



Charles Beauvais
ConocoPhillips
2208 W Main St
Artesia, New Mexico 88210
575-988-2043

December 12, 2022

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

Subject: **Prohibition 12 Federal #008 Release
Unit Letter L, Section 12, Township 22 South, Range 32 East
Lea County, New Mexico
Incident ID nOY1705546710**

Sir or Madam:

ConocoPhillips Company ("COPC") entered into an Agreed Compliance Order ("ACO") with the New Mexico Oil Conservation Division ("NMOCD") on December 15, 2021, related to unresolved releases from COPC's predecessor-in-interest ("COG"). The ACO required COPC to submit characterization and/or remediation plans with proposed timeframes for the ongoing corrective actions or remediations identified to the NMOCD no later than March 31, 2022. As of March 11, 2022, COPC has submitted characterization and remediation plans for all of the properties identified and owned.

A Closure Request (dated March 2018) for the subject line 1RP-4491 (ID nOY1705546710) and 1RP-4619 (ID nOY1705547650) releases was drafted by COG and previously submitted to the NMOCD on behalf of COPC. The document was uploaded and submitted to the NMOCD via CentreStack, a Secure Access & File Sharing platform, at the direction of Mr. Bradford Billings, NMOCD as a portion of the ACO submittals.

NMOCD has recently begun issuing determinations on ACO reports submitted via CentreStack, (referred to as Internal Manual Incident File Supporting Documentation (ENV) (IM-BNF)). This subject line incident was rejected by Brittany Hall, Projects Environmental Specialist – A. In the rejection, Ms. Hall notes that to close this incident, a new C-141 Closure form must be signed and submitted to the fee application portal along with the complete/previously assembled report that contains the missing information requested. Please note COPC will be submitting the Closure Letter for each release under separate cover.

Thus, enclosed is a copy of the amended Closure Letter for the subject line incident. The attached amended Closure Letter with an executed C-141 will be submitted via the NMOCD Fee Application portal, as requested.

If you have any questions, please contact me at 575-988-2043.

Sincerely,

Charles R. Beauvais

Charles Beauvais
Senior Environmental Engineer | Environmental Operations | ConocoPhillips

cc: Site Files

Attachments: C-141 Incident ID nOY1705546710, Rejection, Closure Letter

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: Charles R. Beauvais II Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Jocelyn Harimon Date: 12/16/2022

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: Ashley Maxwell Date: _____

Printed Name: _____ Title: _____

Chavira, Lisbeth

From: OCDOnline@state.nm.us
Sent: Wednesday, November 23, 2022 12:11 PM
To: Beauvais, Charles R
Subject: [EXTERNAL]The Oil Conservation Division (OCD) has rejected the application, Application ID: 161239

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To whom it may concern (c/o Charles Beauvais for COG OPERATING LLC),

The OCD has rejected the submitted *Internal Manual Incident File Supporting Documentation (ENV)* (IM-BNF), for incident ID (n#) nOY1705546710, for the following reasons:

- **Incomplete report. Report is missing the site diagram, groundwater data, final C-141, analytical reports including the chain of custody, photographs, etc.**
- **1RP-4491 closed. Please refer to incident #NOY1705546710 in all future correspondence.**
- **Please submit a complete report through the OCD Permitting website by 02/24/2023.**

The rejected IM-BNF can be found in the OCD Online: Permitting - Action Status, under the Application ID: 161239. Please review and make the required correction(s) prior to resubmitting.

If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional IM-BNF.

Thank you,
Brittany Hall
Projects Environmental Specialist - A
505-517-5333
Brittany.Hall@emnrd.nm.gov

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



[Sheldon L. Hitchcock]
[HSE Coordinator]

March 29, 2018

Olivia Yu
Oil Conservation Division, District 1
1625 N. French Dr.
Hobbs, NM 88240

Henryetta Price
Bureau of Land Management, CFO
620 E. Green Street
Carlsbad, NM 88220

**Re: Closure Letter
Prohibition 12 Federal #008
API #: 30-025-37227
RP#: 1RP-4491 & 1RP-4619
Unit Letter L Section 12, Township 22S, Range 32E
Lea County, NM**

Ms. Yu/Ms. Price,

COG Operating, LLC (COG) is pleased to submit for your consideration the following closure report for the Prohibition 12 Federal #008. The remediation conducted at this site was in repose to two oil and produced water releases that occurred on October 21 and again on October 29 of 2016. A remediation work plan was submitted to the New Mexico Oil Conservation Division (NMOCD) and the Bureau of Land Management (BLM) on February 7, 2017. The work plan was approved by NMOCD on September 15, 2017. A copy of the approved work plan is presented in Appendix VI.

