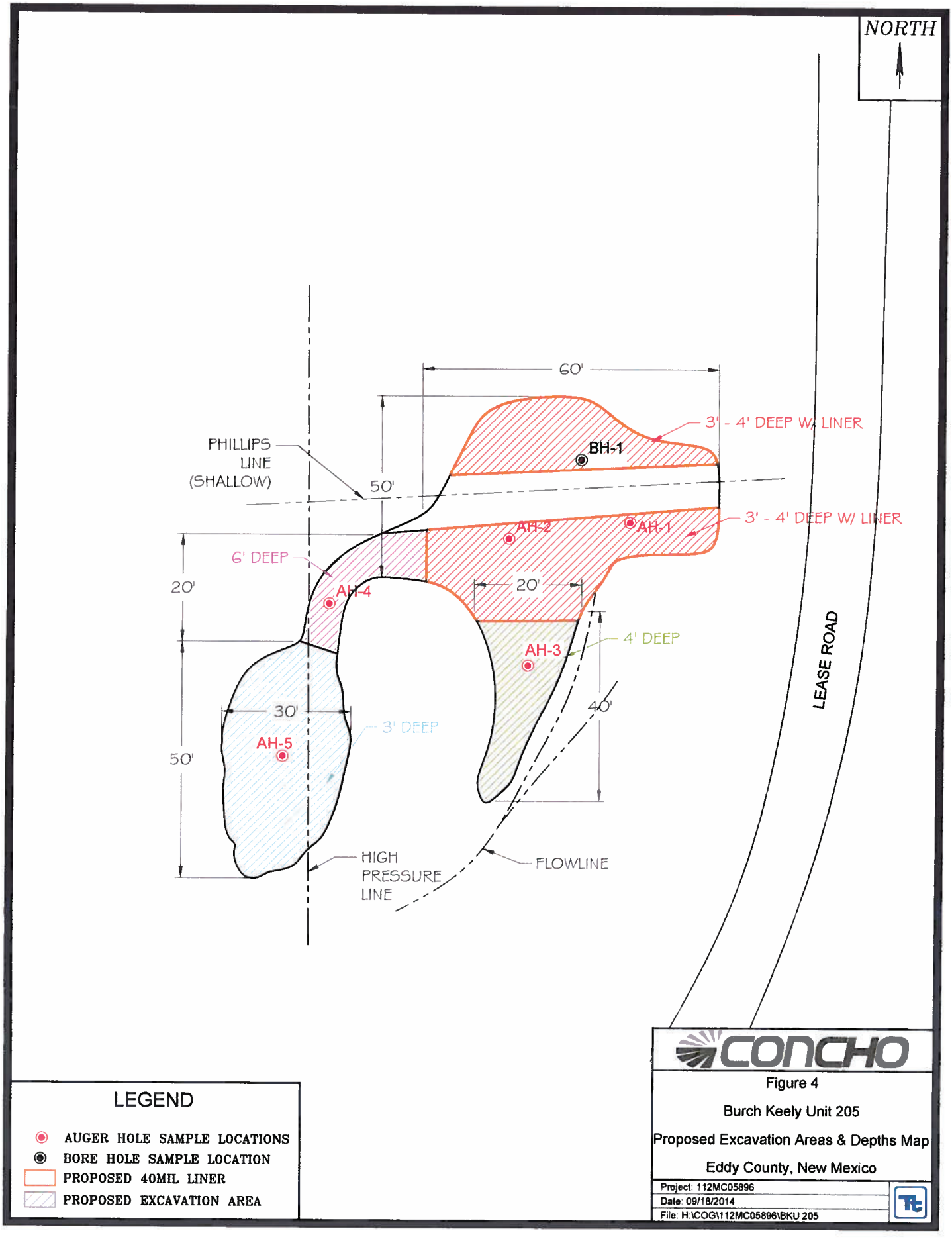
Date : 9/24/2013

File : H:\GIS\MC05896

Drawn By Alan McClanahan


NORTH
60'
50'
AH-1
AH-2
20'
AH-4
20'
AH-3
40'
30'
AH-5
50'
LEASE ROAD
LEGEND
AUGER HOLE SAMPLE LOCATIONS
SPILL AREA
0
10
20
Scale: 1" = 20'-0"
CONCHO
Figure 3
Burch Keely Unit 205
Spill Assessment Map
Eddy County, New Mexico
Project: 112MC05896
Date: 9/24/2013
File: H:\COG\112MC05896\BKU 205


NORTH
60'
50'
AH-1
AH-2
20'
AH-4
20'
AH-3
30'
40'
AH-5
50'
LEASE ROAD
LEGEND
AUGER HOLE SAMPLE LOCATIONS
SPILL AREA
0
10
20
Scale: 1" = 20'-0"
CONCHO
Figure 3
Burch Keely Unit 205
Spill Assessment Aerial Map
Eddy County, New Mexico
Project: 112MC05896
Date: 9/24/2013
File: H:\COG\112MC05896\BKU 205


NORTH
60'
3' - 4' DEEP W/ LINER
PHILLIPS LINE (SHALLOW)
50'
BH-1
AH-2
AH-1
3' - 4' DEEP W/ LINER
6' DEEP
20'
AH-4
20'
4' DEEP
AH-3
40'
30'
3' DEEP
AH-5
50'
HIGH PRESSURE LINE
FLOWLINE
LEASE ROAD
LEGEND
AUGER HOLE SAMPLE LOCATIONS
BORE HOLE SAMPLE LOCATION
PROPOSED 40MIL LINER
PROPOSED EXCAVATION AREA
CONCHO
Figure 4
Burch Keely Unit 205
Proposed Excavation Areas & Depths Map
Eddy County, New Mexico
Project: 112MC05896
Date: 09/18/2014
File: H:\COG\112MC05896\BKU 205

Tables

Table 1
COG Operating LLC.
Burch Keely #205
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-1	9/3/2013	0-1	-	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	2,770
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	3,650
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	20,400
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	17,000
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	14,700
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	12,900
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	11,200
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	6,230
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	10,800
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	4,050
BH-1	6/18/2014	0-1	-	X		-	-	-	-	-	-	-	-	429
	"	2-3	-	X		-	-	-	-	-	-	-	-	<20.0
	"	4-5	-	X		-	-	-	-	-	-	-	-	2,220
	"	6-7	-	X		-	-	-	-	-	-	-	-	12,900
	"	9-10	-	X		-	-	-	-	-	-	-	-	3,100
	"	14-15	-	X		-	-	-	-	-	-	-	-	5,520
	"	19-20	-	X		-	-	-	-	-	-	-	-	4,040
	"	24-25	-	X		-	-	-	-	-	-	-	-	1,380
	"	29-30	-	X		-	-	-	-	-	-	-	-	148
	"	34-35	-	X		-	-	-	-	-	-	-	-	296
AH-2	9/3/2013	0-1	-	X		<4.00	141	141	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	3,830
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	5,680
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	22,100
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	7,740
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	11,800
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	7,390
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	5,810
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	2,730
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	4,260
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	1,420

Table 1
COG Operating LLC.
Burch Keely #205
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-3	9/3/2013	0-1	-	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	3,260
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	7,040
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	17,800
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	13,800
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	1,790
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	675
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	445
AH-4	9/3/2013	0-1	-	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	12,500
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	8,880
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	2,650
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	4,990
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	20,400
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	10,200
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	8,240
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	347
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	327
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	3,120
AH-5	9/3/2013	0-1	-	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	5,240
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	20,800
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	6,690
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	4,110
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	559
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	1,770
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	495
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	299

Proposed Excavation Depth

Proposed Liner Installation

(-) Not Analyzed

(BEB) Below Excavation Bottom

Photos

COG Operating LLC
Burch Keely Unit #205
Eddy County, New Mexico

TETRA TECH

View West – Area of AH-1 and AH-2

View East – Areas of AH-2 and AH-3

COG Operating LLC
Burch Keely Unit #205
Eddy County, New Mexico

TETRA TECH

View North – Area of BH-1

Appendix A

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Burch Keely Unit #205	Facility Type	Pasture

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-03133

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	26	17S	29E					Eddy

Latitude 32 48.163 Longitude 104 02.567

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 75bbls	Volume Recovered 50bbls
Source of Release Fiberglass line	Date and Hour of Occurrence 08-14-2013	Date and Hour of Discovery 08-14-2013 11:00am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher - NMOCD	
By Whom? Michelle Mullins	Date and Hour 08-15-2013 10:03am	
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 fiberglass fitting came loose. Replaced the fitting a new fitting.

