



January 13, 2022

Bradford Billings
Hydrologist/E.Spec.A
District 2 Artesia
1220 South St. Francis Drive
Oil Conservation Division
Santa Fe, NM 87505

**Re: Release Characterization and Closure Request
ConocoPhillips
Heritage Concho
RJ Unit #129 Injection Line Release
Unit Letter N, Section 35, Township 17 South, Range 29 East
Eddy County, New Mexico
2RP-2919
Incident ID# nAB1508554476**

Mr. Billings:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips (COP) to assess a Heritage Concho release and subsequent remedial actions taken at the RJ Unit #129 (API No. 30-015-03780) Injection Line Release site. The release footprint is located in Public Land Survey System (PLSS) Unit Letter N, Section 35, Township 17 South, Range 29 East, in Eddy County, New Mexico (Site). The approximate release point occurred at coordinates 32.792913°, -104.050198°, as shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico Oil Conservation District (NMOCD) C-141 Initial Report, the release occurred on March 5, 2015 when a driver from Richard's Energy Compression Services drove over the line, causing it to break. Approximately 3 barrels (bbls) of oil and 10 bbls of produced water were released onto an active lease road. The New Mexico Oil Conservation Division (NMOCD) approved the initial C-141 on August 11, 2010 and subsequently assigned the release the Incident ID nAB1508554476 and Remediation Permit (RP) 2RP-2919. The initial C-141 form is included in Appendix A.

SITE CHARACTERIZATION

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

There are no water wells listed in the New Mexico Office of the State Engineer (NMOSE database located within approximately ½ mile (800 meters) of the site. According to data from one water well listed in the NMOSE database within approximately 2.5 miles (4,000 meters) of the site, the depth to groundwater is 76 feet below ground surface (bgs). The site characterization data are presented in Appendix B.

Tetra Tech

901 West Wall St., Suite 100, Midland, TX 79701

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com

REGULATORY FRAMEWORK

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

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

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

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

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

INITIAL RESPONSE ACTIVITIES AND CLOSURE REQUEST

According to the C-141, the impacted area was approximately 10 feet by 300 feet in the roadway. A backhoe was on site and able to isolate the impacted area quickly. During initial response activities impacted soil was stockpiled near the release footprint. After initial response activities were completed, assessment samples were collected from four (4) locations within the release extent (RJ 1 through RJ 4), one (1) from the spill pile (RJ 5), and one (1) background location (BG 1). The backhoe scraped up the impacted soil and hauled it to an NMOCD-approved facility. The samples were sent under chain-of-custody to Hall Environmental Analysis Laboratory for analysis for BTEX via EPA Method 8021B, TPH (GRO and MRO) via EPA Method 8015D, and total chlorides via EPA Method 300.0.

On behalf of Concho, Souder, Miller & Associates prepared a *Final Report Summarizing Closure for Incident 2RP-2919* (Closure Report) dated April 7, 2015, summarizing the findings of the initial response and assessment activities. All laboratory analytical results were below the Site RRALs for active oil and gas production areas, with the exception of the sample collected from the spill pile (RJ 5). Based on the initial soil sampling results, the soil excavation activities were effective in removing all contaminated material from the release extent. The Closure Report is included as Appendix C.

In an email dated July 14, 2015, NMOCD denied the closure request. In this email, NMOCD requested that all points be vertically delineated for chlorides on the basis that "OCD believes the background sample is representative of a historic release, not of natural chloride backgrounds." Additionally, NMOCD stated that soils in the vicinity of sample point RJ 5 be excavated and further delineated. However, this sample was collected from the spill pile and that spoil material has since been properly disposed of. The NMOCD correspondence is included as Appendix D.

SITE ASSESSMENT AND SAMPLING RESULTS

In order to comply with the NMOCD directive given in the July 14, 2015 email, Concho was onsite on March 19, 2019 to install four (4) hand auger soil borings (AH-1 through AH-4) in the locations of initial sampling locations RJ 1 through RJ 4 and one (1) background location boring (BG) to total depths of 2.5 feet. A total of fifteen (15) soil samples were collected from the five (5) borings and sent to Xenco Laboratories in

Release Characterization and Closure Request
January 13, 2022

ConocoPhillips

Midland, Texas to be analyzed for chloride via EPA Method 300.0, TPH via EPA Method 8015M and BTEX via EPA Method 8261B. A copy of the laboratory analytical report and chain-of-custody documentation are included in Appendix E. Boring locations are indicated on Figure 3.

Analytical results from the 2019 assessment activities are summarized in Table 1. The analytical results associated with the 0-1 foot sample intervals at AH-2 and AH-3 had TPH and chloride concentrations elevated above the reclamation requirements. Additionally, the 2.5 foot sample interval at AH-4 also had a chloride concentration above the 600 mg/kg reclamation requirement. However, analytical results for all samples were below the applicable Site RRALs for soils in active oil and gas production areas.

SITE RECLAMATION AND RESTORATION PLAN

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

CONCLUSION

Based on the results of the site assessment, ConocoPhillips considers the current release footprint to be effectively delineated. All analytical results associated with the site assessment in the active lease road were below applicable Site RRALs following the initial response actions; therefore, no further remediation of the release footprint is necessary. Although some sampling results indicated chloride and TPH concentrations elevated above the reclamation requirements of 600 mg/kg and 100 mg/kg, respectively, these locations are on an active, developed oil and gas production lease road and do not cause an imminent risk to human health, the environment, or groundwater. The impacted surface area occurring on the lease road was remediated to meet the standards of Table I of 19.15.29.12 NMAC during the initial response activities.

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

Sincerely,
Tetra Tech, Inc.



Samantha Abbott, P.G.
Project Manager

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

Release Characterization and Closure Request
January 13, 2022

ConocoPhillips

LIST OF ATTACHMENTS

Figures:

- Figure 1 – Overview Map
- Figure 2 – Topographic Map
- Figure 3 – Additional Site Assessment

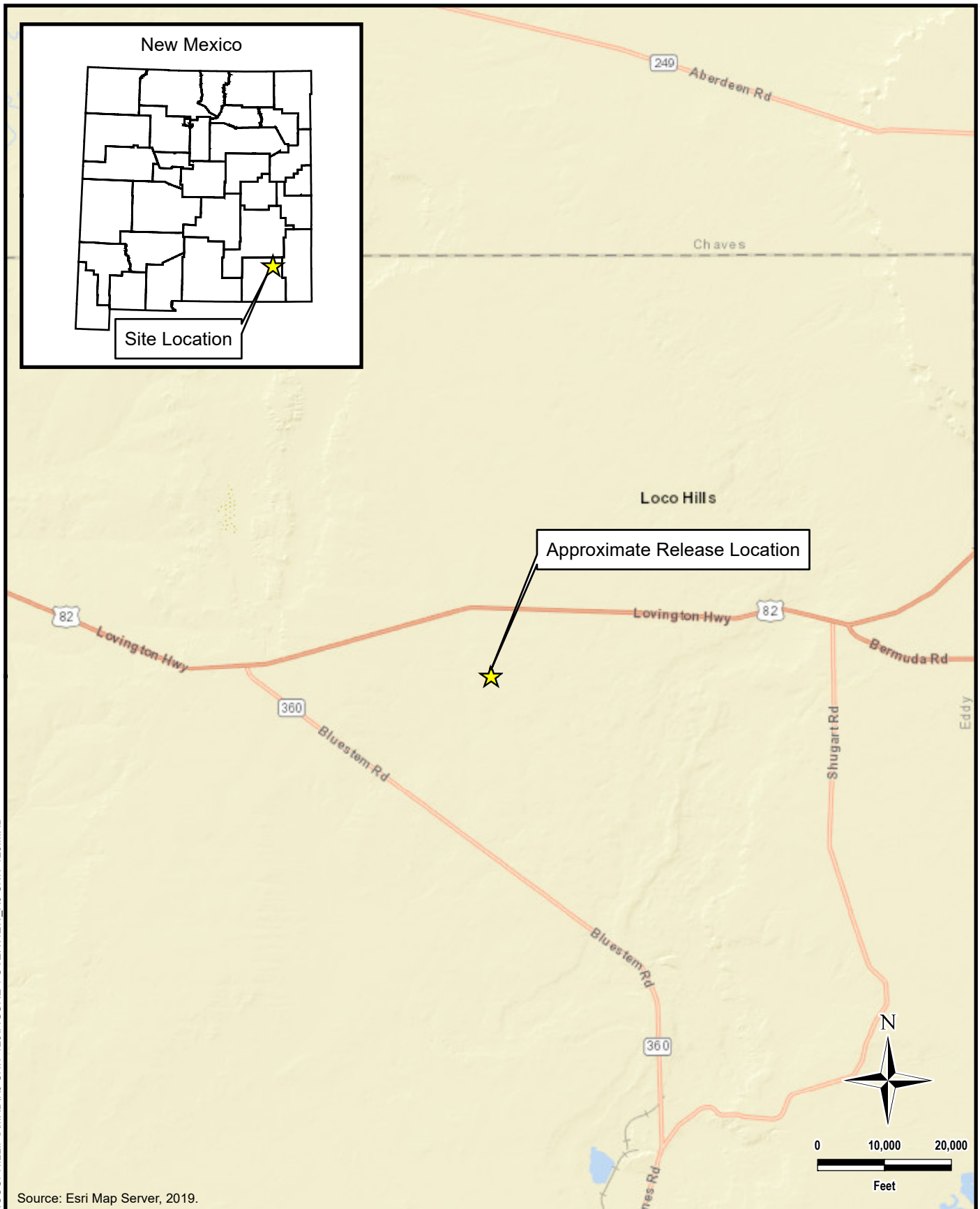
Tables:

- Table 1 – Summary of Analytical Results – Additional Soil Assessment

Appendices:

- Appendix A – C-141 Forms
- Appendix B – Site Characterization Data
- Appendix C – Closure Report (April 7, 2015)
- Appendix D – NMOCD Correspondence
- Appendix E – Laboratory Analytical Data

FIGURES



TETRA TECH

www.tetrattech.com

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Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

CONOCOPHILLIPS - HERITAGE CONCHO

INCIDENT ID# NAB1508554476
(32.792913°, -104.050198°)
EDDY COUNTY, NEW MEXICO

**RJ UNIT #129
OVERVIEW MAP**

PROJECT NO.: 212C-MD-02634

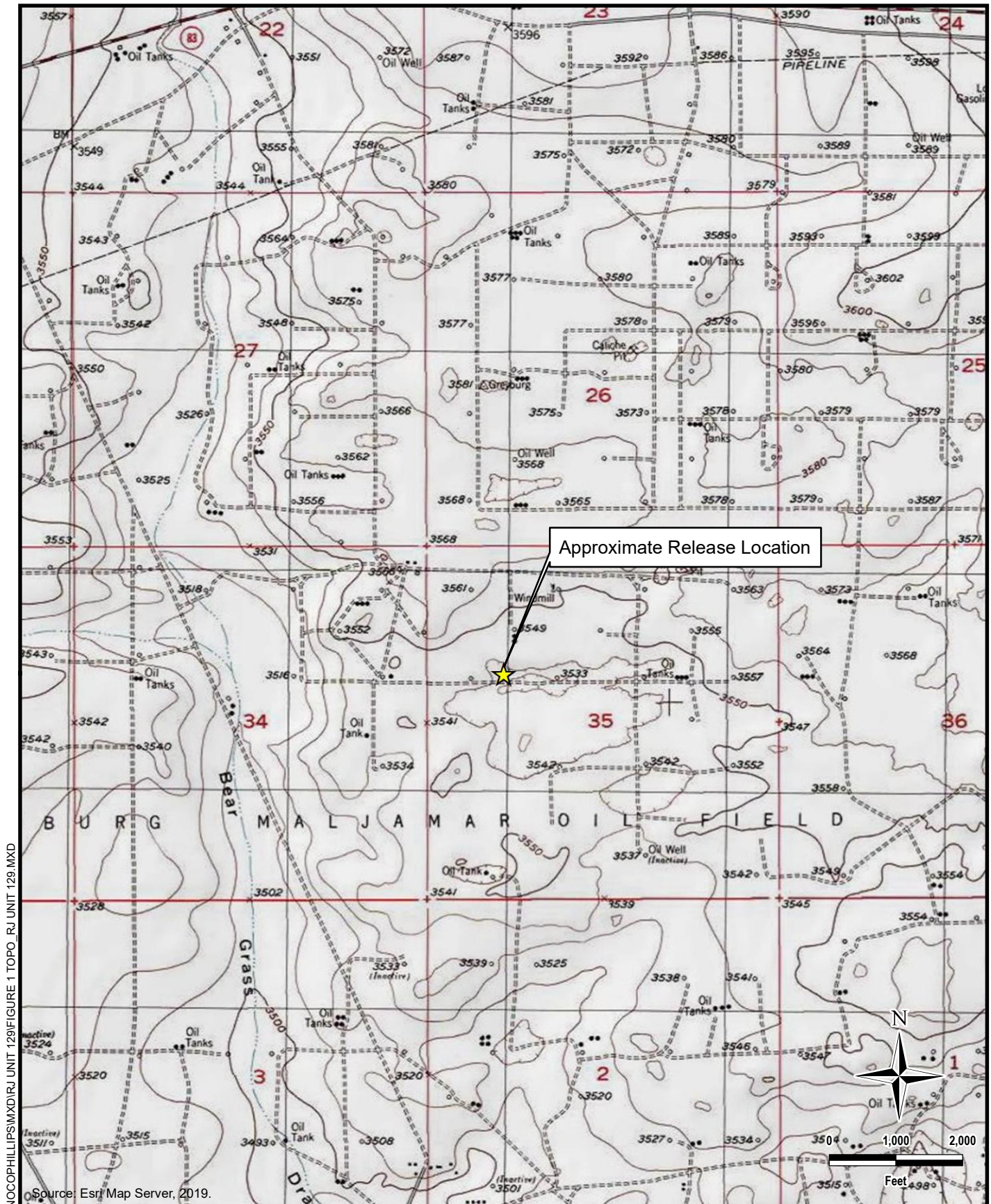
DATE: JANUARY 04, 2022

DESIGNED BY: AAM

Figure No.

1

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\RJ UNIT 129\FIGURE 1 OVERVIEW RJ UNIT 129.MXD



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\RJ UNIT 129\FIGURE 1 TOPO_RJ UNIT 129.MXD

**TETRA TECH**

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Midland, Texas 79701
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CONOCOPHILLIPS - HERITAGE CONCHO

INCIDENT ID# NAB1508554476
(32.792913°, -104.050198°)
EDDY COUNTY, NEW MEXICO

**RJ UNIT #129
TOPOGRAPHIC MAP**

PROJECT NO.: 212C-MD-02634

DATE: JANUARY 10, 2022

DESIGNED BY: AAM

Figure No.

2



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\RJ UNIT 129\FIGURE 3 RELEASE_RJ UNIT 129.MXD



TETRA TECH

www.tetrattech.com

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

CONOCOPHILLIPS - HERITAGE CONCHO

INCIDENT ID# NAB1508554476
(32.792913°, -104.050198°)
EDDY COUNTY, NEW MEXICO

**RJ UNIT #129
ADDITIONAL SITE ASSESSMENT**

PROJECT NO.: 212C-MD-02634

DATE: JANUARY 10, 2022

DESIGNED BY: AAM

Figure No.

3

TABLE

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
ADDITIONAL SOIL ASSESSMENT - NAB1508554476
HERITAGE CONCHO
RJ UNIT #129 INJECTION LINE RELEASE
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride ¹		BTEX ²												TPH ³									
					Benzene		Toluene		Ethylbenzene		m,p-Xylenes		o-Xylene		Total Xylenes		Total BTEX		GRO		DRO		MRO		Total TPH	
		ft. bgs	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q		
AH-1	3/19/2019	0-1	36.2		<0.00200		<0.00200		<0.00200		<0.00401		<0.00200		<0.00200		<0.00200		<15.0		43.8		24.3		68.1	
		1.5	45.1		<0.00201		<0.00201		<0.00201		<0.00402		<0.00201		<0.00201		<0.00201		<15.0		<15.0		<15.0		<15.0	
		2.5	107		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
AH-2	3/19/2019	0-1	986		<0.00201		<0.00201		<0.00201		<0.00402		<0.00201		<0.00201		<0.00201		<15.0		67.6		36.2		104	
		1.5	290		<0.00202		<0.00202		<0.00202		<0.00403		<0.00202		<0.00202		<0.00202		<15.0		<15.0		<15.0		<15.0	
		2.5	307		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
AH-3	3/19/2019	0-1	799		<0.00200		<0.00200		<0.00200		<0.00400		<0.00200		<0.00200		<0.00200		<14.9		81.5		39.5		121	
		1.5	361		<0.00200		<0.00200		<0.00200		<0.00401		<0.00200		<0.00200		<0.00200		<15.0		<15.0		<15.0		<15.0	
		2.5	363		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
AH-4	3/19/2019	0-1	225		<0.00200		<0.00200		<0.00200		<0.00401		<0.00200		<0.00200		<0.00200		<14.9		23.1		<14.9		23.1	
		1.5	246		<0.00200		<0.00200		<0.00200		<0.00399		<0.00200		<0.00200		<0.00200		<15.0		<15.0		<15.0		<15.0	
		2.5	647		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
BG	3/19/2019	0-1	45.3		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
		1.5	39.4		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
		2.5	96.2		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	

- NOTES:
- ft. Feet
 - bgs Below ground surface
 - mg/kg Milligrams per kilogram
 - TPH Total Petroleum Hydrocarbons
 - GRO Gasoline range organics
 - DRO Diesel range organics
 - MRO Motor Oil range organics
 - NS Sample not analyzed for parameter
 - 1 EPA Method 300.0
 - 2 EPA Method 8021B
 - 3 Method SW8015 Mod

APPENDIX A C-141 Forms

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

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

MAR 26 2015

Form C-141
Revised August 8, 2011

RECEIVED
Submit to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

NAB1508554476 OPERATOR ☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: RJ Unit 129	Facility Type: Wellhead

Surface Owner: Federal	Mineral Owner:	API No. 30-015-03780
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	35	17S	29E	1980'	North	1980'	West	Eddy

Latitude 32.7928243621668 Longitude -104.047528594664

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 3 bbls Oil ; 10 bbls PW	Volume Recovered: 0 bbls Oil ; 0 bbls PW
Source of Release: Flowline	Date and Hour of Occurrence: 3/5/2015 11:00 am	Date and Hour of Discovery: 3/5/2015 11:00 am
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* A driver from Richard's Energy Compression Services drove over the line causing the line to break. A backhoe was on site and able to isolate the impacted area quickly.		
Describe Area Affected and Cleanup Action Taken.* The impacted area was approximately 10' x 300' in the roadway. The backhoe scraped up the impacted soil and hauled to an NMOCD approved facility. Concho will have the spill site sampled to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature: <u>A. Trujillo</u>	OIL CONSERVATION DIVISION	
Printed Name: Amanda Trujillo	Signed By <u>Mike Brannan</u> Approved by Environmental Specialist:	
Title: Senior Environmental Coordinator	Approval Date: <u>3/26/15</u>	Expiration Date: <u>N/A</u>
E-mail Address: atrujillo@concho.com	Conditions of Approval: Remediation per O.C.D. Rules & Guidelines	
Date: March 25, 2015 Phone: 575-748-6940	Attached <input type="checkbox"/> SUBMIT REMEDIATION PROPOSAL NO	

* Attach Additional Sheets If Necessary

LATER THAN: 4/26/15

2RP-2919

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input type="checkbox"/> 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.

Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature:  _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

- ☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☐ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

Signature:  Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

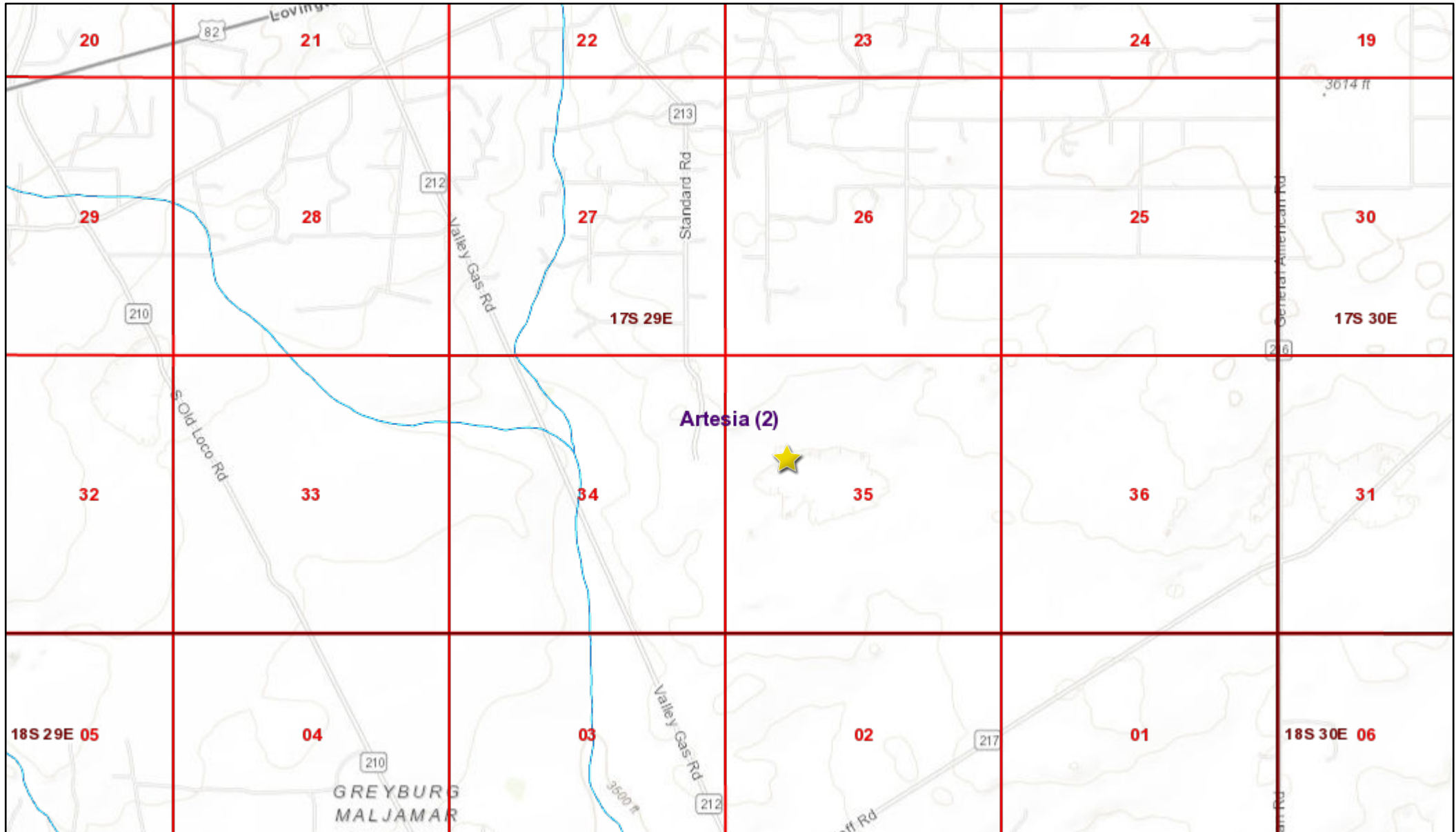
Closure Approved by: Bradford Billings Date: _____

Printed Name: _____ Title: _____

APPENDIX B

Site Characterization Data

Water Bodies - RJ Unit #129



12/13/2021, 2:17:16 PM



Override 1



OCD Districts



OCD District Offices



PLSS First Division



PLSS Townships



OSE Water-bodies

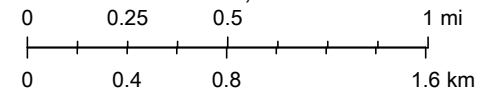


PLJV Probable Playas



OSE Streams

1:36,112



Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA, OCD, BLM

Karst Potential

RJ Unit #129

Legend

- High
- Low
- Medium



32.792913°, -104.050198°

Loco Hills

360

82

82

360

5 mi





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

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 588935.811

Northing (Y): 3628728.311

Radius: 800

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/13/21 2:42 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 588935.811

Northing (Y): 3628728.311

Radius: 1600

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/13/21 2:44 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 588935.811

Northing (Y): 3628728.311

Radius: 2400

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/13/21 2:40 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 588935.811

Northing (Y): 3628728.311

Radius: 3200

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/13/21 2:36 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



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-Code	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	3263	131	76	55

Average Depth to Water: **76 feet**

Minimum Depth: **76 feet**

Maximum Depth: **76 feet**

Record Count: 1

UTM NAD83 Radius Search (in meters):

Easting (X): 588935.811

Northing (Y): 3628728.311

Radius: 4000

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/13/21 2:35 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER

APPENDIX C Closure Report (April 7, 2015)

FINAL REPORT SUMMARIZING CLOSURE FOR INCIDENT 2RP-2919

RICHARDS ENERGY COMPRESSION
RJ UNIT #129
API# 30-015-03780
SECTION 35, T17S R29E, NM
EDDY, NM



Prepared by:
Souder, Miller & Associates
201 S. Halagueno
Carlsbad, NM 88221
575-689-7040

Prepared for:
Richards Energy Compression
3222 North Enterprise Drive
Hobbs, NM 88240

April 07, 2015
Reference 5B23838 BG1



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RJ #129 Incident Closure Report

SMA Ref 5B23838 BG1

04/07/15

INTRODUCTION

On behalf of Richards Energy Compression, Souder Miller & Associates (SMA) has prepared this report of closure activities related to incident # 2RP-2919, providing a summary of the release and spill response efforts at the RJ Unit #129, a lease held by COG Operating. For #2RP-2919, On March 05, 2015 according to the Release Notification and Corrective Action Form C-141, a Compression service company drove over the line causing the line to break. A backhoe was on site and able to isolate the impacted area quickly. According to the initial C-141, "The impacted area was approximately 10' X 300' in the roadway. The backhoe scraped up the impacted soil and hauled to a NMOCD approved facility." (Appendix B). The total volume of releases was estimated at 3 bbls of oil and 10 bbls of produced water.

The site is located in Unit F, Section 35, Township 17 South, Range 29 East, Eddy, New Mexico. Figure 1, Site Location Map, illustrates the location of the release.

This document presents the results of the initial assessment and soil sampling performed at the Site, the regulatory framework for existing activities, and a summary of work done at the location designed to facilitate incident mitigation and closure. Site details, sampling locations and the remedial excavation area are presented in Figure 2. Appendices include the laboratory analytical reports for the initial sampling, New Mexico Oil Conservation Division (NMOCD) form C-141 (final), and the manifest for the transport and disposal of RCRA exempt soils from the initial response to the NMOCD approved facility Lea Land Inc.

REGULATORY FRAMEWORK AND SITE CLASSIFICATION

This project was conducted under the regulatory jurisdiction of the NMOCD, which requires the vadose zone to be abated so that water contaminants in the vadose zone will not, with reasonable probability, contaminate groundwater or surface water (toxic pollutants as defined in 20.6.2.7 New Mexico Administration Code shall not be present) through leaching, percolation, or other transport mechanisms (19.15.1.19 NMAC, Subsection B, Paragraphs 1 and 2). The NMOCD hydrocarbon soil remediation levels are determined by ranking criteria on a site-by-site basis, as outlined in the NMOCD "Guidelines for Remediation of Spills, Leaks, and Releases", dated August 13, 1993. The ranking criteria are based on three site characteristics: depth to groundwater, wellhead protection, and distance to surface water.

According to the Office of the State Engineer's records, no water wells are located within 1,000 feet of the well pad and tank battery. The estimated depth to groundwater is greater than 100 feet below ground surface. No surface water bodies are located within 1,000 feet of the well pad and battery. The table below illustrates the ranking criteria, used by the NMOCD, and includes site specific characteristics at the West Brushy 8 location.