BACKGROUND

The Prohibition 12 Federal #008 release is located in Unit Letter L, Section 12, Township 22 South, and Range 32 East in Lea County, New Mexico. More specifically the latitude and longitude for this release are 32.4046135 North and -103.6350403 West.

On October 21, 2016, a failed tubing gauge resulted in the release of approximately two (2) barrels (bbls) of oil and three (3) bbls of produced water. The RP number NMOCD assigned to this release was 1RP-4491.

On October 29, 2016, a stuffing box leak resulted in the release of approximately two and one-half (2.5) bbls of oil and eight (8) bbls of produced water. The RP number NMOCD assigned to this release was 1RP-4619. This release covered the same area of the well pad as the release that occurred on October 21, 2016.

March 29, 2018

GROUNDWATER AND SITE RANKING

According to the 2005 Chevron Texaco groundwater trend map, groundwater in the project vicinity is approximately three-hundred and sixty (360) feet below ground surface (BGS) (Appendix II). No water well or surface water was observed within one-thousand (1,000) feet of the release site. Therefore the site ranking for this release is zero (0) based on the following:

Depth to groundwater >100-feet
 Distance to surface water body >1000-feet
 Wellhead Protection Area >1000-feet

ANALYTICAL RESULTS

Initial Soil Assessment

Sample ID	Depth (feet)	Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	Total TPH (mg/kg)
T-1	0-1	0.300	12.7	4900	2350
T-1	2	--	--	128	--
T-1	3	--	--	720	--
T-1	4	--	--	736	--
T-1	6	--	--	240	--
T-1	8	--	--	128	--
T-2	0-1	<0.050	12.5	3040	177
T-2	2	--	--	464	--
T-2	3	--	--	272	--
T-2	4	--	--	640	--
T-2	6	--	--	352	--
T-2	8	--	--	48.0	--

(--) Analysis Not Requested

March 29, 2018

Confirmation Soil Sampling

Sample ID	Depth (feet)	Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	Total TPH (mg/kg)
T-1	1	<0.00198	<0.00198	366	<15.0
T-2	1	<0.00202	<0.00202	92.8	<14.9
N.	SIDEWALL	<0.00202	<0.00202	255	<15.0
S.	SIDEWALL	<0.00202	<0.00202	297	<15.0
E-1	SIDEWALL	<0.00202	<0.00202	505	<15.0
E-2	SIDEWALL	<0.00202	<0.00202	452	<15.0
W-1	SIDEWALL	<0.00202	<0.00202	613	70.3
W-2	SIDEWALL	<0.00202	<0.00202	546	87.4

REMEDIAL ACTIONS

- The impacted area was excavated to the depth of one (1) foot BGS.
- All of the excavated material was hauled to an NMOCD approved solid waste disposal facility.
- Confirmation soil samples were collected from the bottom and sidewall of the excavation in accordance with NMOCD stipulations.
- Upon receipt of analytical results from the confirmation soil sampling activities it was determined that the remaining soil was at or below NMOCD RRAL's.
- The excavation was backfilled with caliche and contoured to match the surrounding location.

March 29, 2018

CLOSURE REQUEST

COG Operating, LLC respectfully requests that the New Mexico Oil Conservation Division and Bureau of Land Management grant closure approval for the Prohibition 12 Federal #008 incidents that occurred on October 21, 2016 and October 29, 2016.