Describe Area Affected and Cleanup Action Taken.*

Initially 75bbls of produced water were released due to a fitting came loose on a fiberglass line We were able to recover 50bbls with a vacuum truck. All free fluid has been recovered. The spill was located in the pasture Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a work plan to the NMOCD/BLM 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:	OIL CONSERVATION DIVISION	
Printed Name: Robert Grubbs Jr.	Approved by District Supervisor:	
Title: Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: rgrubbs@concho.com	Conditions of Approval:	Attached ☐
Date: 08-15-2013 Phone: 432-661-6601		

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Burch Keely #205
Eddy County, New Mexico

16 South 28 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21 **61**	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14 220 dry	13
19 110	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 30 East

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

17 South 28 East

6	5	4	3	2 28	1
7	8	9	10	11	12
18	17	16	15	14 80	13
19 224	20	21	22 45 **79**	23	24
30	29	28	27	26	25
31	32 SITE	33	34	35 **258**	36

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 76 80	23	24
30	29 210 **208**	28	27	26 SITE	25
31	32	33	34	35 153	36

17 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20 80	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

18 South 28 East

6	5	4 **108**	3	2	1
7 **49**	8 81 **69**	9	10	11	12
18	17	16	15	14	13
19	20	21 **226**	22	23	24
30 137	29	28	27	26	25
31	32	33	34	35 **65**	36

18 South 29 East

6	5	4	3	2	1
7	8	9	10 95	11	12
18	17	16	15	14	13
19	20	21	22	23	24 158
30	29	28	27	26	25
31	32	33	34	35	36

18 South 30 East

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

- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD - Groundwater Data
- Field water level
- New Mexico Water and Infrastructure Data System

Appendix C

Summary Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: September 18, 2013

Work Order: 13090537

Project Location: NM
Project Name: COG/BKU #205
Project Number: TBD

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
341197	AH-1 0-1'	soil	2013-09-03	00:00	2013-09-05
341198	AH-1 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341199	AH-1 2-2.5'	soil	2013-09-03	00:00	2013-09-05
341200	AH-1 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341201	AH-1 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341202	AH-1 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341203	AH-1 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341204	AH-1 7-7.5'	soil	2013-09-03	00:00	2013-09-05
341205	AH-1 8-8.5'	soil	2013-09-03	00:00	2013-09-05
341206	AH-1 9-9.5'	soil	2013-09-03	00:00	2013-09-05
341207	AH-2 0-1'	soil	2013-09-03	00:00	2013-09-05
341208	AH-2 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341209	AH-2 2-2.5'	soil	2013-09-03	00:00	2013-09-05
341210	AH-2 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341211	AH-2 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341212	AH-2 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341213	AH-2 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341214	AH-2 7-7.5'	soil	2013-09-03	00:00	2013-09-05
341215	AH-2 8-8.5'	soil	2013-09-03	00:00	2013-09-05
341216	AH-2 9-9.5'	soil	2013-09-03	00:00	2013-09-05
341217	AH-3 0-1'	soil	2013-09-03	00:00	2013-09-05
341218	AH-3 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341219	AH-3 2-2.5'	soil	2013-09-03	00:00	2013-09-05
341220	AH-3 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341221	AH-3 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341222	AH-3 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341223	AH-3 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341224	AH-4 0-1'	soil	2013-09-03	00:00	2013-09-05
341225	AH-4 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341226	AH-4 2-2.5'	soil	2013-09-03	00:00	2013-09-05

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
341227	AH-4 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341228	AH-4 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341229	AH-4 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341230	AH-4 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341231	AH-4 7-7.5'	soil	2013-09-03	00:00	2013-09-05
341232	AH-4 8-8.5'	soil	2013-09-03	00:00	2013-09-05
341233	AH-4 9-9.5'	soil	2013-09-03	00:00	2013-09-05
341234	AH-5 0-1'	soil	2013-09-03	00:00	2013-09-05
341235	AH-5 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341236	AH-5 2-2.5'	soil	2013-09-03	00:00	2013-09-05
341237	AH-5 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341238	AH-5 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341239	AH-5 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341240	AH-5 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341244	AH-5 7-7.5	soil	2013-09-03	00:00	2013-09-05

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
341197 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q*
341207 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	**141**	<4.00 Q*
341217 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q*
341224 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q*
341234 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q*

Sample: 341197 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**2770**	mg/Kg	4

Sample: 341198 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**3650**	mg/Kg	4

Sample: 341199 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**20400**	mg/Kg	4

Sample: 341200 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**17000**	mg/Kg	4

Sample: 341201 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**14700**	mg/Kg	4

Sample: 341202 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**12900**	mg/Kg	4

Sample: 341203 - AH-1 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**11200**	mg/Kg	4

Sample: 341204 - AH-1 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**6230**	mg/Kg	4

Sample: 341205 - AH-1 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**10800**	mg/Kg	4

Sample: 341206 - AH-1 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**4050**	mg/Kg	4

Sample: 341207 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**3830**	mg/Kg	4

Sample: 341208 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**5680**	mg/Kg	4

Sample: 341209 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**22100**	mg/Kg	4

Sample: 341210 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**7740**	mg/Kg	4

Sample: 341211 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**11800**	mg/Kg	4

Sample: 341212 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**7390**	mg/Kg	4

Sample: 341213 - AH-2 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**5810**	mg/Kg	4

Sample: 341214 - AH-2 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**2730**	mg/Kg	4

Sample: 341215 - AH-2 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**4260**	mg/Kg	4

Sample: 341216 - AH-2 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**1420**	mg/Kg	4

Sample: 341217 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**3260**	mg/Kg	4

Sample: 341218 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**7040**	mg/Kg	4

Sample: 341219 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**17800**	mg/Kg	4

Sample: 341220 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**13800**	mg/Kg	4

Sample: 341221 - AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**1790**	mg/Kg	4

Sample: 341222 - AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**675**	mg/Kg	4

Sample: 341223 - AH-3 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**445**	mg/Kg	4

Sample: 341224 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**12500**	mg/Kg	4

Sample: 341225 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**8880**	mg/Kg	4

Sample: 341226 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**2650**	mg/Kg	4

Sample: 341227 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**4990**	mg/Kg	4

Sample: 341228 - AH-4 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**20400**	mg/Kg	4

Sample: 341229 - AH-4 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**10200**	mg/Kg	4

Sample: 341230 - AH-4 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**8240**	mg/Kg	4

Sample: 341231 - AH-4 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**347**	mg/Kg	4

Sample: 341232 - AH-4 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**327**	mg/Kg	4

Sample: 341233 - AH-4 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**3120**	mg/Kg	4

Sample: 341234 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**5240**	mg/Kg	4

Sample: 341235 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**20800**	mg/Kg	4

Sample: 341236 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**6690**	mg/Kg	4

Sample: 341237 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**4110**	mg/Kg	4

Sample: 341238 - AH-5 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**559**	mg/Kg	4

Sample: 341239 - AH-5 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**1770**	mg/Kg	4

Sample: 341240 - AH-5 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**495**	mg/Kg	4

Sample: 341244 - AH-5 7-7.5

Param	Flag	Result	Units	RL
Chloride		**299**	mg/Kg	4

TRACEANALYSIS, INC.

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5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972•242•7750
E-Mail lab@traceanalysis.com WEB www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: September 18, 2013

Work Order: 13090537

Project Location: NM
Project Name: COG/BKU #205
Project Number: TBD

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
341197	AH-1 0-1'	soil	2013-09-03	00:00	2013-09-05
341198	AH-1 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341199	AH-1 2-2.5'	soil	2013-09-03	00:00	2013-09-05
341200	AH-1 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341201	AH-1 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341202	AH-1 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341203	AH-1 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341204	AH-1 7-7.5'	soil	2013-09-03	00:00	2013-09-05
341205	AH-1 8-8.5'	soil	2013-09-03	00:00	2013-09-05
341206	AH-1 9-9.5'	soil	2013-09-03	00:00	2013-09-05
341207	AH-2 0-1'	soil	2013-09-03	00:00	2013-09-05
341208	AH-2 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341209	AH-2 2-2.5'	soil	2013-09-03	00:00	2013-09-05
341210	AH-2 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341211	AH-2 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341212	AH-2 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341213	AH-2 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341214	AH-2 7-7.5'	soil	2013-09-03	00:00	2013-09-05

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
341215	AH-2 8-8.5'	soil	2013-09-03	00:00	2013-09-05
341216	AH-2 9-9.5'	soil	2013-09-03	00:00	2013-09-05
341217	AH-3 0-1'	soil	2013-09-03	00:00	2013-09-05
341218	AH-3 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341219	AH-3 2-2.5'	soil	2013-09-03	00:00	2013-09-05
341220	AH-3 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341221	AH-3 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341222	AH-3 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341223	AH-3 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341224	AH-4 0-1'	soil	2013-09-03	00:00	2013-09-05
341225	AH-4 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341226	AH-4 2-2.5'	soil	2013-09-03	00:00	2013-09-05
341227	AH-4 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341228	AH-4 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341229	AH-4 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341230	AH-4 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341231	AH-4 7-7.5'	soil	2013-09-03	00:00	2013-09-05
341232	AH-4 8-8.5'	soil	2013-09-03	00:00	2013-09-05
341233	AH-4 9-9.5'	soil	2013-09-03	00:00	2013-09-05
341234	AH-5 0-1'	soil	2013-09-03	00:00	2013-09-05
341235	AH-5 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341236	AH-5 2-2.5'	soil	2013-09-03	00:00	2013-09-05
341237	AH-5 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341238	AH-5 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341239	AH-5 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341240	AH-5 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341244	AH-5 7-7.5	soil	2013-09-03	00:00	2013-09-05

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Summary Report

Ike Tavarez
Tetra Tech
1901 N. Big Spring St.
Midland, TX 79705

Report Date: June 24, 2014

Work Order: 14062014

Project Location: Eddy Co, NM
Project Name: COG/BKU #205
Project Number: 112MC05896

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
366362	BH-1 0-1'	soil	2014-06-18	00:00	2014-06-20
366363	BH-1 2-3'	soil	2014-06-18	00:00	2014-06-20
366364	BH-1 4-5'	soil	2014-06-18	00:00	2014-06-20
366365	BH-1 6-7'	soil	2014-06-18	00:00	2014-06-20
366366	BH-1 9-10'	soil	2014-06-18	00:00	2014-06-20
366367	BH-1 14-15'	soil	2014-06-18	00:00	2014-06-20
366368	BH-1 19-20'	soil	2014-06-18	00:00	2014-06-20
366369	BH-1 24-25'	soil	2014-06-18	00:00	2014-06-20
366370	BH-1 29-30'	soil	2014-06-18	00:00	2014-06-20
366371	BH-1 34-35'	soil	2014-06-18	00:00	2014-06-20

Sample: 366362 - BH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**429**	mg/Kg	4

Sample: 366363 - BH-1 2-3'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 366364 - BH-1 4-5'

Param	Flag	Result	Units	RL
Chloride		**2220**	mg/Kg	4

Sample: 366365 - BH-1 6-7'

Param	Flag	Result	Units	RL
Chloride		**12900**	mg/Kg	4

Sample: 366366 - BH-1 9-10'

Param	Flag	Result	Units	RL
Chloride		**3100**	mg/Kg	4

Sample: 366367 - BH-1 14-15'

Param	Flag	Result	Units	RL
Chloride		**5520**	mg/Kg	4

Sample: 366368 - BH-1 19-20'

Param	Flag	Result	Units	RL
Chloride		**4040**	mg/Kg	4

Sample: 366369 - BH-1 24-25'

Param	Flag	Result	Units	RL
Chloride		**1380**	mg/Kg	4

Sample: 366370 - BH-1 29-30'

Param	Flag	Result	Units	RL
Chloride		**148**	mg/Kg	4

Sample: 366371 - BH-1 34-35'

Param	Flag	Result	Units	RL
Chloride		**296**	mg/Kg	4

TRACEANALYSIS, INC.