Criteria Site Characteristics	Ranking Score	
Depth to Ground Water	>100 feet	0
Wellhead Protection Area	>1000 feet	0
Distance to Surface Water	>1000 feet	<u>0</u>
Total Ranking Score		0

Based on the site characteristics and the NMOCD guidelines, the site has a ranking score of 0. Consequently, Recommended Remediation Action Levels (RRALs) of 10 milligrams per kilogram (mg/Kg)

RJ #129 Incident Closure Report

SMA Ref 5B23838 BG1

04/07/15

Benzene, 50 mg/Kg total Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX); and 5000 mg/Kg Total Petroleum Hydrocarbons (TPH) are proposed for remediation at the site.

SOIL SAMPLING RESULTS

Samples were taken after the initial spill response clean up occurred. Sample locations RJ 1 through RJ4 are samples taken with the spill area shown in Table 1. Sample RJ 5 is a representative sample of the spill pile and BG1 is the background sample of the area. Specific sample locations are depicted on Figure 2 (Sample Location Map) along with sampling details. All samples were collected and processed according to NMOCD soil sampling procedures. The samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for BTEX utilizing EPA Method 8021B, GRO and MRO using EPA Method 8015D and Total Chlorides using EPA Method 300.0.

TABLE 1 SPILL SAMPLES

Analytical Report- 1503775	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1503775-001	RJ 1	3/13/2015	Surface	N/A	BDL	1100	3600
1503775-002	RJ 2	3/13/2015	Surface	N/A	BDL	500	2400
1503775-003	RJ 3	3/13/2015	Surface	N/A	BDL	140	3200
1503775-004	RJ 4	3/13/2015	Surface	0.48	9	350	1200
1503775-005	RJ 5	3/13/2015	Surface	4.2	120	8300	4300
1503775-006	BG 1	3/13/2015	Surface	BDL	BDL	36	3000

N/A – Not Analyzed BDL – Below Detection Limits for the Method. Refer to Analytical Reports Appendix A

All laboratory analytical results except for RJ 5, the spill pile sample are below the site specific NMOCD RRLs based on the ranking criteria.

PROJECT SUMMARY

The initial soil assessment activities performed by SMA effectively delineated the horizontal and vertical extent of chloride and hydrocarbon-affected soils in accordance to NMOCD regulatory guidance. These activities were performed after the contaminated soil was removed.

Based on the initial soil sampling results for the Site (Analytical Report- 1503775), excavation activities were effective in nature and did not exceed 6 inches in depth reached in the Initial Response Action. All contaminated soil was excavated using heavy equipment and transported off location to an NMOCD approved disposal facility. Soil samples were taken within the excavation to confirm that remediation goals had been achieved. The samples were sent to a third party laboratory for analysis and are summarized in Table #1.

RJ #129 Incident Closure Report

SMA Ref 5B23838 BG1

04/07/15

CONFIRMATION SAMPLING

The initial samples taken by SMA, will act as confirmation samples as well. Locations of the confirmation samples in the spill area (Figure 2). Each sample container was labeled, placed on ice in an insulated cooler, and chilled to a temperature of approximately 40°F (4°C). The cooler was sealed for shipment to the laboratory, accompanied by proper chain-of-custody documentation. The soil samples were delivered on 03/18/15 to Hall Environmental Analysis Laboratory, Inc., in Albuquerque, New Mexico for analysis by EPA METHOD 8015D, EPA METHOD 8021B and EPA METHOD 300.

SITE CLOSURE

All excavated contaminated soil was transported to an NMOCD approved disposal facility. The soils was sampled by SMA and tested by a third party laboratory (Table 1) confirming that the soil meets the site-specific NMOCD is cleanup levels of 10 mg/Kg Benzene, 50 mg/Kg total BTEX and 5000 mg/Kg TPH. A closure request was submitted to the NMOCD as a C-141 final on 04/06/15 (Appendix B).

LIST OF FIGURES

FIGURE 1 SITE LOCATION MAP

FIGURE 2 SITE DETAILS AND SAMPLE LOCATION MAP

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APPENDIX C WASTE MANIFEST

APPENDIX D PHOTO GALLERY

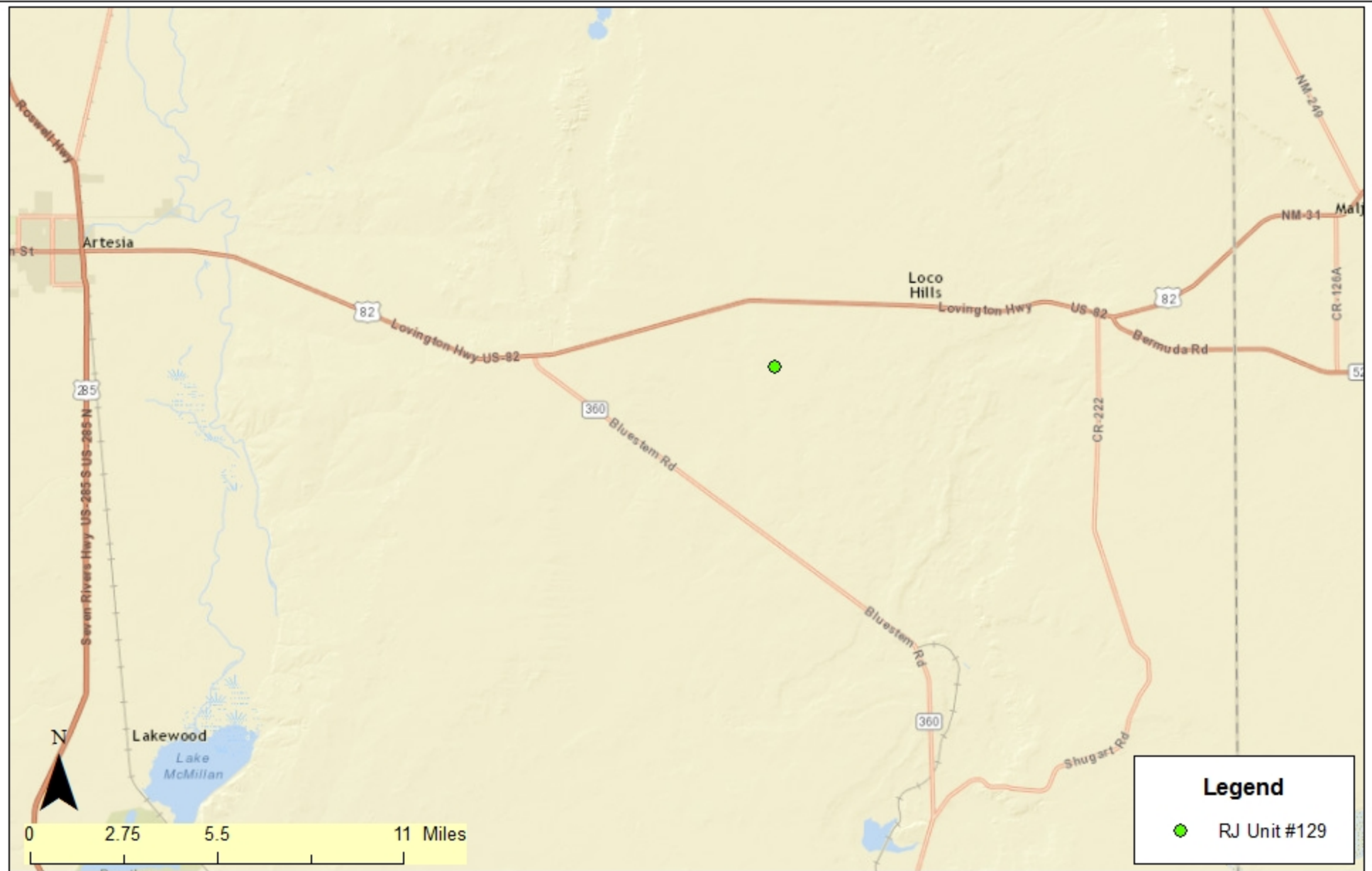
RJ #129 Incident Closure Report

SMA Ref 5B23838 BG1

04/07/15

FIGURE 1

SITE LOCATION MAP



Location Map
RJ Unit #129
Artesia, New Mexico

Figure 1

Date Recd:
3/31/2015

Revisions		
By: _____	Date: _____	Descr: _____
By: _____	Date: _____	Descr: _____

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Drawn	Lucas Middleton
Checked	_____
Approved	_____



201 South Hologuena Street
Corliss, New Mexico 88221
(575) 689-7040
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RJ #129 Incident Closure Report

SMA Ref 5B23838 BG1

04/07/15

FIGURE 2

SITE DETAILS AND SAMPLE LOCATIONS MAP



Site Map
RJ Unit #129
Artesia, New Mexico

Figure 2

Document C:\Users\miller\Documents\Maps\RJ 129 Figure 2.mxd
Date Saved: 3/31/2015

Revisions		
By: _____	Date: _____	Desc: _____
By: _____	Date: _____	Desc: _____

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Drawn: Lucas Middleton
Checked: _____
Approved: _____



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RJ #129 Incident Closure Report

SMA Ref 5B23838 BG1

04/07/15

APPENDIX A

LABORATORY ANALYTICAL REPORTS



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 30, 2015

Austin Weyant
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: RJ Unit 129

OrderNo.: 1503775

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 6 sample(s) on 3/18/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1503775