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

Sincerely,



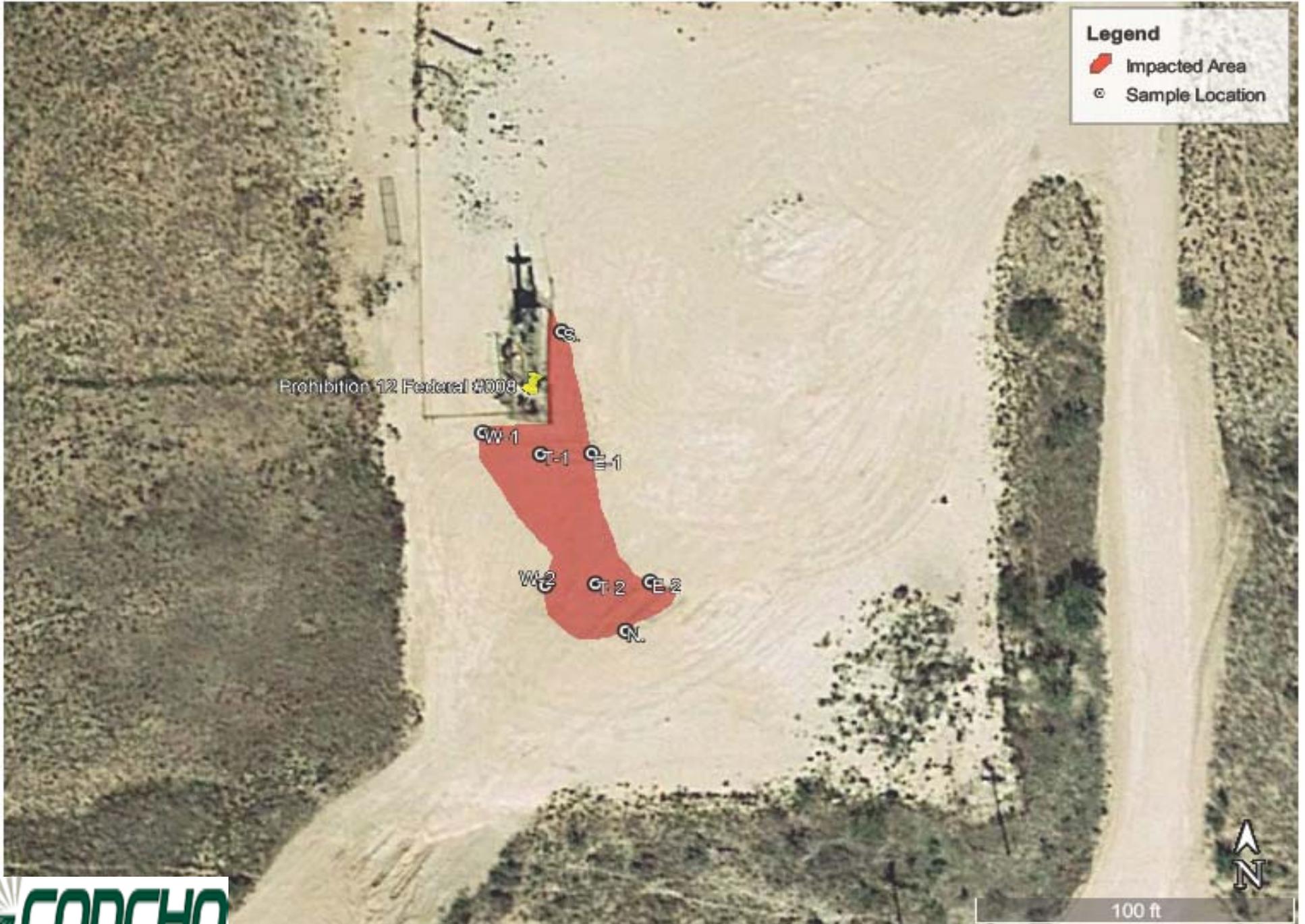
Sheldon L. Hitchcock
HSE Coordinator
slhitchcock@concho.com

Enclosed:

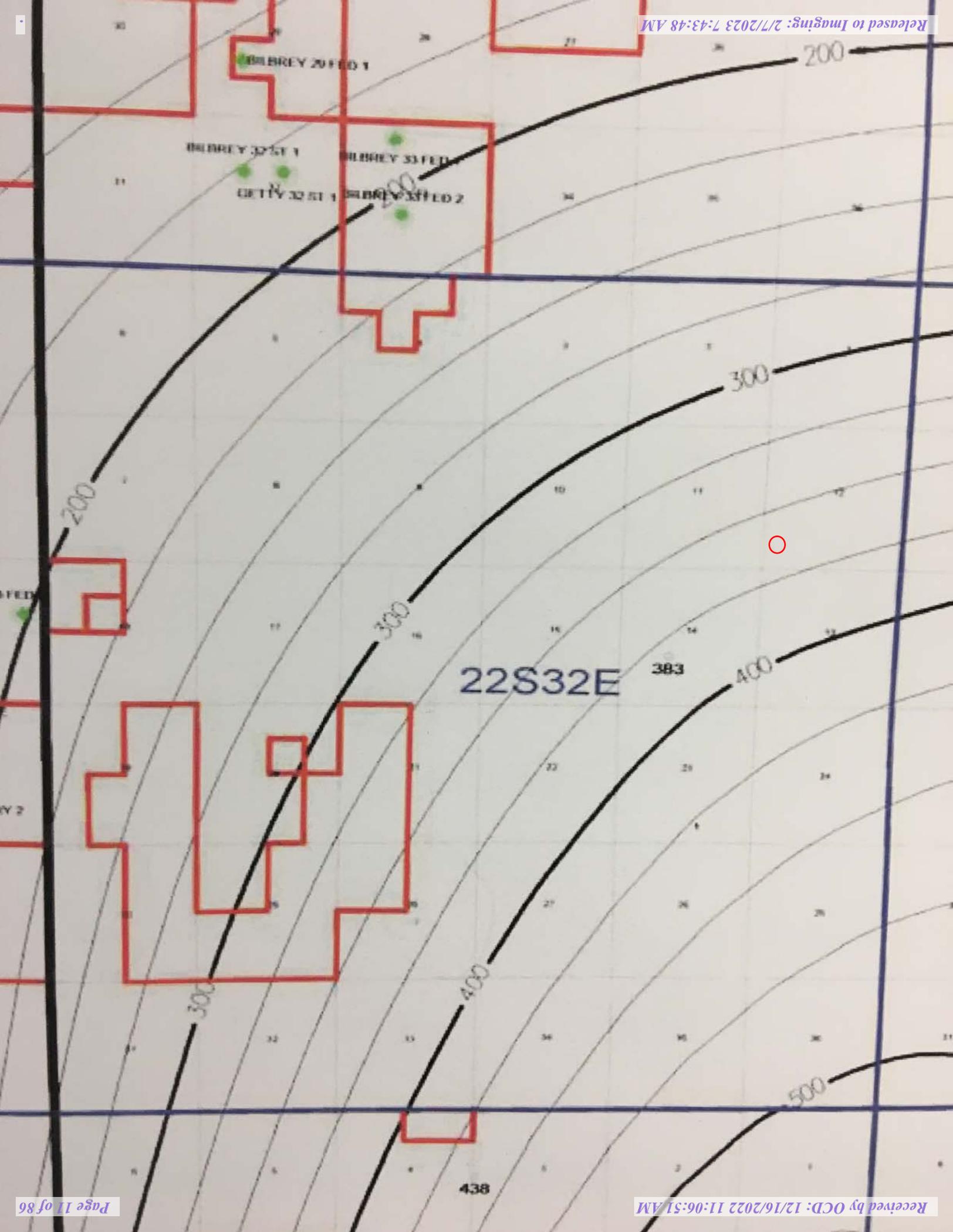
- Appendix I: Site Diagram
- Appendix II: Groundwater Data
- Appendix III: Initial C-141(s) (Copy)
- Appendix IV: Final C-141(s)
- Appendix V: Analytical Reports and Chain-of-Custody Forms (Confirmation Sampling)
- Appendix VI: Approved Work Plan (Copy)

APPENDIX I

Prohibition 12 Federal #008



APPENDIX II



APPENDIX III

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

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

Form C-141
Revised 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: PROHIBITION 12 FEDERAL #008	Facility Type: Battery
Surface Owner: Federal	Mineral Owner: Federal
API No. 30-025-37227	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	12	22S	32E	2030	South	610	West	Lea

32.4046135,-103.6350403

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 2bbls of Oil ; 3 bbls of PW	Volume Recovered: 0 bbls of Oil ; 0 bbls of PW
Source of Release: Wellhead	Date and Hour of Occurrence: 10/21/2016 unknown	Date and Hour of Discovery: 10/21/2016 8:00 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.	

RECEIVED
By Olivia Yu at 1:05 pm, Feb 24, 2017

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The release was caused by a failed tubing gauge. The gauge was removed and replaced with a new one. The surface of the contaminated soil was removed.