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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ike Tavarez
Tetra Tech
1901 N. Big Spring St.
Midland, TX, 79705

Report Date: June 24, 2014

Work Order: 14062014

Project Location: Eddy Co, NM
Project Name: COG/BKU #205
Project Number: 112MC05896

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
366362	BH-1 0-1'	soil	2014-06-18	00:00	2014-06-20
366363	BH-1 2-3'	soil	2014-06-18	00:00	2014-06-20
366364	BH-1 4-5'	soil	2014-06-18	00:00	2014-06-20
366365	BH-1 6-7'	soil	2014-06-18	00:00	2014-06-20
366366	BH-1 9-10'	soil	2014-06-18	00:00	2014-06-20
366367	BH-1 14-15'	soil	2014-06-18	00:00	2014-06-20
366368	BH-1 19-20'	soil	2014-06-18	00:00	2014-06-20
366369	BH-1 24-25'	soil	2014-06-18	00:00	2014-06-20
366370	BH-1 29-30'	soil	2014-06-18	00:00	2014-06-20
366371	BH-1 34-35'	soil	2014-06-18	00:00	2014-06-20

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative

Samples for project COG/BKU #205 were received by TraceAnalysis, Inc. on 2014-06-20 and assigned to work order 14062014. Samples for work order 14062014 were received intact at a temperature of 10.6 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	95596	2014-06-20 at 13:47	113054	2014-06-23 at 14:18
Chloride (Titration)	SM 4500-Cl B	95597	2014-06-20 at 13:48	113052	2014-06-23 at 14:01

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 14062014 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 366362 - BH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	113054	Date Analyzed:	2014-06-23	Analyzed By:	SC
Prep Batch:	95596	Sample Preparation:	2014-06-20	Prepared By:	SC

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**429**	mg/Kg	5	4.00

Sample: 366363 - BH-1 2-3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	113052	Date Analyzed:	2014-06-23	Analyzed By:	SC
Prep Batch:	95597	Sample Preparation:	2014-06-20	Prepared By:	SC

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 366364 - BH-1 4-5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	113052	Date Analyzed:	2014-06-23	Analyzed By:	SC
Prep Batch:	95597	Sample Preparation:	2014-06-20	Prepared By:	SC

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**2220**	mg/Kg	5	4.00

Sample: 366365 - BH-1 6-7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	113052	Date Analyzed:	2014-06-23	Analyzed By:	SC
Prep Batch:	95597	Sample Preparation:	2014-06-20	Prepared By:	SC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**12900**	mg/Kg	10	4.00

Sample: 366366 - BH-1 9-10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	113052	Date Analyzed:	2014-06-23	Analyzed By:	SC
Prep Batch:	95597	Sample Preparation:	2014-06-20	Prepared By:	SC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3100**	mg/Kg	5	4.00

Sample: 366367 - BH-1 14-15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	113052	Date Analyzed:	2014-06-23	Analyzed By:	SC
Prep Batch:	95597	Sample Preparation:	2014-06-20	Prepared By:	SC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**5520**	mg/Kg	5	4.00

Sample: 366368 - BH-1 19-20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	113052	Date Analyzed:	2014-06-23	Analyzed By:	SC
Prep Batch:	95597	Sample Preparation:	2014-06-20	Prepared By:	SC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**4040**	mg/Kg	5	4.00

Sample: 366369 - BH-1 24-25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	113052	Date Analyzed:	2014-06-23	Analyzed By:	SC
Prep Batch:	95597	Sample Preparation:	2014-06-20	Prepared By:	SC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1380**	mg/Kg	5	4.00

Sample: 366370 - BH-1 29-30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	113052	Date Analyzed:	2014-06-23	Analyzed By:	SC
Prep Batch:	95597	Sample Preparation:	2014-06-20	Prepared By:	SC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**148**	mg/Kg	5	4.00

Sample: 366371 - BH-1 34-35'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	113052	Date Analyzed:	2014-06-23	Analyzed By:	SC
Prep Batch:	95597	Sample Preparation:	2014-06-20	Prepared By:	SC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**296**	mg/Kg	5	4.00

Method Blanks

Method Blank (1) QC Batch: 113052

QC Batch:	113052	Date Analyzed:	2014-06-23	Analyzed By:	SC
Prep Batch:	95597	QC Preparation:	2014-06-20	Prepared By:	SC

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 113054

QC Batch:	113054	Date Analyzed:	2014-06-23	Analyzed By:	SC
Prep Batch:	95596	QC Preparation:	2014-06-20	Prepared By:	SC

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 113052 Date Analyzed: 2014-06-23 Analyzed By: SC
Prep Batch: 95597 QC Preparation: 2014-06-20 Prepared By: SC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2560	mg/Kg	5	2500	<19.2	102	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2560	mg/Kg	5	2500	<19.2	102	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 113054 Date Analyzed: 2014-06-23 Analyzed By: SC
Prep Batch: 95596 QC Preparation: 2014-06-20 Prepared By: SC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2620	mg/Kg	5	2500	<19.2	105	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2570	mg/Kg	5	2500	<19.2	103	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 366366

QC Batch: 113052 Date Analyzed: 2014-06-23 Analyzed By: SC
Prep Batch: 95597 QC Preparation: 2014-06-20 Prepared By: SC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			5760	mg/Kg	5	2500	3100	106	78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			5910	mg/Kg	5	2500	3100	112	78.9 - 121	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 366343

QC Batch: 113054 Date Analyzed: 2014-06-23 Analyzed By: SC
Prep Batch: 95596 QC Preparation: 2014-06-20 Prepared By: SC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			6810	mg/Kg	5	2500	4330	99	78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			6810	mg/Kg	5	2500	4330	99	78.9 - 121	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Calibration Standards

Standard (ICV-1)

QC Batch: 113052 Date Analyzed: 2014-06-23 Analyzed By: SC

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2014-06-23

Standard (CCV-1)

QC Batch: 113052 Date Analyzed: 2014-06-23 Analyzed By: SC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2014-06-23

Standard (ICV-1)

QC Batch: 113054 Date Analyzed: 2014-06-23 Analyzed By: SC

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2014-06-23

Standard (CCV-1)

QC Batch: 113054 Date Analyzed: 2014-06-23 Analyzed By: SC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2014-06-23

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

Report Date: June 24, 2014	Work Order: 14062014	Page Number: 13 of 13
112MC05896	COG/BKU #205	Eddy Co, NM

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

1406 2014

Analysis Request of Chain of Custody Record

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 112MC0589 16

PROJECT NAME: BKU #205

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2014	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION Eddy Co NM	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
36362	6/18		S		X	BH-1 0-1					X													X				
363						" 2-3					X													X				
364						" 4-5					X													X				
365						" 6-7					X													X				
366						" 9-10					X													X				
367						" 14-15					X													X				
368						" 19-20					X													X				
369						" 24-25					X													X				
370						" 29-30					X													X				
371						" 34-35					X													X				

RELINQUISHED BY: (Signature) Chad Gonzales	Date: 6-19-14 Time: 1037	RECEIVED BY: (Signature)	Date: 6/20/14 Time: 10:37
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) CG — Date: 6-18-14 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: — OTHER:

TETRA TECH CONTACT PERSON: — Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: — RECEIVED BY: (Signature)
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE: DATE: TIME:

SAMPLE CONDITION WHEN RECEIVED: 10.6°

REMARKS: Midland. 24

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

APPENDIX D
2RP-1835 Work Plan NMOCD Approval Email (October 20, 2014)

From: Patterson, Heather, EMNRD
To: "Tavarez, Ike"; Bratcher, Mike, EMNRD; Amos, James A (jamos@blm.gov)
Cc: Robert Grubbs; Robert McNeill; Garcia, Adrian
Subject: RE: COG - Burch Keely 205 -Remediation Notification
Date: Monday, October 20, 2014 9:49:00 AM

Mr. Tavarez,

This remediation plan is approved as written. There was another release on this site that occurred 2 weeks earlier (8/1/2014). Do you know if this remediation will encompass that release also?

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

If you have any questions or concerns, and for notification, please contact me.