Date Reported: 3/30/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: RJ 1

Project: RJ Unit 129

Collection Date: 3/13/2015 9:00:00 AM

Lab ID: 1503775-001

Matrix: SOIL

Received Date: 3/18/2015 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	1100	99		mg/Kg	10	3/21/2015 10:08:50 PM	18201
Surr: DNOP	0	63.5-128	S	%REC	10	3/21/2015 10:08:50 PM	18201
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/19/2015 11:30:01 PM	18213
Surr: BFB	92.1	80-120		%REC	1	3/19/2015 11:30:01 PM	18213
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	3/19/2015 11:30:01 PM	18213
Toluene	ND	0.048		mg/Kg	1	3/19/2015 11:30:01 PM	18213
Ethylbenzene	ND	0.048		mg/Kg	1	3/19/2015 11:30:01 PM	18213
Xylenes, Total	ND	0.096		mg/Kg	1	3/19/2015 11:30:01 PM	18213
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/19/2015 11:30:01 PM	18213
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	3600	150		mg/Kg	100	3/26/2015 3:54:31 AM	18295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

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Analytical Report

Lab Order 1503775

Date Reported: 3/30/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: RJ 2

Project: RJ Unit 129

Collection Date: 3/13/2015 9:00:00 AM

Lab ID: 1503775-002

Matrix: SOIL

Received Date: 3/18/2015 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	500	98		mg/Kg	10	3/21/2015 10:51:44 PM	18201
Surr: DNOP	0	63.5-128	S	%REC	10	3/21/2015 10:51:44 PM	18201
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/20/2015 12:56:08 AM	18213
Surr: BFB	94.9	80-120		%REC	1	3/20/2015 12:56:08 AM	18213
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	3/20/2015 12:56:08 AM	18213
Toluene	ND	0.048		mg/Kg	1	3/20/2015 12:56:08 AM	18213
Ethylbenzene	ND	0.048		mg/Kg	1	3/20/2015 12:56:08 AM	18213
Xylenes, Total	ND	0.096		mg/Kg	1	3/20/2015 12:56:08 AM	18213
Surr: 4-Bromofluorobenzene	108	80-120		%REC	1	3/20/2015 12:56:08 AM	18213
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	2400	75		mg/Kg	50	3/26/2015 4:06:56 AM	18295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

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Analytical Report

Lab Order 1503775

Date Reported: 3/30/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: RJ 3

Project: RJ Unit 129

Collection Date: 3/13/2015 9:00:00 AM

Lab ID: 1503775-003

Matrix: SOIL

Received Date: 3/18/2015 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	140	10		mg/Kg	1	3/21/2015 11:34:39 PM	18201
Surr: DNOP	128	63.5-128	S	%REC	1	3/21/2015 11:34:39 PM	18201
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/20/2015 12:07:02 PM	18213
Surr: BFB	95.6	80-120		%REC	1	3/20/2015 12:07:02 PM	18213
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	3/20/2015 12:07:02 PM	18213
Toluene	ND	0.048		mg/Kg	1	3/20/2015 12:07:02 PM	18213
Ethylbenzene	ND	0.048		mg/Kg	1	3/20/2015 12:07:02 PM	18213
Xylenes, Total	ND	0.097		mg/Kg	1	3/20/2015 12:07:02 PM	18213
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	3/20/2015 12:07:02 PM	18213
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	3200	150		mg/Kg	100	3/26/2015 4:19:21 AM	18295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

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Analytical Report

Lab Order 1503775

Date Reported: 3/30/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: RJ 4

Project: RJ Unit 129

Collection Date: 3/13/2015 9:00:00 AM

Lab ID: 1503775-004

Matrix: SOIL

Received Date: 3/18/2015 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	350	99		mg/Kg	10	3/22/2015 12:17:24 AM	18201
Surr: DNOP	0	63.5-128	S	%REC	10	3/22/2015 12:17:24 AM	18201
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	9.0	4.7		mg/Kg	1	3/20/2015 12:35:44 PM	18213
Surr: BFB	151	80-120	S	%REC	1	3/20/2015 12:35:44 PM	18213
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.047		mg/Kg	1	3/20/2015 12:35:44 PM	18213
Toluene	ND	0.047		mg/Kg	1	3/20/2015 12:35:44 PM	18213
Ethylbenzene	0.16	0.047		mg/Kg	1	3/20/2015 12:35:44 PM	18213
Xylenes, Total	0.32	0.095		mg/Kg	1	3/20/2015 12:35:44 PM	18213
Surr: 4-Bromofluorobenzene	122	80-120	S	%REC	1	3/20/2015 12:35:44 PM	18213
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	1200	30		mg/Kg	20	3/24/2015 12:55:54 PM	18295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

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Analytical Report

Lab Order 1503775

Date Reported: 3/30/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: RJ 5

Project: RJ Unit 129

Collection Date: 3/13/2015 9:00:00 AM

Lab ID: 1503775-005

Matrix: SOIL

Received Date: 3/18/2015 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	8300	1000		mg/Kg	100	3/22/2015 12:59:54 AM	18201
Surr: DNOP	0	63.5-128	S	%REC	100	3/22/2015 12:59:54 AM	18201
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	120	19		mg/Kg	4	3/20/2015 1:04:27 PM	18213
Surr: BFB	242	80-120	S	%REC	4	3/20/2015 1:04:27 PM	18213
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.19		mg/Kg	4	3/20/2015 1:04:27 PM	18213
Toluene	ND	0.19		mg/Kg	4	3/20/2015 1:04:27 PM	18213
Ethylbenzene	1.4	0.19		mg/Kg	4	3/20/2015 1:04:27 PM	18213
Xylenes, Total	2.9	0.38		mg/Kg	4	3/20/2015 1:04:27 PM	18213
Surr: 4-Bromofluorobenzene	143	80-120	S	%REC	4	3/20/2015 1:04:27 PM	18213
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	4300	150		mg/Kg	100	3/26/2015 4:31:45 AM	18295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

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Analytical Report

Lab Order 1503775

Date Reported: 3/30/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: BG 1

Project: RJ Unit 129

Collection Date: 3/13/2015 9:00:00 AM

Lab ID: 1503775-006

Matrix: SOIL

Received Date: 3/18/2015 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	36	9.9		mg/Kg	1	3/21/2015 2:31:34 PM	18201
Surr: DNOP	104	63.5-128		%REC	1	3/21/2015 2:31:34 PM	18201
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/20/2015 2:01:44 PM	18213
Surr: BFB	95.4	80-120		%REC	1	3/20/2015 2:01:44 PM	18213
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.049		mg/Kg	1	3/20/2015 2:01:44 PM	18213
Toluene	ND	0.049		mg/Kg	1	3/20/2015 2:01:44 PM	18213
Ethylbenzene	ND	0.049		mg/Kg	1	3/20/2015 2:01:44 PM	18213
Xylenes, Total	ND	0.098		mg/Kg	1	3/20/2015 2:01:44 PM	18213
Surr: 4-Bromofluorobenzene	121	80-120	S	%REC	1	3/20/2015 2:01:44 PM	18213
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	3000	150		mg/Kg	100	3/26/2015 4:44:09 AM	18295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1503775

30-Mar-15

Client: Souder, Miller & Associates**Project:** RJ Unit 129

Sample ID	MB-18295	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	18295	RunNo:	25049					
Prep Date:	3/24/2015	Analysis Date:	3/24/2015	SeqNo:	739028	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-18295	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	18295	RunNo:	25049					
Prep Date:	3/24/2015	Analysis Date:	3/24/2015	SeqNo:	739029	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH Not In Range
 RL Reporting Detection Limit

Page 7 of 10

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1503775

30-Mar-15

Client: Souder, Miller & Associates**Project:** RJ Unit 129

Sample ID MB-18201	SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics							
Client ID: PBS	Batch ID: 18201		RunNo: 24912							
Prep Date: 3/18/2015	Analysis Date: 3/19/2015		SeqNo: 734292		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	12		10.00		124	63.5	128			

Sample ID LCS-18201	SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 18201		RunNo: 24912							
Prep Date: 3/18/2015	Analysis Date: 3/19/2015		SeqNo: 734682		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	107	67.8	130			
Surr: DNOP	5.0		5.000		99.7	63.5	128			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH Not In Range
 RL Reporting Detection Limit

Page 8 of 10

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1503775

30-Mar-15

Client: Souder, Miller & Associates**Project:** RJ Unit 129

Sample ID MB-18213	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 18213		RunNo: 24929							
Prep Date: 3/18/2015	Analysis Date: 3/19/2015		SeqNo: 734777		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.4	80	120			

Sample ID LCS-18213	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 18213		RunNo: 24929							
Prep Date: 3/18/2015	Analysis Date: 3/19/2015		SeqNo: 734778		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	64	130			
Surr: BFB	1000		1000		100	80	120			

Sample ID 1503775-001AMS	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: RJ 1	Batch ID: 18213		RunNo: 24929							
Prep Date: 3/18/2015	Analysis Date: 3/19/2015		SeqNo: 734790		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	4.8	23.97	0	124	47.9	144			
Surr: BFB	980		958.8		102	80	120			

Sample ID 1503775-001AMSD	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: RJ 1	Batch ID: 18213		RunNo: 24929							
Prep Date: 3/18/2015	Analysis Date: 3/20/2015		SeqNo: 734791		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	4.8	24.02	0	128	47.9	144	3.94	29.9	
Surr: BFB	980		960.6		102	80	120	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH Not In Range
 RL Reporting Detection Limit