Describe Area Affected and Cleanup Action Taken.*
This release occurred within an unlined dirt berm. 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:	OIL CONSERVATION DIVISION	
Printed Name: Dakota Neel	Approved by Environmental Specialist:	
Title: Environmental Coordinator	Approval Date: 2/24/2017	Expiration Date:
E-mail Address: dneel2@concho.com	Conditions of Approval: see attached directive	Attached <input checked="" type="checkbox"/>
Date: 10/28/2016 Phone: 575-748-6933		

Attach Additional Sheets If Necessary

1RP-4491 nOY1705546710 pOY1705546906

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

State of New Mexico
Energy Minerals and Natural Resources

Form C-141
Revised August 8, 2011

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

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: PROHIBITION 12 FEDERAL #008	Facility Type: Battery

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-025-37227
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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
L	12	22S	32E	2030	South	610	West	Lea

32.4046135,-103.6350403

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 2.5 bbls of Oil ; 8 bbls of PW	Volume Recovered: 0 bbls of Oil ; 0 bbls of PW
Source of Release: Wellhead	Date and Hour of Occurrence: 10/29/2016 unknown	Date and Hour of Discovery: 10/29/2016 2:00 PM
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.	

RECEIVED
By Olivia Yu at 1:11 pm, Feb 24, 2017

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The release was caused by a failed packing in the stuffing box. The packing was removed and a new packing installed. The surface layer of the contaminated soil was scraped up and removed.

Describe Area Affected and Cleanup Action Taken.*
This release occurred on the well pad location surrounding the well. 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:	OIL CONSERVATION DIVISION	
	Approved by Environmental Specialist:	
Printed Name: Dakota Neel	Approval Date: 2/24/2017	Expiration Date:
Title: Environmental Coordinator	Conditions of Approval: see attached directive	Attached <input checked="" type="checkbox"/>
E-mail Address: dneel2@concho.com		
Date: 11/3/2016 Phone: 575-748-6933		

Attach Additional Sheets If Necessary

1RP-4619 **nOY1705547650** **pOY1705547824**

APPENDIX IV

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR Initial Report Final Report

Name of Company: COG Operating, LLC (OGRID# 229137)	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No.: 432-683-7443
Facility Name: Prohibition 12 Federal #008	Facility Type: Well

Surface Owner: BLM	Mineral Owner: Federal	API No.: 30-025-37227
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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
L	12	22S	32E	2030	South	610	West	Lea

Latitude: 32.4046135 Longitude: -103.6350403 NAD83

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 2bbls Oil & 3bbls PW	Volume Recovered: 0bbls
Source of Release: Wellhead	Date and Hour of Occurrence: 10/21/2016	Date and Hour of Discovery: 10/21/2016 8:00am
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" 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.*
The release was caused a failed tubing gauge. The gauge was replaced and the well was put back into service. The surface of the impacted soil was removed.

Describe Area Affected and Cleanup Action Taken.*
The release occurred on the well pad. Concho performed a site assessment and soil sampling within the impacted area in preparation for the construction of a remediation work plan. A remediation work plan was subsequently submitted to and approved by NMOCD. Remedial activities were completed in accordance with the approved work plan.

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: <i>Sheldon Hitchcock</i>	OIL CONSERVATION DIVISION	
	Approved by Environmental Specialist:	
Printed Name: Sheldon L. Hitchcock	Approval Date:	Expiration Date:
Title: HSE Coordinator	Conditions of Approval:	
E-mail Address: slhitchcock@concho.com	Attached <input type="checkbox"/>	
Date: 3/29/2018	Phone: 575-746-2010	

* Attach Additional Sheets If Necessary

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company: COG Operating, LLC (OGRID# 229137)	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No.: 432-683-7443
Facility Name: Prohibition 12 Federal #008	Facility Type: Well
Surface Owner: BLM	Mineral Owner: Federal
API No.: 30-025-37227	

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Latitude: 32.4046135 Longitude: -103.6350403 NAD83

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 2.5bbls Oil & 8bbls PW	Volume Recovered: 0bbls
Source of Release: Wellhead	Date and Hour of Occurrence: 10/29/2016	Date and Hour of Discovery: 10/29/2016 2:00pm
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" 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.	