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

From: Tavarez, Ike [mailto:Ike.Tavarez@tetratech.com]
Sent: Thursday, October 16, 2014 1:07 PM
To: Bratcher, Mike, EMNRD; Amos, James A (jamos@blm.gov)
Cc: Robert Grubbs; Robert McNeill; Patterson, Heather, EMNRD; Garcia, Adrian
Subject: RE: COG - Burch Keely 205 -Remediation Notification

Mike and James,

Tetra Tech will be onsite on Monday (10-20-14) to start the proposed remediation on the above referenced site. We will be spotting lines at the site and will start the excavation on Tuesday. The remediation will be performed according to the submitted work plan (attached). Tetra Tech will also notify you during each phase of the remediation project or any schedule changes or delays on the project. Let me know if you need additional information, thanks

Ike Tavarez, PG | Senior Project Manager
Main: 432.682.4559 | Fax: 432.682.3946 | Cell: 432.425.3878
Ike.Tavarez@tetratech.com
Tetra Tech | Complex World, Clear Solutions™
4000 North Big Spring, Suite 401 | Midland, TX 79705 | www.tetratech.com

From: Tavarez, Ike
Sent: Friday, September 19, 2014 2:03 PM
To: Bratcher, Mike, EMNRD (mike.bratcher@state.nm.us); Amos, James A (jamos@blm.gov)
Cc: Robert Grubbs; Robert McNeill
Subject: COG - Burch Keely 205 - Work Plan Approval Request

Mike and James,

Please find the enclosed Work Plan for the above reference spill site located in Eddy County, New Mexico. The spill has been assessed and the remedial recommendations are included in the work plan. I will mail you a hard copy of the work plan for your files. Once approved, Tetra Tech will schedule the soil remediation and notify you prior to implementing the work plan. Please let me know if you need additional information or call me if you have any questions, thanks

Ike Tavarez, PG | Senior Project Manager
Main: 432.682.4559 | Fax: 432.682.3946 | Cell: 432.425.3878
Ike.Tavarez@tetratech.com
Tetra Tech | Complex World, Clear Solutions™
4000 North Big Spring, Suite 401 | Midland, TX 79705 | www.tetratech.com

APPENDIX E
2RP-1835 Closure Report
(December 3, 2014)

SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	Burch Keely Unit #205					
Company:	COG Operating LLC					
Section, Township and Range	Unit O	Sec 26	T 17S	R 29E		
Lease Number:	API-30-015-03133					
County:	Eddy County					
GPS:	32.80244			104.04331		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	In Loco Hills from the intersection of CR 217 and HWY 82 travel WEST on HWY 82 for approximately 3.1 miles, and turn SOUTH onto lease road for 1.2 miles to the location on the west side of the lease road.					

Release Data:	
Date Released:	8/14/2013
Type Release:	Produced water
Source of Contamination:	Fiberglass Line
Fluid Released:	75 bbls
Fluids Recovered:	50 bbls

Official Communication:			
Name:	Robert McNeill		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	One Concho Center		4000 N. Big Spring St.
	600 W. Illinois Ave.		
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 682-4559
Fax:	(432) 684-7137		
Email:	rmcneill@conchoresources.com		ike.tavarez@tetratech.com

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

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

TETRA TECH

December 03, 2014

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210

Re: Closure Report for the COG Operating LLC., Burch Keely Unit #205, Unit O, Section 26, Township 17 South, Range 97 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Burch Keely Unit #205, Unit O, Section 26, Township 17 South, Range 97 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.80244, W 104.04331. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on August 14, 2013, and released approximately seventy five (75) barrels of produced water from a failed fitting on a fiberglass water line. To alleviate the problem, COG personnel replaced the fitting. Fifty (50) barrels of produced water were recovered. The spill initiated in the pasture affecting an area approximately 90' X 60' and 70' x 30'. The initial C-141 form is enclosed in Appendix A.

Groundwater

According to the NM State Engineers Well Report, two (2) water wells were listed in Section 34 with depth to groundwater of approximately 60' below surface. The Geology and Groundwater Conditions in Southern Eddy County, New Mexico Resource shows groundwater depth of approximately 150' below surface. The NMOC groundwater map shows a depth to groundwater of approximately 150' below surface. The groundwater data is shown in Appendix B.

Tetra Tech
4000 North Big Spring, Midland, TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

TETRA TECH

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

Auger holes

On September 3, 2013, Tetra Tech personnel inspected and sampled the spill area. Five (5) auger holes (AH-1 through AH-5) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, none of the samples showed BTEX or TPH concentrations above the RRAL. Auger holes (AH-1 and AH-2) showed elevated chloride concentrations down to 9.5' below surface with chloride highs of 20,400 mg/kg and 22,100 mg/kg at 2.5' below surface, respectively. The areas of auger holes (AH-1 and AH2) were not vertically defined.

The areas of auger holes (AH-3, AH-4 and AH-5) all showed elevated chloride concentrations with chloride highs of 17,800 mg/kg at 2.5', 20,400 mg/kg at 4.5', and 20,800 mg/kg at 1.5' below surface, respectively. Auger holes (AH-3, AH-4, and AH-5) showed a decline in chloride concentrations with depth with chloride concentrations of 445 mg/kg at 6.5', 327 mg/kg at 8.5' and 299 mg/kg at 7.5' below surface, respectively. However, in the areas of auger holes (AH-4 and AH-5) the chloride concentrations increase or spiked to 3,120 mg/kg at 9.5' and 1,770 mg/kg at 5.5' below depth, respectively; possibly due to cross contamination.

TETRA TECH

Boreholes

On June 18, 2014, Tetra Tech personnel supervised the installation of a borehole in order to vertically delineate the chloride impact in the areas of auger holes (AH-1 and AH-2). A shallow underground line (Phillips pipeline) located in the center of the spill area. Due to access issues and safety concerns, one (1) borehole (BH-1) was installed between auger holes (AH-1 and AH-2). The area of BH-1 showed elevated chloride concentrations with a chloride high of 12,900 mg/kg at 6'-7' below surface, but declined with depth to 148 mg/kg at 29'-30' below surface. Based on the data, the impacted area was vertically defined.

Remediation Activities

On October 20, 2014, Tetra Tech supervised the removal of impacted material as highlighted (green) in Table 1 and shown on Figure 4. As discussed in the submitted work plan, the areas of auger holes (AH-1 and AH-2) were excavated to a depth of approximately 3.5' below surface. Once excavated, these areas were then lined with a 40 mil liner to cap the remaining impacted soils. In addition, the areas of AH-3, AH-4 and AH-5 were excavated to depth of 4.0', 6.0' and 3.0' below surface, respectively. A total of 380 cubic yards were transported to proper disposal. Once excavated to the appropriate depths, the excavation was backfilled with clean soil to surface grade.

Conclusion

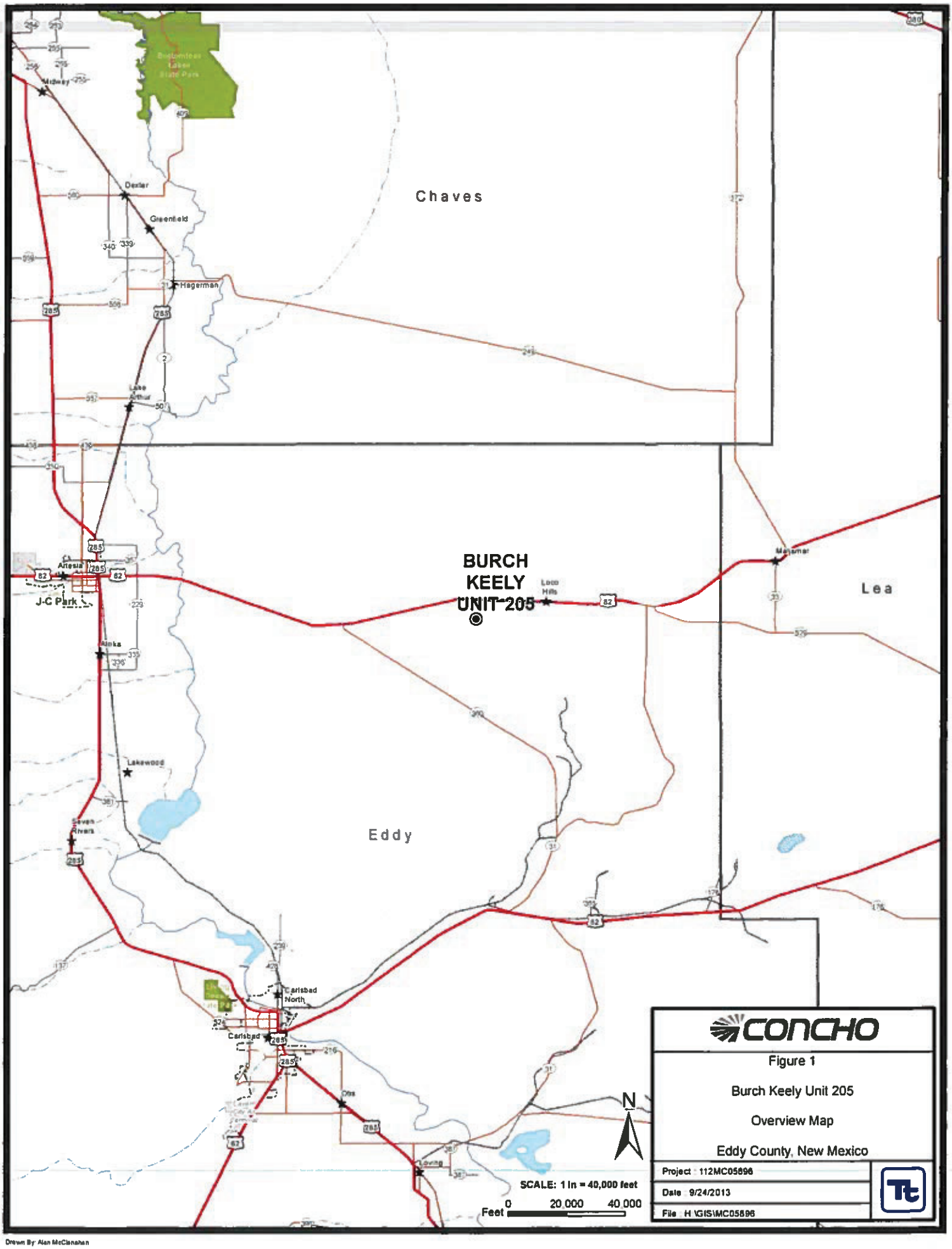
Based on the assessment and remediation work performed at this site, COG requests closure of this spill issue. A final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities for this site, please call me at (432) 682-4559.