Page 9 of 10

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1503775

30-Mar-15

Client: Souder, Miller & Associates**Project:** RJ Unit 129

Sample ID	MB-18213	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	18213	RunNo:	24929					
Prep Date:	3/18/2015	Analysis Date:	3/19/2015	SeqNo:	734804	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID	LCS-18213	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	18213	RunNo:	24929					
Prep Date:	3/18/2015	Analysis Date:	3/19/2015	SeqNo:	734805	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	103	76.6	128			
Toluene	0.98	0.050	1.000	0	97.8	75	124			
Ethylbenzene	0.97	0.050	1.000	0	96.8	79.5	126			
Xylenes, Total	2.9	0.10	3.000	0	96.7	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH Not In Range
 RL Reporting Detection Limit

Page 10 of 10



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1503775

RcptNo: 1

Received by/date:

CS

03/18/15

Logged By: Celina Sessa

3/18/2015 9:30:00 AM

Celina Sessa

Completed By: Celina Sessa

3/18/2015 9:48:22 AM

Celina Sessa

Reviewed By:

AG

03/18/15

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.0	Good	Yes			

RJ #129 Incident Closure Report

SMA Ref 5B23838 BG1

04/07/15

APPENDIX B

FORM C141 FINAL

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

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

Form C-141
Revised August 8, 2011
Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: COG Operating LLC	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: RJ Unit 129	Facility Type: Wellhead

Surface Owner: Federal	Mineral Owner:	API No. 30-015-03780
------------------------	----------------	----------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	35	17S	29E	1980'	North	1980'	West	Eddy

Latitude 32.7928243621668 Longitude -104.047528594664

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 3 bbls Oil ; 10 bbls PW	Volume Recovered: 0 bbls Oil ; 0 bbls PW
Source of Release: Flowline	Date and Hour of Occurrence: 3/5/2015 11:00 am	Date and Hour of Discovery: 3/5/2015 11:00 am
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*


Describe Cause of Problem and Remedial Action Taken.*

A driver from Richard's Energy Compression Services drove over the line causing the line to break. A backhoe was on site and able to isolate the impacted area quickly.

Describe Area Affected and Cleanup Action Taken.*

The impacted area was approximately 10' x 300' in the roadway. The backhoe scraped up the impacted soil and hauled to an NMOCD approved facility. Souder Miller & Associates completed work in accordance with NMOCD and BLM guidelines.

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: 	<u>OIL CONSERVATION DIVISION</u>		
Printed Name: Amanda Trujillo	Approved by Environmental Specialist:		
Title: Senior Environmental Coordinator	Approval Date:	Expiration Date:	
E-mail Address: atrujillo@concho.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: April 6, 2015 Phone: 575-748-6940			

* Attach Additional Sheets If Necessary

RJ #129 Incident Closure Report

SMA Ref 5B23838 BG1

04/07/15

APPENDIX C

WASTE MANIFEST

RJ #129 Incident Closure Report

SMA Ref 5B23838 BG1

04/07/15

APPENDIX D

PHOTO GALLERY

RJ Unit #129 Incident Closure Report
SMA Ref 5B23838 BQ1
04/1/2015



Spill path on road. Taken on 03/05/15



RJ Unit #129 Incident Closure Report
SMA Ref 5B23838 BQ1

04/1/2015

Received by OCD: 04/1/2015 10:12:04 AM



Road after remediation action occurred. Taken on 03/31/15

APPENDIX D

NMOCD Correspondence

From: Patterson, Heather, EMNRD
To: ["Lucas Middleton"](#)
Cc: jlrobertson@blm.gov; [Bratcher, Mike, EMNRD](#)
Subject: RE: File for closure for 2RP-2919 Rj Unit 129
Date: Tuesday, July 14, 2015 11:45:00 AM

RE: COG * RJ Unit #129 * 30-015-03780 * 2RP-2919

Lucas,

Your closure request for the above listed site is denied. The OCD believes the background sample is representative of an historic release, not of natural chloride backgrounds. We would like all points to be vertically delineated for chlorides. In addition, sample point RJ5 returned a TPH level above the RRAL's for this site. It must be excavated and further delineated to confirm all RRAL's are met.

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

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

From: Lucas Middleton [mailto:lucas.middleton@soudermiller.com]
Sent: Monday, July 13, 2015 12:34 PM
To: Patterson, Heather, EMNRD
Cc: jlrobertson@blm.gov
Subject: File for closure for 2RP-2919 Rj Unit 129

Hello,
The Closure Document for the COG- Rj Unit 129 is attached. (API#30-015-03780) 2RP-2919.

Thank You

Lucas Middleton
Staff Scientist
Souder, Miller & Associates

APPENDIX E

Laboratory Analytical Data



Certificate of Analysis Summary 618647

COG Operating LLC, Artesia, NM

Project Name: RJ Unit #129 (3-5-15) 2RP-2919



Project Id:

Contact: Ike Tavaréz

Project Location: Eddy County, NM

Date Received in Lab: Fri Mar-22-19 03:12 pm

Report Date: 27-MAR-19

Project Manager: Brandi Ritcherson

<i>Analysis Requested</i>	<i>Lab Id:</i>	618647-001	618647-002	618647-003	618647-004	618647-005	618647-006
	<i>Field Id:</i>	AH-1 0-1'	AH-1 1.5'	AH-1 2.5'	AH-2 0-1'	AH-2 1.5'	AH-2 2.5'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-19-19 00:00	Mar-19-19 00:00	Mar-19-19 00:00	Mar-19-19 00:00	Mar-19-19 00:00	Mar-19-19 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Mar-26-19 16:00	Mar-26-19 16:00		Mar-26-19 16:00	Mar-26-19 16:00	
	<i>Analyzed:</i>	Mar-27-19 01:28	Mar-27-19 01:47		Mar-27-19 02:06	Mar-27-19 02:25	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL		mg/kg RL	mg/kg RL	
Benzene		<0.00200 0.00200	<0.00201 0.00201		<0.00201 0.00201	<0.00202 0.00202	
Toluene		<0.00200 0.00200	<0.00201 0.00201		<0.00201 0.00201	<0.00202 0.00202	
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201		<0.00201 0.00201	<0.00202 0.00202	
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402		<0.00402 0.00402	<0.00403 0.00403	
o-Xylene		<0.00200 0.00200	<0.00201 0.00201		<0.00201 0.00201	<0.00202 0.00202	
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201		<0.00201 0.00201	<0.00202 0.00202	
Total BTEX		<0.00200 0.00200	<0.00201 0.00201		<0.00201 0.00201	<0.00202 0.00202	
Chloride by EPA 300	<i>Extracted:</i>	Mar-23-19 15:30	Mar-23-19 15:30	Mar-23-19 15:30	Mar-23-19 16:45	Mar-23-19 16:45	Mar-23-19 16:45
	<i>Analyzed:</i>	Mar-23-19 21:30	Mar-23-19 21:40	Mar-23-19 21:50	Mar-23-19 18:39	Mar-23-19 18:45	Mar-23-19 18:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		36.2 5.03	45.1 4.98	107 5.02	986 25.2	290 5.03	307 4.98
TPH By SW8015 Mod	<i>Extracted:</i>	Mar-23-19 08:00	Mar-23-19 08:00		Mar-23-19 08:00	Mar-23-19 08:00	
	<i>Analyzed:</i>	Mar-23-19 14:43	Mar-23-19 15:02		Mar-23-19 15:21	Mar-23-19 15:40	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL		mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons		<15.0 15.0	<15.0 15.0		<15.0 15.0	<15.0 15.0	
Diesel Range Organics		43.8 15.0	<15.0 15.0		67.6 15.0	<15.0 15.0	
Motor Oil Range Hydrocarbons (MRO)		24.3 15.0	<15.0 15.0		36.2 15.0	<15.0 15.0	
Total TPH		68.1 15.0	<15.0 15.0		104 15.0	<15.0 15.0	

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

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

Brandi Ritcherson
Project Manager



Certificate of Analysis Summary 618647

COG Operating LLC, Artesia, NM

Project Name: RJ Unit #129 (3-5-15) 2RP-2919



Project Id:

Contact: Ike Tavaréz

Project Location: Eddy County, NM

Date Received in Lab: Fri Mar-22-19 03:12 pm

Report Date: 27-MAR-19

Project Manager: Brandi Ritcherson

<i>Analysis Requested</i>	<i>Lab Id:</i>	618647-007	618647-008	618647-009	618647-010	618647-011	618647-012
	<i>Field Id:</i>	AH-3 0-1'	AH-3 1.5'	AH-3 2.5'	AH-4 0-1'	AH-4 1.5'	AH-4 2.5'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-19-19 00:00	Mar-19-19 00:00	Mar-19-19 00:00	Mar-19-19 00:00	Mar-19-19 00:00	Mar-19-19 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Mar-26-19 16:00	Mar-26-19 16:00		Mar-26-19 16:00	Mar-26-19 16:00	
	<i>Analyzed:</i>	Mar-27-19 02:44	Mar-27-19 03:03		Mar-27-19 03:22	Mar-27-19 03:41	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL		mg/kg RL	mg/kg RL	
Benzene		<0.00200 0.00200	<0.00200 0.00200		<0.00200 0.00200	<0.00200 0.00200	
Toluene		<0.00200 0.00200	<0.00200 0.00200		<0.00200 0.00200	<0.00200 0.00200	
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200		<0.00200 0.00200	<0.00200 0.00200	
m,p-Xylenes		<0.00400 0.00400	<0.00401 0.00401		<0.00401 0.00401	<0.00399 0.00399	
o-Xylene		<0.00200 0.00200	<0.00200 0.00200		<0.00200 0.00200	<0.00200 0.00200	
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200		<0.00200 0.00200	<0.00200 0.00200	
Total BTEX		<0.00200 0.00200	<0.00200 0.00200		<0.00200 0.00200	<0.00200 0.00200	
Chloride by EPA 300	<i>Extracted:</i>	Mar-23-19 16:45	Mar-23-19 16:45	Mar-23-19 16:45	Mar-23-19 16:45	Mar-23-19 16:45	Mar-23-19 16:45
	<i>Analyzed:</i>	Mar-23-19 18:56	Mar-23-19 19:13	Mar-23-19 19:26	Mar-23-19 19:32	Mar-23-19 19:37	Mar-23-19 19:43
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		799 24.9	361 5.02	363 4.97	225 4.95	246 5.03	647 5.02
TPH By SW8015 Mod	<i>Extracted:</i>	Mar-23-19 08:00	Mar-23-19 08:00		Mar-23-19 08:00	Mar-23-19 08:00	
	<i>Analyzed:</i>	Mar-23-19 16:00	Mar-23-19 16:19		Mar-23-19 16:38	Mar-23-19 16:58	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL		mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons		<14.9 14.9	<15.0 15.0		<14.9 14.9	<15.0 15.0	
Diesel Range Organics		81.5 14.9	<15.0 15.0		23.1 14.9	<15.0 15.0	
Motor Oil Range Hydrocarbons (MRO)		39.5 14.9	<15.0 15.0		<14.9 14.9	<15.0 15.0	
Total TPH		121 14.9	<15.0 15.0		23.1 14.9	<15.0 15.0	

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

Brandi Ritcherson
Project Manager



Certificate of Analysis Summary 618647

COG Operating LLC, Artesia, NM

Project Name: RJ Unit #129 (3-5-15) 2RP-2919



Project Id:

Contact: Ike Tavarez

Project Location: Eddy County, NM

Date Received in Lab: Fri Mar-22-19 03:12 pm

Report Date: 27-MAR-19

Project Manager: Brandi Ritcherson

<i>Analysis Requested</i>	<i>Lab Id:</i>	618647-013	618647-014	618647-015			
	<i>Field Id:</i>	BG 0-1'	BG 1.5'	BG 2.5'			
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Mar-19-19 00:00	Mar-19-19 00:00	Mar-19-19 00:00			
Chloride by EPA 300	<i>Extracted:</i>	Mar-23-19 16:45	Mar-23-19 16:45	Mar-23-19 16:45			
	<i>Analyzed:</i>	Mar-23-19 18:22	Mar-23-19 19:49	Mar-23-19 20:06			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		45.3 4.95	39.4 5.00	96.2 4.97			

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

Brandi Ritcherson
Project Manager

Analytical Report 618647

for COG Operating LLC

Project Manager: Ike Tavaréz

RJ Unit #129 (3-5-15) 2RP-2919

27-MAR-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

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

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

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



27-MAR-19

Project Manager: **Ike Tavaréz**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: XENCO Report No(s): **618647**

RJ Unit #129 (3-5-15) 2RP-2919

Project Address: Eddy County, NM

Ike Tavaréz:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 618647. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 618647 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink that reads 'Brandi Ritcherson'.

Brandi Ritcherson

Project Manager

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 618647

COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-1 0-1'	S	03-19-19 00:00		618647-001
AH-1 1.5'	S	03-19-19 00:00		618647-002
AH-1 2.5'	S	03-19-19 00:00		618647-003
AH-2 0-1'	S	03-19-19 00:00		618647-004
AH-2 1.5'	S	03-19-19 00:00		618647-005
AH-2 2.5'	S	03-19-19 00:00		618647-006
AH-3 0-1'	S	03-19-19 00:00		618647-007
AH-3 1.5'	S	03-19-19 00:00		618647-008
AH-3 2.5'	S	03-19-19 00:00		618647-009
AH-4 0-1'	S	03-19-19 00:00		618647-010
AH-4 1.5'	S	03-19-19 00:00		618647-011
AH-4 2.5'	S	03-19-19 00:00		618647-012
BG 0-1'	S	03-19-19 00:00		618647-013
BG 1.5'	S	03-19-19 00:00		618647-014
BG 2.5'	S	03-19-19 00:00		618647-015



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: RJ Unit #129 (3-5-15) 2RP-2919

Project ID:

Work Order Number(s): 618647

Report Date: 27-MAR-19

Date Received: 03/22/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3083516 BTEX by EPA 8021B

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



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-1 0-1'**

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-001

Date Collected: 03.19.19 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 15.30

Basis: Wet Weight

Seq Number: 3083126

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	36.2	5.03	mg/kg	03.23.19 21.30		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.23.19 08.00

Basis: Wet Weight

Seq Number: 3083122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.23.19 14.43	U	1
Diesel Range Organics	C10C28DRO	43.8	15.0	mg/kg	03.23.19 14.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	24.3	15.0	mg/kg	03.23.19 14.43		1
Total TPH	PHC635	68.1	15.0	mg/kg	03.23.19 14.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	03.23.19 14.43	
o-Terphenyl	84-15-1	97	%	70-135	03.23.19 14.43	



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-1 0-1'**

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-001

Date Collected: 03.19.19 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 03.26.19 16.00

Basis: Wet Weight

Seq Number: 3083516

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 01.28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 01.28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 01.28	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.27.19 01.28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 01.28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 01.28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 01.28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	03.27.19 01.28		
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.27.19 01.28		



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-1 1.5'**

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-002

Date Collected: 03.19.19 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 15.30

Basis: Wet Weight

Seq Number: 3083126

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.1	4.98	mg/kg	03.23.19 21.40		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.23.19 08.00

Basis: Wet Weight

Seq Number: 3083122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.23.19 15.02	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	03.23.19 15.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.23.19 15.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.23.19 15.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	03.23.19 15.02	
o-Terphenyl	84-15-1	97	%	70-135	03.23.19 15.02	



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: AH-1 1.5'

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-002

Date Collected: 03.19.19 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 03.26.19 16.00

Basis: Wet Weight

Seq Number: 3083516

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.27.19 01.47	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.27.19 01.47	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.27.19 01.47	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.27.19 01.47	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.27.19 01.47	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.27.19 01.47	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.27.19 01.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	85	%	70-130	03.27.19 01.47		
4-Bromofluorobenzene	460-00-4	100	%	70-130	03.27.19 01.47		



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: AH-1 2.5'

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-003

Date Collected: 03.19.19 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 15.30

Basis: Wet Weight

Seq Number: 3083126

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	107	5.02	mg/kg	03.23.19 21.50		1



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COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-2 0-1'**

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-004

Date Collected: 03.19.19 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 16.45

Basis: Wet Weight

Seq Number: 3083128

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	986	25.2	mg/kg	03.23.19 18.39		5

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.23.19 08.00

Basis: Wet Weight

Seq Number: 3083122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.23.19 15.21	U	1
Diesel Range Organics	C10C28DRO	67.6	15.0	mg/kg	03.23.19 15.21		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	36.2	15.0	mg/kg	03.23.19 15.21		1
Total TPH	PHC635	104	15.0	mg/kg	03.23.19 15.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	03.23.19 15.21	
o-Terphenyl	84-15-1	98	%	70-135	03.23.19 15.21	



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-2 0-1'**

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-004

Date Collected: 03.19.19 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 03.26.19 16.00

Basis: Wet Weight

Seq Number: 3083516

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.27.19 02.06	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.27.19 02.06	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.27.19 02.06	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.27.19 02.06	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.27.19 02.06	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.27.19 02.06	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.27.19 02.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	124	%	70-130	03.27.19 02.06		
1,4-Difluorobenzene	540-36-3	100	%	70-130	03.27.19 02.06		



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-2 1.5'**

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-005

Date Collected: 03.19.19 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 16.45

Basis: Wet Weight

Seq Number: 3083128

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	290	5.03	mg/kg	03.23.19 18.45		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.23.19 08.00

Basis: Wet Weight

Seq Number: 3083122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.23.19 15.40	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	03.23.19 15.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.23.19 15.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.23.19 15.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	03.23.19 15.40	
o-Terphenyl	84-15-1	93	%	70-135	03.23.19 15.40	



Certificate of Analytical Results 618647

COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-2 1.5'**

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-005

Date Collected: 03.19.19 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 03.26.19 16.00

Basis: Wet Weight

Seq Number: 3083516

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.27.19 02.25	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.27.19 02.25	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.27.19 02.25	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.27.19 02.25	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.27.19 02.25	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.27.19 02.25	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.27.19 02.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.27.19 02.25		
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.27.19 02.25		



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-2 2.5**
Lab Sample Id: 618647-006

Matrix: Soil
Date Collected: 03.19.19 00.00

Date Received: 03.22.19 15.12

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 16.45

Basis: Wet Weight

Seq Number: 3083128

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	307	4.98	mg/kg	03.23.19 18.51		1



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: AH-3 0-1'

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-007

Date Collected: 03.19.19 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 16.45

Basis: Wet Weight

Seq Number: 3083128

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	799	24.9	mg/kg	03.23.19 18.56		5