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Signature: <i>Sheldon Hitchcock</i>	OIL CONSERVATION DIVISION	
Printed Name: Sheldon L. Hitchcock	Approved by Environmental Specialist:	
Title: HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: slhitchcock@concho.com	Conditions of Approval:	
Date: 3/29/2018	Phone: 575-746-2010	Attached <input type="checkbox"/>

* Attach Additional Sheets If Necessary

APPENDIX V



Certificate of Analysis Summary 576109



COG Operating LLC, Artesia, NM

Project Name: Prohibition 12 Federal #008

Project Id:
Contact: Sheldon Hitchcock
Project Location: Lea Co, NM

Date Received in Lab: Fri Feb-09-18 01:00 pm
Report Date: 20-FEB-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	576109-001	576109-002	576109-003	576109-004	576109-005	576109-006
	<i>Field Id:</i>	T-1 1'	T-2 1'	N.	S.	E-1	E-2
	<i>Depth:</i>	1'	1'				
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Feb-08-18 00:00					
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-12-18 08:00					
	<i>Analyzed:</i>	Feb-12-18 14:33	Feb-12-18 14:52	Feb-12-18 15:11	Feb-12-18 15:31	Feb-12-18 15:50	Feb-12-18 16:09
	<i>Units/RL:</i>	mg/kg RL					
Benzene		<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Toluene		<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Ethylbenzene		<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
m,p-Xylenes		<0.00396 0.00396	<0.00403 0.00403	<0.00401 0.00401	<0.00399 0.00399	<0.00397 0.00397	<0.00399 0.00399
o-Xylene		<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Total Xylenes		<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Total BTEX		<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Feb-10-18 18:00					
	<i>Analyzed:</i>	Feb-12-18 13:18	Feb-12-18 13:25	Feb-12-18 13:32	Feb-12-18 13:39	Feb-12-18 13:46	Feb-12-18 13:53
	<i>Units/RL:</i>	mg/kg RL					
Chloride		366 4.99	92.8 4.96	255 4.94	297 4.92	505 4.99	452 4.94
TPH By SW8015 Mod	<i>Extracted:</i>	Feb-12-18 09:00					
	<i>Analyzed:</i>	Feb-12-18 12:25	Feb-12-18 13:05	Feb-12-18 13:25	Feb-12-18 13:45	Feb-12-18 14:07	Feb-12-18 14:27
	<i>Units/RL:</i>	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

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

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Jessica Kramer

Jessica Kramer
 Odessa Laboratory Director



Certificate of Analysis Summary 576109

COG Operating LLC, Artesia, NM

Project Name: Prohibition 12 Federal #008



Project Id:
Contact: Sheldon Hitchcock
Project Location: Lea Co, NM

Date Received in Lab: Fri Feb-09-18 01:00 pm
Report Date: 20-FEB-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	576109-007	576109-008			
	<i>Field Id:</i>	W-1	W-2			
	<i>Depth:</i>					
	<i>Matrix:</i>	SOIL	SOIL			
	<i>Sampled:</i>	Feb-08-18 00:00	Feb-08-18 00:00			
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-12-18 08:00	Feb-12-18 08:00			
	<i>Analyzed:</i>	Feb-12-18 16:28	Feb-12-18 16:48			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			
Benzene		<0.00201 0.00201	<0.00200 0.00200			
Toluene		<0.00201 0.00201	<0.00200 0.00200			
Ethylbenzene		0.00302 0.00201	<0.00200 0.00200			
m,p-Xylenes		0.0180 0.00402	<0.00401 0.00401			
o-Xylene		0.0126 0.00201	<0.00200 0.00200			
Total Xylenes		0.0306 0.00201	<0.00200 0.00200			
Total BTEX		0.0336 0.00201	<0.00200 0.00200			
Chloride by EPA 300	<i>Extracted:</i>	Feb-16-18 09:00	Feb-16-18 09:00			
	<i>Analyzed:</i>	Feb-16-18 12:48	Feb-16-18 12:53			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			
Chloride		613 5.00	546 4.94			
TPH By SW8015 Mod	<i>Extracted:</i>	Feb-12-18 09:00	Feb-12-18 09:00			
	<i>Analyzed:</i>	Feb-12-18 14:47	Feb-12-18 15:06			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0			
Diesel Range Organics (DRO)		70.3 15.0	87.4 15.0			
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0			
Total TPH		70.3 15.0	87.4 15.0			

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

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Jessica Kramer

Jessica Kramer
 Odessa Laboratory Director

Analytical Report 576109

for
COG Operating LLC

Project Manager: Sheldon Hitchcock

Prohibition 12 Federal #008

20-FEB-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



20-FEB-18

Project Manager: **Sheldon Hitchcock**
COG Operating LLC
2407 Pecos Avenue
Artesia, NM 88210