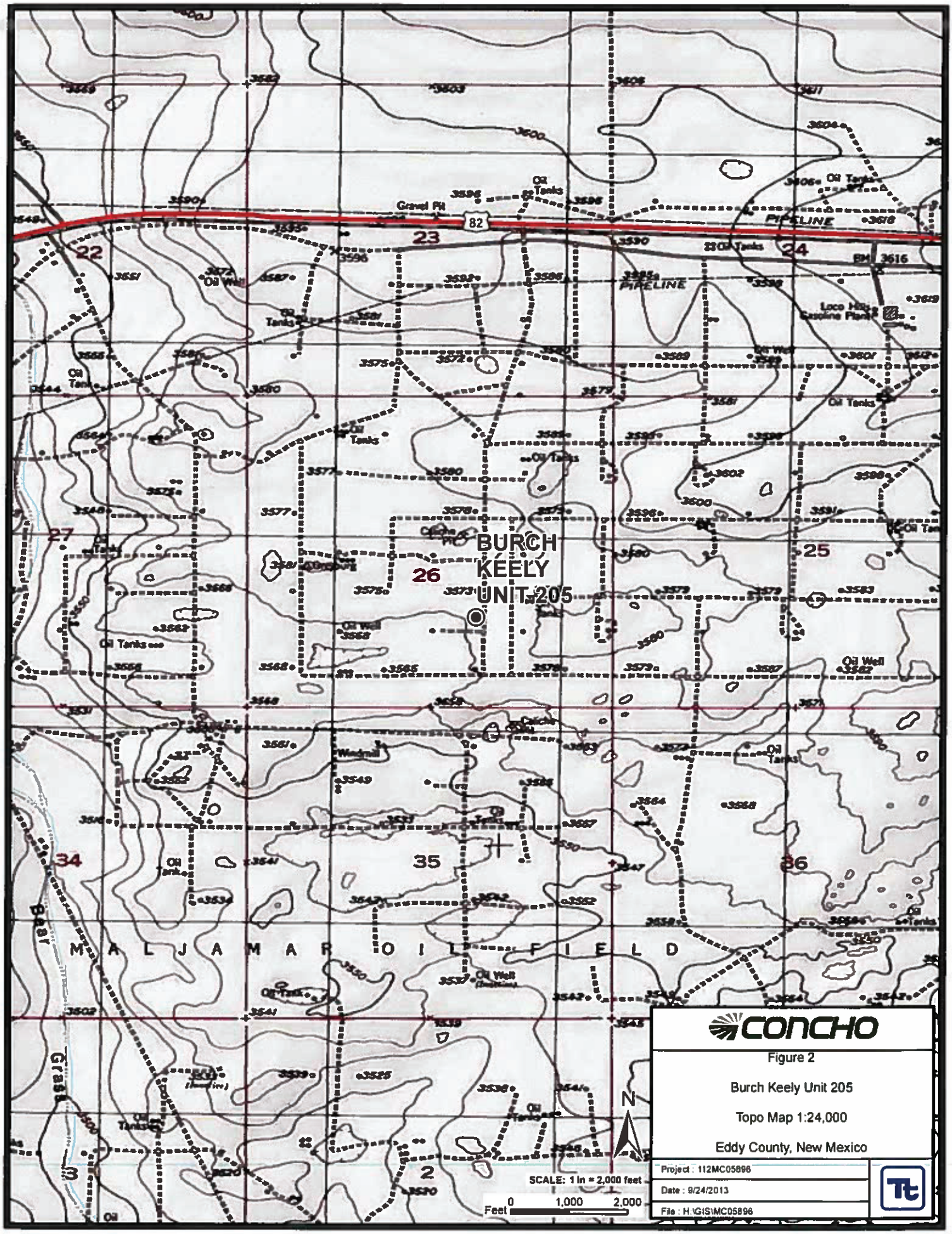
Respectfully submitted,
TETRA TECH

Ike Tavarez, P.G.
Senior Project Manager

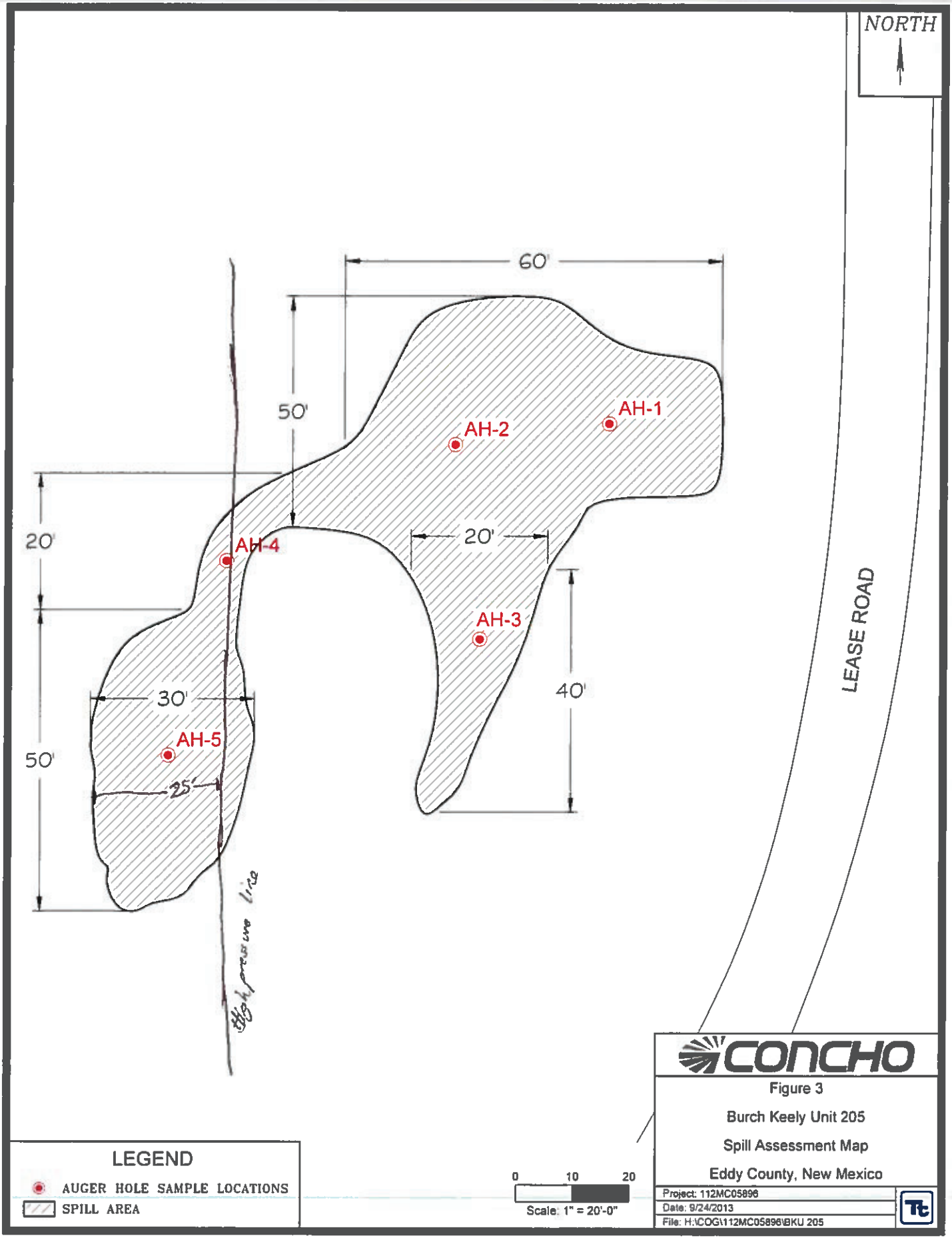
cc: Robert McNeill – COG

FIGURES

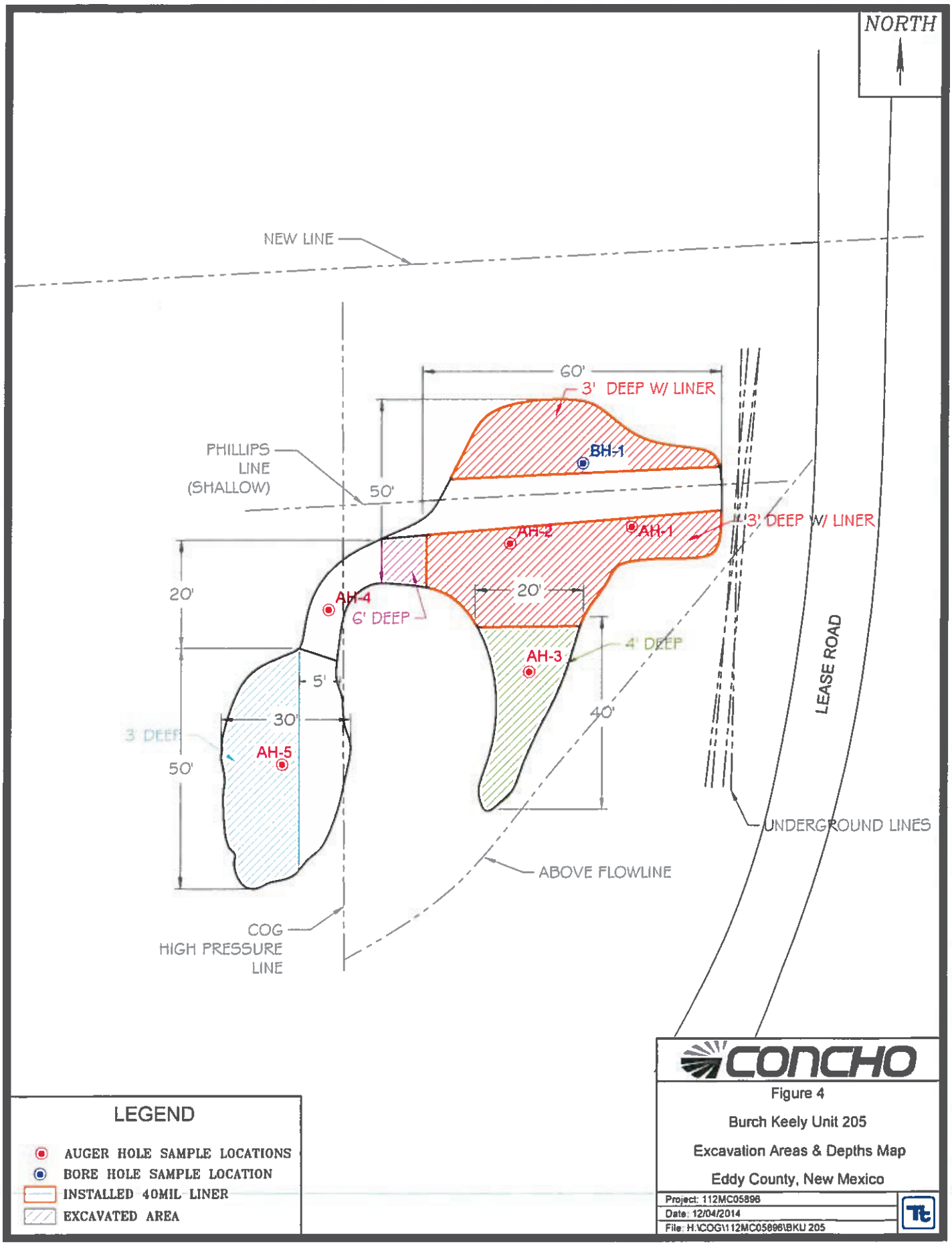

Chaves
Eddy
Lea
BURCH
KEELY
UNIT 205
Dexter
Greenfield
Hagerman
Lake Arthur
Artesia
J-C Park
Aloka
Lakewood
Seven Rivers
Carlsbad North
Carlsbad
Otis
Loving
Maljamar
Loco Hills
N
SCALE: 1 In = 40,000 feet
0 20,000 40,000
Feet
CONCHO
Figure 1
Burch Keely Unit 205
Overview Map
Eddy County, New Mexico
Project : 112MC05896
Date : 9/24/2013
File : H:\GIS\MC05896
Drawn By: Alan McClanahan



Drawn By: Alan McClanahan


NORTH
60'
50'
AH-1
AH-2
20'
AH-4
20'
AH-3
40'
30'
AH-5
50'
25'
LEASE ROAD
LEGEND
AUGER HOLE SAMPLE LOCATIONS
SPILL AREA
0 10 20
Scale: 1" = 20'-0"
CONCHO
Figure 3
Burch Keely Unit 205
Spill Assessment Map
Eddy County, New Mexico
Project: 112MC05896
Date: 9/24/2013
File: H:\COG\112MC05896\BKU 205


NORTH
60'
50'
AH-1
AH-2
20'
AH-4
20'
AH-3
LEASE ROAD
30'
40'
AH-5
50'
LEGEND
AUGER HOLE SAMPLE LOCATIONS
SPILL AREA
0
10
20
Scale: 1" = 20'-0"
CONCHO
Figure 3
Burch Keely Unit 205
Spill Assessment Aerial Map
Eddy County, New Mexico
Project: 112MC05896
Date: 9/24/2013
File: H:\COG\112MC05896\BKU 205


NORTH
NEW LINE
60'
3' DEEP W/ LINER
BH-1
PHILLIPS LINE (SHALLOW)
50'
3' DEEP W/ LINER
AH-2
AH-1
20'
AH-4
6' DEEP
20'
4' DEEP
AH-3
5'
40'
30'
3' DEEP
AH-5
50'
LEASE ROAD
UNDERGROUND LINES
ABOVE FLOWLINE
COG HIGH PRESSURE LINE
LEGEND
AUGER HOLE SAMPLE LOCATIONS
BORE HOLE SAMPLE LOCATION
INSTALLED 40MIL LINER
EXCAVATED AREA
CONCHO
Figure 4
Burch Keely Unit 205
Excavation Areas & Depths Map
Eddy County, New Mexico
Project: 112MC05898
Date: 12/04/2014
File: H:\COG\112MC05898\BKU 205

PHOTOGRAPHS

COG Operating LLC
Burch Keely Unit #205
Eddy County, New Mexico

TETRA TECH

View West – Area of AH-1 and AH-2 backfilled on North side of pipeline

View South – Areas of AH-3 backfilled

COG Operating LLC
Burch Keely Unit #205
Eddy County, New Mexico

TETRA TECH

View East – Area of AH 1-AH 3 backfilled with DCP shallow line outlined in berm.

View North – Area of AH 4 and AH 5 backfilled

TABLES

Table 1
COG Operating LLC.
Burch Keely #205
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-1	9/3/2013	0-1	-		X	<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	2,770
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	3,650
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	20,400
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	17,000
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	14,700
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	12,900
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	11,200
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	6,230
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	10,800
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	4,050
BH-1	6/18/2014	0-1	-		X	-	-	-	-	-	-	-	-	429
	"	2-3	-		X	-	-	-	-	-	-	-	-	<20.0
	"	4-5	-	X		-	-	-	-	-	-	-	-	2,220
	"	6-7	-	X		-	-	-	-	-	-	-	-	12,900
	"	9-10	-	X		-	-	-	-	-	-	-	-	3,100
	"	14-15	-	X		-	-	-	-	-	-	-	-	5,520
	"	19-20	-	X		-	-	-	-	-	-	-	-	4,040
	"	24-25	-	X		-	-	-	-	-	-	-	-	1,380
	"	29-30	-	X		-	-	-	-	-	-	-	-	148
	"	34-35	-	X		-	-	-	-	-	-	-	-	296
AH-2	9/3/2013	0-1	-		X	<4.00	141	141	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	3,830
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	5,680
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	22,100
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	7,740
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	11,800
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	7,390
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	5,810
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	2,730
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	4,260
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	1,420

Table 1
COG Operating LLC.
Burch Keely #205
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-3	9/3/2013	0-1	-		X	<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	3,260
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	7,040
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	17,800
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	13,800
	"	4-4.5	-		X	-	-	-	-	-	-	-	-	1,790