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.23.19 08.00

Basis: Wet Weight

Seq Number: 3083122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<14.9	14.9	mg/kg	03.23.19 16.00	U	1
Diesel Range Organics	C10C28DRO	81.5	14.9	mg/kg	03.23.19 16.00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	39.5	14.9	mg/kg	03.23.19 16.00		1
Total TPH	PHC635	121	14.9	mg/kg	03.23.19 16.00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	03.23.19 16.00	
o-Terphenyl	84-15-1	114	%	70-135	03.23.19 16.00	



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-3 0-1'**

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-007

Date Collected: 03.19.19 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 03.26.19 16.00

Basis: Wet Weight

Seq Number: 3083516

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 02.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 02.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 02.44	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.27.19 02.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 02.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 02.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 02.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	03.27.19 02.44		
1,4-Difluorobenzene	540-36-3	100	%	70-130	03.27.19 02.44		



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-3 1.5'**

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-008

Date Collected: 03.19.19 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 16.45

Basis: Wet Weight

Seq Number: 3083128

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	361	5.02	mg/kg	03.23.19 19.13		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.23.19 08.00

Basis: Wet Weight

Seq Number: 3083122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.23.19 16.19	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	03.23.19 16.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.23.19 16.19	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.23.19 16.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	03.23.19 16.19	
o-Terphenyl	84-15-1	94	%	70-135	03.23.19 16.19	



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-3 1.5'**

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-008

Date Collected: 03.19.19 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 03.26.19 16.00

Basis: Wet Weight

Seq Number: 3083516

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 03.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 03.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 03.03	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.27.19 03.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 03.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 03.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 03.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.27.19 03.03		
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.27.19 03.03		



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: AH-3 2.5'

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-009

Date Collected: 03.19.19 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 16.45

Basis: Wet Weight

Seq Number: 3083128

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	363	4.97	mg/kg	03.23.19 19.26		1



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-4 0-1'**

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-010

Date Collected: 03.19.19 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 16.45

Basis: Wet Weight

Seq Number: 3083128

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	225	4.95	mg/kg	03.23.19 19.32		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.23.19 08.00

Basis: Wet Weight

Seq Number: 3083122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<14.9	14.9	mg/kg	03.23.19 16.38	U	1
Diesel Range Organics	C10C28DRO	23.1	14.9	mg/kg	03.23.19 16.38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	03.23.19 16.38	U	1
Total TPH	PHC635	23.1	14.9	mg/kg	03.23.19 16.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	03.23.19 16.38	
o-Terphenyl	84-15-1	98	%	70-135	03.23.19 16.38	



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-4 0-1'**

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-010

Date Collected: 03.19.19 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 03.26.19 16.00

Basis: Wet Weight

Seq Number: 3083516

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 03.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 03.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 03.22	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.27.19 03.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 03.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 03.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 03.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.27.19 03.22		
4-Bromofluorobenzene	460-00-4	129	%	70-130	03.27.19 03.22		



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: AH-4 1.5'

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-011

Date Collected: 03.19.19 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 16.45

Basis: Wet Weight

Seq Number: 3083128

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	246	5.03	mg/kg	03.23.19 19.37		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.23.19 08.00

Basis: Wet Weight

Seq Number: 3083122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.23.19 16.58	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	03.23.19 16.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	03.23.19 16.58	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.23.19 16.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	03.23.19 16.58	
o-Terphenyl	84-15-1	102	%	70-135	03.23.19 16.58	



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **AH-4 1.5'**

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-011

Date Collected: 03.19.19 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 03.26.19 16.00

Basis: Wet Weight

Seq Number: 3083516

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.27.19 03.41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.27.19 03.41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.27.19 03.41	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.27.19 03.41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.27.19 03.41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.27.19 03.41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.27.19 03.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.27.19 03.41		
1,4-Difluorobenzene	540-36-3	102	%	70-130	03.27.19 03.41		



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: AH-4 2.5'

Matrix: Soil

Date Received: 03.22.19 15.12

Lab Sample Id: 618647-012

Date Collected: 03.19.19 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 16.45

Basis: Wet Weight

Seq Number: 3083128

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	647	5.02	mg/kg	03.23.19 19.43		1



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **BG 0-1'**
Lab Sample Id: 618647-013

Matrix: Soil
Date Collected: 03.19.19 00.00

Date Received: 03.22.19 15.12

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 16.45

Basis: Wet Weight

Seq Number: 3083128

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.3	4.95	mg/kg	03.23.19 18.22		1



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **BG 1.5'**
Lab Sample Id: 618647-014

Matrix: Soil
Date Collected: 03.19.19 00.00

Date Received: 03.22.19 15.12

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 16.45

Basis: Wet Weight

Seq Number: 3083128

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	39.4	5.00	mg/kg	03.23.19 19.49		1



Certificate of Analytical Results 618647



COG Operating LLC, Artesia, NM

RJ Unit #129 (3-5-15) 2RP-2919

Sample Id: **BG 2.5'**
Lab Sample Id: 618647-015

Matrix: Soil
Date Collected: 03.19.19 00.00

Date Received: 03.22.19 15.12

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.23.19 16.45

Basis: Wet Weight

Seq Number: 3083128

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	96.2	4.97	mg/kg	03.23.19 20.06		1



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



COG Operating LLC
RJ Unit #129 (3-5-15) 2RP-2919

Analytical Method: Chloride by EPA 300

Seq Number: 3083126

MB Sample Id: 7674199-1-BLK

Matrix: Solid

LCS Sample Id: 7674199-1-BKS

Prep Method: E300P

Date Prep: 03.23.19

LCSD Sample Id: 7674199-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	258	103	259	104	90-110	0	20	mg/kg	03.23.19 17:06	

Analytical Method: Chloride by EPA 300

Seq Number: 3083126

MB Sample Id: 7674201-1-BLK

Matrix: Solid

LCS Sample Id: 7674201-1-BKS

Prep Method: E300P

Date Prep: 03.23.19

LCSD Sample Id: 7674201-1-BSD

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

Analytical Method: Chloride by EPA 300

Seq Number: 3083126

Parent Sample Id: 618636-001

Matrix: Soil

MS Sample Id: 618636-001 S

Prep Method: E300P

Date Prep: 03.23.19

MSD Sample Id: 618636-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	59.2	251	323	105	323	105	90-110	0	20	mg/kg	03.23.19 17:35	

Analytical Method: Chloride by EPA 300

Seq Number: 3083126

Parent Sample Id: 618637-001

Matrix: Soil

MS Sample Id: 618637-001 S

Prep Method: E300P

Date Prep: 03.23.19

MSD Sample Id: 618637-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	128	251	386	103	387	103	90-110	0	20	mg/kg	03.23.19 19:52	

Analytical Method: Chloride by EPA 300

Seq Number: 3083128

Parent Sample Id: 618647-013

Matrix: Soil

MS Sample Id: 618647-013 S

Prep Method: E300P

Date Prep: 03.23.19

MSD Sample Id: 618647-013 SD

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

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



COG Operating LLC
RJ Unit #129 (3-5-15) 2RP-2919

Analytical Method: Chloride by EPA 300

Seq Number: 3083128

Parent Sample Id: 618647-014

Matrix: Soil

MS Sample Id: 618647-014 S

Prep Method: E300P

Date Prep: 03.23.19

MSD Sample Id: 618647-014 SD

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

Analytical Method: TPH By SW8015 Mod

Seq Number: 3083122

MB Sample Id: 7674186-1-BLK

Matrix: Solid

LCS Sample Id: 7674186-1-BKS

Prep Method: TX1005P

Date Prep: 03.23.19

LCSD Sample Id: 7674186-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<8.00	1000	927	93	987	99	70-135	6	20	mg/kg	03.23.19 08:32	
Diesel Range Organics	<8.13	1000	983	98	1060	106	70-135	8	20	mg/kg	03.23.19 08:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		118		123		70-135	%	03.23.19 08:32
o-Terphenyl	110		111		114		70-135	%	03.23.19 08:32

Analytical Method: TPH By SW8015 Mod

Seq Number: 3083122

Parent Sample Id: 618636-001

Matrix: Soil

MS Sample Id: 618636-001 S

Prep Method: TX1005P

Date Prep: 03.23.19

MSD Sample Id: 618636-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<7.97	996	1030	103	927	93	70-135	11	20	mg/kg	03.23.19 09:30	
Diesel Range Organics	1260	996	2380	112	2370	111	70-135	0	20	mg/kg	03.23.19 09:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		120		70-135	%	03.23.19 09:30
o-Terphenyl	129		115		70-135	%	03.23.19 09:30

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



COG Operating LLC
RJ Unit #129 (3-5-15) 2RP-2919

Analytical Method: BTEX by EPA 8021B

Seq Number: 3083516

MB Sample Id: 7674413-1-BLK

Matrix: Solid

LCS Sample Id: 7674413-1-BKS

Prep Method: SW5030B

Date Prep: 03.26.19

LCSD Sample Id: 7674413-1-BSD

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

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

Analytical Method: BTEX by EPA 8021B

Seq Number: 3083516

Parent Sample Id: 618647-001

Matrix: Soil

MS Sample Id: 618647-001 S

Prep Method: SW5030B

Date Prep: 03.26.19

MSD Sample Id: 618647-001 SD

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

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

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

918647

ORIGINAL COPY



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

Date/ Time Received: 03/22/2019 03:12:00 PM

Work Order #: 618647

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist**Comments**

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 03/22/2019

Checklist reviewed by:

Jessica Kramer

Date: 03/22/2019

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 72488

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 72488
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	Section 13 in play at decom of location, including road at facility	3/7/2022