Reference: XENCO Report No(s): **576109**
Prohibition 12 Federal #008
Project Address: Lea Co, NM

Sheldon Hitchcock:

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) 576109. 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. 576109 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Odessa Laboratory Director

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Sample Cross Reference 576109

COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 1'	S	02-08-18 00:00	1'	576109-001
T-2 1'	S	02-08-18 00:00	1'	576109-002
N.	S	02-08-18 00:00		576109-003
S.	S	02-08-18 00:00		576109-004
E-1	S	02-08-18 00:00		576109-005
E-2	S	02-08-18 00:00		576109-006
W-1	S	02-08-18 00:00		576109-007
W-2	S	02-08-18 00:00		576109-008



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Prohibition 12 Federal #008

Project ID:
Work Order Number(s): 576109

Report Date: 20-FEB-18
Date Received: 02/09/2018

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3040874 BTEX by EPA 8021B

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



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: **T-1 1'**
 Lab Sample Id: 576109-001

Matrix: Soil
 Date Collected: 02.08.18 00.00

Date Received: 02.09.18 13.00
 Sample Depth: 1'

Analytical Method: Chloride by EPA 300
 Tech: OJS
 Analyst: OJS
 Seq Number: 3040740

Date Prep: 02.10.18 18.00

Prep Method: E300P
 % Moisture:
 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	366	4.99	mg/kg	02.12.18 13.18		1

Analytical Method: TPH By SW8015 Mod
 Tech: ARM
 Analyst: ARM
 Seq Number: 3040880

Date Prep: 02.12.18 09.00

Prep Method: TX1005P
 % Moisture:
 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.12.18 12.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.12.18 12.25	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.12.18 12.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.12.18 12.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.12.18 12.25	
o-Terphenyl	84-15-1	99	%	70-135	02.12.18 12.25	



Certificate of Analytical Results 576109

COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: **T-1 1'** Matrix: Soil Date Received: 02.09.18 13.00
 Lab Sample Id: 576109-001 Date Collected: 02.08.18 00.00 Sample Depth: 1'
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: ALJ % Moisture:
 Analyst: ALJ Date Prep: 02.12.18 08.00 Basis: Wet Weight
 Seq Number: 3040874

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.12.18 14.33	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.12.18 14.33	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.12.18 14.33	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	02.12.18 14.33	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.12.18 14.33	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.12.18 14.33	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.12.18 14.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	80-120	02.12.18 14.33		
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.12.18 14.33		



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: **T-2 1'** Matrix: Soil Date Received: 02.09.18 13.00
 Lab Sample Id: 576109-002 Date Collected: 02.08.18 00.00 Sample Depth: 1'
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: OJS Date Prep: 02.10.18 18.00 Basis: Wet Weight
 Seq Number: 3040740

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	92.8	4.96	mg/kg	02.12.18 13.25		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.12.18 09.00 Basis: Wet Weight
 Seq Number: 3040880

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.12.18 13.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.12.18 13.05	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.12.18 13.05	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.12.18 13.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.12.18 13.05	
o-Terphenyl	84-15-1	99	%	70-135	02.12.18 13.05	



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: T-2 1'	Matrix: Soil	Date Received: 02.09.18 13.00
Lab Sample Id: 576109-002	Date Collected: 02.08.18 00.00	Sample Depth: 1'
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 02.12.18 08.00	Basis: Wet Weight
Seq Number: 3040874		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.12.18 14.52	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.12.18 14.52	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.12.18 14.52	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.12.18 14.52	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.12.18 14.52	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.12.18 14.52	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.12.18 14.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	84	%	80-120	02.12.18 14.52		
4-Bromofluorobenzene	460-00-4	111	%	80-120	02.12.18 14.52		



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: N. Matrix: Soil Date Received: 02.09.18 13.00
 Lab Sample Id: 576109-003 Date Collected: 02.08.18 00.00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: OJS Date Prep: 02.10.18 18.00 Basis: Wet Weight
 Seq Number: 3040740

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	255	4.94	mg/kg	02.12.18 13.32		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.12.18 09.00 Basis: Wet Weight
 Seq Number: 3040880