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	675
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	445
AH-4	9/3/2013	0-1	-		X	<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	12,500
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	8,880
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	2,650
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	4,990
	"	4-4.5	-		X	-	-	-	-	-	-	-	-	20,400
	"	5-5.5	-		X	-	-	-	-	-	-	-	-	10,200
	"	6-6.5	-		X	-	-	-	-	-	-	-	-	8,240
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	347
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	327
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	3,120
AH-5	9/3/2013	0-1	-		X	<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	5,240
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	20,800
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	6,690
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	4,110
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	559
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	1,770
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	495
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	299

Excavation Depth

Liner Depth

(-) Not Analyzed

(BEB) Below Excavation Bottom

APPENDIX A

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Burch Keely Unit #205	Facility Type	Pasture

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-03133

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	26	17S	29E					Eddy

Latitude 32 48.163 Longitude 104 02.567

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 75bbls	Volume Recovered 50bbls
Source of Release Fiberglass line	Date and Hour of Occurrence 08-14-2013	Date and Hour of Discovery 08-14-2013 11:00am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher - NMOCD	
By Whom? Michelle Mullins	Date and Hour 08-15-2013 10:03am	
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 fiberglass fitting came loose. Replaced the fitting a new fitting.

Describe Area Affected and Cleanup Action Taken.*

Initially 75bbls of produced water were released due to a fitting came loose on a fiberglass line. We were able to recover 50bbls with a vacuum truck. All free fluid has been recovered. The spill was located in the pasture. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a work plan to the NMOCD/BLM 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:	OIL CONSERVATION DIVISION	
Printed Name: Robert Grubbs Jr.	Approved by District Supervisor:	
Title: Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: rgrubbs@concho.com	Conditions of Approval:	Attached ☐
Date: 08-15-2013 Phone: 432-661-6601		

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **COG Operating LLC**	Contact **Robert McNeil**
Address **600 West Illinois Avenue, Midland, Texas 79701**	Telephone No. **(432) 230-0077**
Facility Name Burch Keely Unit #205	Facility Type **Pasture**

Surface Owner: Federal	Mineral Owner	Lease No. (API#) 30-015-03133

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	26	17S	29E					Eddy

Latitude N 32.802717° Longitude W 104.042783°

NATURE OF RELEASE

Type of Release: Produced water	Volume of Release **75 bbls**	Volume Recovered **50 bbls**
Source of Release Fiberglass line	Date and Hour of Occurrence 08-14-2013	Date and Hour of Discovery **08-14-2013 11:00a.m.**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Mike Bratcher- NMOCD**	
By Whom? Michelle Mullins	Date and Hour 8-15-2013 10.03am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

A fiberglass fitting came loose. Replaced the fitting a new fitting

Describe Area Affected and Cleanup Action Taken.*

Initially 75 bbls of produced water were released due to a fitting that came loose on a fiberglass line. 50 bbls of produced water was recovered with a vacuum truck. All free fluids have been removed. Tetra Tech inspected site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Liners were installed according to the work plan. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Ike Tavarez (Agent for COG)	Approved by District Supervisor:	
Title: Project Manager, P.G.	Approval Date:	Expiration Date:
E-mail Address: ike.tavarez@tetratech.com	Conditions of Approval:	Attached ☐
Date: 12-4-14 Phone: (432) 687-8110		

* Attach Additional Sheets If Necessary

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG - Burch Keely #205
Eddy County, New Mexico

16 South 28 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21 61	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14 220 dry	13
19 110	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 30 East

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

17 South 28 East

6	5	4	3	2 25	1
7	8	9	10	11	12
18	17	16	15	14 80	13
19 224	20	21	22 45 79	23	24
30	29	28	27	26	25
31	32 SITE	33	34	35 258	36

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 76 80	23	24
30	29 210 208	28	27	26 SITE	25
31	32	33	34	35 153	36

17 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20 80	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

18 South 28 East

6	5	4 108	3	2	1
7 49	8 81 69	9	10	11	12
18	17	16	15	14	13
19	20	21 226	22	23	24
30 137	29	28	27	26	25
31	32	33	34	35 65	36

18 South 29 East

6	5	4	3	2	1
7	8	9	10 95	11	12
18	17	16	15	14	13
19	20	21	22	23	24 158
30	29	28	27	26	25
31	32	33	34	35	36

18 South 30 East

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

- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD - Groundwater Data
- Field water level
- New Mexico Water and Infrastructure Data System

APPENDIX C

Summary Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: September 18, 2013

Work Order: 13090537

Project Location: NM
Project Name: COG/BKU #205
Project Number: TBD

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
341197	AH-1 0-1'	soil	2013-09-03	00:00	2013-09-05
341198	AH-1 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341199	AH-1 2-2.5'	soil	2013-09-03	00:00	2013-09-05
341200	AH-1 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341201	AH-1 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341202	AH-1 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341203	AH-1 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341204	AH-1 7-7.5'	soil	2013-09-03	00:00	2013-09-05
341205	AH-1 8-8.5'	soil	2013-09-03	00:00	2013-09-05
341206	AH-1 9-9.5'	soil	2013-09-03	00:00	2013-09-05
341207	AH-2 0-1'	soil	2013-09-03	00:00	2013-09-05
341208	AH-2 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341209	AH-2 2-2.5'	soil	2013-09-03	00:00	2013-09-05
341210	AH-2 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341211	AH-2 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341212	AH-2 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341213	AH-2 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341214	AH-2 7-7.5'	soil	2013-09-03	00:00	2013-09-05
341215	AH-2 8-8.5'	soil	2013-09-03	00:00	2013-09-05
341216	AH-2 9-9.5'	soil	2013-09-03	00:00	2013-09-05
341217	AH-3 0-1'	soil	2013-09-03	00:00	2013-09-05
341218	AH-3 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341219	AH-3 2-2.5'	soil	2013-09-03	00:00	2013-09-05
341220	AH-3 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341221	AH-3 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341222	AH-3 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341223	AH-3 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341224	AH-4 0-1'	soil	2013-09-03	00:00	2013-09-05
341225	AH-4 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341226	AH-4 2-2.5'	soil	2013-09-03	00:00	2013-09-05

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
341227	AH-4 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341228	AH-4 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341229	AH-4 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341230	AH-4 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341231	AH-4 7-7.5'	soil	2013-09-03	00:00	2013-09-05
341232	AH-4 8-8.5'	soil	2013-09-03	00:00	2013-09-05
341233	AH-4 9-9.5'	soil	2013-09-03	00:00	2013-09-05
341234	AH-5 0-1'	soil	2013-09-03	00:00	2013-09-05
341235	AH-5 1-1.5'	soil	2013-09-03	00:00	2013-09-05
341236	AH-5 2-2.5'	soil	2013-09-03	00:00	2013-09-05
341237	AH-5 3-3.5'	soil	2013-09-03	00:00	2013-09-05
341238	AH-5 4-4.5'	soil	2013-09-03	00:00	2013-09-05
341239	AH-5 5-5.5'	soil	2013-09-03	00:00	2013-09-05
341240	AH-5 6-6.5'	soil	2013-09-03	00:00	2013-09-05
341244	AH-5 7-7.5	soil	2013-09-03	00:00	2013-09-05

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
341197 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q1
341207 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	**141**	<4.00 Q1
341217 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q1
341224 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q1
341234 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q1

Sample: 341197 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**2770**	mg/Kg	4

Sample: 341198 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**3650**	mg/Kg	4

Sample: 341199 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**20400**	mg/Kg	4

Sample: 341200 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		17000	mg/Kg	4

Sample: 341201 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		14700	mg/Kg	4

Sample: 341202 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		12900	mg/Kg	4

Sample: 341203 - AH-1 6-6.5'

Param	Flag	Result	Units	RL
Chloride		11200	mg/Kg	4

Sample: 341204 - AH-1 7-7.5'

Param	Flag	Result	Units	RL
Chloride		6230	mg/Kg	4

Sample: 341205 - AH-1 8-8.5'

Param	Flag	Result	Units	RL
Chloride		10800	mg/Kg	4

Sample: 341206 - AH-1 9-9.5'

Param	Flag	Result	Units	RL
Chloride		4050	mg/Kg	4

Sample: 341207 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		3830	mg/Kg	4

Sample: 341208 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**5680**	mg/Kg	4

Sample: 341209 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**22100**	mg/Kg	4

Sample: 341210 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**7740**	mg/Kg	4

Sample: 341211 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**11800**	mg/Kg	4

Sample: 341212 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**7390**	mg/Kg	4

Sample: 341213 - AH-2 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**5810**	mg/Kg	4

Sample: 341214 - AH-2 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**2730**	mg/Kg	4

Sample: 341215 - AH-2 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**4260**	mg/Kg	4

Sample: 341216 - AH-2 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**1420**	mg/Kg	4

Sample: 341217 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**3260**	mg/Kg	4

Sample: 341218 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**7040**	mg/Kg	4

Sample: 341219 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**17800**	mg/Kg	4

Sample: 341220 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**13800**	mg/Kg	4

Sample: 341221 - AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**1790**	mg/Kg	4

Sample: 341222 - AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**675**	mg/Kg	4

Sample: 341223 - AH-3 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**445**	mg/Kg	4

Sample: 341224 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**12500**	mg/Kg	4

Sample: 341225 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**8880**	mg/Kg	4

Sample: 341226 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**2650**	mg/Kg	4

Sample: 341227 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**4990**	mg/Kg	4

Sample: 341228 - AH-4 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**20400**	mg/Kg	4

Sample: 341229 - AH-4 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**10200**	mg/Kg	4

Sample: 341230 - AH-4 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**8240**	mg/Kg	4

Sample: 341231 - AH-4 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**347**	mg/Kg	4

Sample: 341232 - AH-4 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**327**	mg/Kg	4

Sample: 341233 - AH-4 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**3120**	mg/Kg	4

Sample: 341234 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**5240**	mg/Kg	4

Sample: 341235 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**20800**	mg/Kg	4

Sample: 341236 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**6690**	mg/Kg	4

Sample: 341237 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**4110**	mg/Kg	4

Sample: 341238 - AH-5 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**559**	mg/Kg	4

Sample: 341239 - AH-5 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**1770**	mg/Kg	4

Sample: 341240 - AH-5 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**495**	mg/Kg	4

Sample: 341244 - AH-5 7-7.5

Param	Flag	Result	Units	RL
Chloride		**299**	mg/Kg	4

13090537

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 5

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.:

PROJECT NAME: BKU #205

LAB I.D. NUMBER	DATE 2013	TIME	MATRIX	COMP	GRAB	SAMPLE IDENTIFICATION Eddy Co, NM	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
141197	9-8		S		X	AH-1 0-1					X	
198			S		X	" 1-1.5					X	
199			S		X	" 2-2.5					X	
200			S		X	" 3-3.5					X	
201			S		X	" 4-4.5					X	
202			S		X	" 5-5.5					X	
203			S		X	" 6-6.5					X	
204			S		X	" 7-7.5					X	
205			S		X	" 8-8.5					X	
206			S		X	" 9-9.5					X	

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B/5030	TPH TX1005 (Ext. to C35)	TPH 8015 MOD.	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
X	X												X				
													X				
													X				
													X				
													X				
													X				
													X				
													X				
													X				
													X				

RELINQUISHED BY: (Signature) Date: 9/13/13 Time: 14:10
RECEIVED BY: (Signature) Date: 9/13/13 Time: 14:10
SAMPLED BY: (Print & Initial) MRAG Date: 9-8-13 Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS AIRBILL #: OTHER:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
TETRA TECH CONTACT PERSON: Results by:

RECEIVING LABORATORY: RECEIVED BY: (Signature)
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE: DATE: TIME:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 1.9°

REMARKS: Run deeper samples if Benzene exceeds 10, total BTEX exceeds 50 or TPH exceeds 5000. Run Chlorides on all

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

Midland all

13090537

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 5

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.:

PROJECT NAME: BKU #205

LAB I.D. NUMBER	DATE 2013	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH TX1005 (Ext. to C35)	TPH 8015 MOD.	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
207	9-3		S		X	AH-2 D-1					X		X	X												X				
208			S		X	" 1-1.5					X															X				
209			S		X	" 2-2.5					X															X				
210			S		X	" 3-3.5					X															X				
211			S		X	" 4-4.5					X															X				
212			S		X	" 5-5.5					X															X				
213			S		X	" 6-6.5					X															X				
214			S		X	" 7-7.5					X															X				
215			S		X	" 8-8.5					X															X				
216			S		X	" 9-9.5					X															X				

RELINQUISHED BY: (Signature) Date: 9-3-13 Time: 14:10 — RECEIVED BY: (Signature) Date: 9/5/13 Time: 14:10

SAMPLED BY: (Print & Initial) MCB CG Date: 9-3-13 Time:

RELINQUISHED BY: (Signature) Date: Time: — RECEIVED BY: (Signature) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS AIRBILL #: OTHER:

RELINQUISHED BY: (Signature) Date: Time: — RECEIVED BY: (Signature) Date: Time:

TETRA TECH CONTACT PERSON: Results by:

RECEIVING LABORATORY: RECEIVED BY: (Signature)
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE: DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 1.9°

REMARKS:

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

13090537

Analysis Request of Chain of Custody Record

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.:

PROJECT NAME: BKU #205

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2013	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. (Ext. to C35)	TX1005	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
217	9.3		S		X	AH-3 0-1					X		X	X												X				
218	"		S		X	1-1.5					X															X				
219			S		X	2-2.5					X															X				
220			S		X	3-3.5					X															X				
221			S		X	4-4.5					X															X				
222			S		X	5-5.5					X															X				
223			S		X	6-6.5					X															X				
224			S		X	AH-4 0-1					X		X	X												X				
225			S		X	1-1.5					X															X				
226	"		S		X	2-2.5					X															X				

RELINQUISHED BY: (Signature) Date: 9.5.13 Time: 14:15

RECEIVED BY: (Signature) Date: 9/5/13 Time: 1510

SAMPLED BY: (Print & Initial) MK & CG Date: 9.3.13 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS AIRBILL #: OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

TETRA TECH CONTACT PERSON: Results by:

RECEIVING LABORATORY: RECEIVED BY: (Signature)

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE: DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 1.90

REMARKS:

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

13090537

Analysis Request of Chain of Custody Record

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.:

PROJECT NAME: BKU #205

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
227	9.3.2013		S		X	AH-4 3-3.5					V													X				
228	"		S		X	" 4-4.5					X													X				
229	"		S		X	" 5-5.5					X													V				
230	"		S		X	" 6-6.5					X													X				
231	"		S		X	" 7-7.5					X													X				
232	"		S		X	" 8-8.5					X													X				
233	"		S		X	" 9-9.5					X													X				
234	"		S		X	AH-5 0-1					X		NX											X				
235	"		S		X	" 1-1.5					X													X				
236	"		S		X	" 2-2.5					X													X				

RELINQUISHED BY: (Signature) — Date: 9.5.13 Time: 14:50

RECEIVED BY: (Signature) — Date: 9.5.13 Time: 14:50

RELINQUISHED BY: (Signature) — Date: Time:

RECEIVED BY: (Signature) — Date: Time:

RELINQUISHED BY: (Signature) — Date: Time:

RECEIVED BY: (Signature) — Date: Time:

RECEIVING LABORATORY:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature)
DATE: TIME:

SAMPLE CONDITION WHEN RECEIVED: 1.9°

REMARKS:

ANALYSIS REQUEST (Circle or Specify Method No.)

SAMPLED BY: (Print & Initial) MK & CG — Date: 9.5.13 Time:

SAMPLE SHIPPED BY: (Circle)
FEDEX BUS
HAND DELIVERED UPS

AIRBILL #:
OTHER:

TETRA TECH CONTACT PERSON:

Results by:

RUSH Charges Authorized: Yes No

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

13090537

Analysis Request of Chain of Custody Record

PAGE: 5 OF: 5

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.:

PROJECT NAME: BKU #205

LAB I.D. NUMBER	DATE 2013	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
237	9.9		S		X	AH-5 3-3.5					X													X				
238			S		X	" 4-4.5					X													X				
239			S		X	" 5-5.5					X													X				
240			S		X	" 6-6.5					X													X				
244						AH-5 7-7.5'																		X				

RELINQUISHED BY: (Signature) Mike Gonzales — Date: 9.5.13 Time: 14:30

RECEIVED BY: (Signature) — Date: 9.5.13 Time: 14:30

SAMPLED BY: (Print & Initial) Mr. C — Date: 9.5.13 Time:

RELINQUISHED BY: (Signature) — Date: Time:

RECEIVED BY: (Signature) — Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: OTHER:

RELINQUISHED BY: (Signature) — Date: Time:

RECEIVED BY: (Signature) — Date: Time:

TETRA TECH CONTACT PERSON: — Results by:

RECEIVING LABORATORY: — RECEIVED BY: (Signature)

ADDRESS: — CITY: — STATE: — ZIP:

CONTACT: — PHONE: — DATE: — TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 1.9°

REMARKS: Recved AH-5 7-7.5' not listed — added

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

Summary Report

Ike Tavarez
Tetra Tech
1901 N. Big Spring St.
Midland, TX 79705

Report Date: June 24, 2014

Work Order: 14062014

Project Location: Eddy Co, NM
Project Name: COG/BKU #205
Project Number: 112MC05896

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
366362	BH-1 0-1'	soil	2014-06-18	00:00	2014-06-20
366363	BH-1 2-3'	soil	2014-06-18	00:00	2014-06-20
366364	BH-1 4-5'	soil	2014-06-18	00:00	2014-06-20
366365	BH-1 6-7'	soil	2014-06-18	00:00	2014-06-20
366366	BH-1 9-10'	soil	2014-06-18	00:00	2014-06-20
366367	BH-1 14-15'	soil	2014-06-18	00:00	2014-06-20
366368	BH-1 19-20'	soil	2014-06-18	00:00	2014-06-20
366369	BH-1 24-25'	soil	2014-06-18	00:00	2014-06-20
366370	BH-1 29-30'	soil	2014-06-18	00:00	2014-06-20
366371	BH-1 34-35'	soil	2014-06-18	00:00	2014-06-20

Sample: 366362 - BH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**429**	mg/Kg	4

Sample: 366363 - BH-1 2-3'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 366364 - BH-1 4-5'

Param	Flag	Result	Units	RL
Chloride		**2220**	mg/Kg	4

Sample: 366365 - BH-1 6-7'

Param	Flag	Result	Units	RL
Chloride		**12900**	mg/Kg	4

Sample: 366366 - BH-1 9-10'

Param	Flag	Result	Units	RL
Chloride		**3100**	mg/Kg	4

Sample: 366367 - BH-1 14-15'

Param	Flag	Result	Units	RL
Chloride		**5520**	mg/Kg	4

Sample: 366368 - BH-1 19-20'

Param	Flag	Result	Units	RL
Chloride		**4040**	mg/Kg	4

Sample: 366369 - BH-1 24-25'

Param	Flag	Result	Units	RL
Chloride		**1380**	mg/Kg	4

Sample: 366370 - BH-1 29-30'

Param	Flag	Result	Units	RL
Chloride		**148**	mg/Kg	4

Sample: 366371 - BH-1 34-35'

Param	Flag	Result	Units	RL
Chloride		**296**	mg/Kg	4

14062014

Analysis Request of Chain of Custody Record

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

PAGE: OF:

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 112MC05896

PROJECT NAME: BKU #205

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2014	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION Eddy Co NM	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chlorides	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
36362	10/8		S		X	BH-1 0-1					X													X				
363						" 2-3					X													X				
364						" 4-5					X													X				
365						" 6-7					X													X				
366						" 9-10					X													X				
367						" 14-15					X													X				
368						" 19-20					X													X				
369						" 24-25					X													X				
370						" 29-30					X													X				
371						" 34-35					X													X				

RELINQUISHED BY: (Signature) Cheryl Gonzales — Date: 10-13-14 Time: 1035

RECEIVED BY: (Signature) — Date: 10/13/14 Time: 10:37

SAMPLED BY: (Print & Initial) CG — Date: 10-13-14 Time:

RELINQUISHED BY: (Signature) — Date: Time:

RECEIVED BY: (Signature) — Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS

AIRBILL #:

OTHER:

RELINQUISHED BY: (Signature) — Date: Time:

RECEIVED BY: (Signature) — Date: Time:

TETRA TECH CONTACT PERSON:

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY:

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

SAMPLE CONDITION WHEN RECEIVED: 10.6°

REMARKS: Midland - ag

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

APPENDIX F
2RP-1835 Final C-141

Rec'd 12/19/14
NMOCD Dist 2

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **COG Operating LLC**	Contact **Robert McNeil**
Address **600 West Illinois Avenue, Midland, Texas 79701**	Telephone No. **(432) 230-0077**
Facility Name Burch Keely Unit #205	Facility Type **Pasture**

Surface Owner: Federal	Mineral Owner	Lease No. (API#) 30-015-03133

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	26	17S	29E					Eddy

Latitude N 32.802717° Longitude W 104.042783°

NATURE OF RELEASE

Type of Release: Produced water	Volume of Release **75 bbls**	Volume Recovered **50 bbls**
Source of Release Fiberglass line	Date and Hour of Occurrence 08-14-2013	Date and Hour of Discovery **08-14-2013 11:00a.m.**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Mike Bratcher- NMOCD**	
By Whom? Michelle Mullins	Date and Hour 8-15-2013 10.03am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

A fiberglass fitting came loose. Replaced the fitting a new fitting

Describe Area Affected and Cleanup Action Taken.*

Initially 75 bbls of produced water were released due to a fitting that came loose on a fiberglass line. 50 bbls of produced water was recovered with a vacuum truck. All free fluids have been removed. Tetra Tech inspected site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Liners were installed according to the work plan. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: (Agent for COG)	OIL CONSERVATION DIVISION	
Printed Name: Ike Tavarez	Approved by District Supervisor:	
Title: Project Manager, P.G.	Approval Date: 4/3/15	Expiration Date: N/A
E-mail Address: ike.tavarez@tetratech.com	Conditions of Approval: N/A FINAL	Attached ☐
Date: 12-4-14 Phone: (432) 687-8110		

* Attach Additional Sheets If Necessary

2RP-1835

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 54601

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 54601
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	2/10/2023