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.12.18 13.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.12.18 13.25	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.12.18 13.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.12.18 13.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.12.18 13.25	
o-Terphenyl	84-15-1	98	%	70-135	02.12.18 13.25	



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: N. Matrix: Soil Date Received: 02.09.18 13.00
 Lab Sample Id: 576109-003 Date Collected: 02.08.18 00.00
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: ALJ % Moisture:
 Analyst: ALJ Date Prep: 02.12.18 08.00 Basis: Wet Weight
 Seq Number: 3040874

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.12.18 15.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.12.18 15.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.12.18 15.11	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.12.18 15.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.12.18 15.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.12.18 15.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.12.18 15.11	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	82		%	80-120	02.12.18 15.11	
4-Bromofluorobenzene	460-00-4	111		%	80-120	02.12.18 15.11	



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: **S.** Matrix: Soil Date Received: 02.09.18 13.00
 Lab Sample Id: 576109-004 Date Collected: 02.08.18 00.00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: OJS Date Prep: 02.10.18 18.00 Basis: Wet Weight
 Seq Number: 3040740

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	297	4.92	mg/kg	02.12.18 13.39		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.12.18 09.00 Basis: Wet Weight
 Seq Number: 3040880

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.12.18 13.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.12.18 13.45	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.12.18 13.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.12.18 13.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	02.12.18 13.45	
o-Terphenyl	84-15-1	85	%	70-135	02.12.18 13.45	



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: S. Matrix: Soil Date Received: 02.09.18 13.00
 Lab Sample Id: 576109-004 Date Collected: 02.08.18 00.00
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: ALJ % Moisture:
 Analyst: ALJ Date Prep: 02.12.18 08.00 Basis: Wet Weight
 Seq Number: 3040874

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.12.18 15.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.12.18 15.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.12.18 15.31	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.12.18 15.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.12.18 15.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.12.18 15.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.12.18 15.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	80-120	02.12.18 15.31		
1,4-Difluorobenzene	540-36-3	82	%	80-120	02.12.18 15.31		



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: E-1
 Lab Sample Id: 576109-005

Matrix: Soil
 Date Collected: 02.08.18 00.00

Date Received: 02.09.18 13.00

Analytical Method: Chloride by EPA 300
 Tech: OJS
 Analyst: OJS
 Seq Number: 3040740

Date Prep: 02.10.18 18.00

Prep Method: E300P
 % Moisture:
 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	505	4.99	mg/kg	02.12.18 13.46		1

Analytical Method: TPH By SW8015 Mod
 Tech: ARM
 Analyst: ARM
 Seq Number: 3040880

Date Prep: 02.12.18 09.00

Prep Method: TX1005P
 % Moisture:
 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.12.18 14.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.12.18 14.07	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.12.18 14.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.12.18 14.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.12.18 14.07	
o-Terphenyl	84-15-1	95	%	70-135	02.12.18 14.07	



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: E-1
 Lab Sample Id: 576109-005

Matrix: Soil
 Date Collected: 02.08.18 00.00

Date Received: 02.09.18 13.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.12.18 08.00

Basis: Wet Weight

Seq Number: 3040874

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.12.18 15.50	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.12.18 15.50	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.12.18 15.50	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.12.18 15.50	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.12.18 15.50	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.12.18 15.50	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.12.18 15.50	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	84		%	80-120	02.12.18 15.50	
4-Bromofluorobenzene	460-00-4	112		%	80-120	02.12.18 15.50	



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: **E-2**
 Lab Sample Id: 576109-006

Matrix: Soil
 Date Collected: 02.08.18 00.00

Date Received: 02.09.18 13.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.10.18 18.00

Basis: Wet Weight

Seq Number: 3040740

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	452	4.94	mg/kg	02.12.18 13.53		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 02.12.18 09.00

Basis: Wet Weight

Seq Number: 3040880

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.12.18 14.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.12.18 14.27	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.12.18 14.27	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.12.18 14.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	02.12.18 14.27	
o-Terphenyl	84-15-1	110	%	70-135	02.12.18 14.27	



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: E-2
 Lab Sample Id: 576109-006

Matrix: Soil
 Date Collected: 02.08.18 00.00

Date Received: 02.09.18 13.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.12.18 08.00

Basis: Wet Weight

Seq Number: 3040874

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.12.18 16.09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.12.18 16.09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.12.18 16.09	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.12.18 16.09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.12.18 16.09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.12.18 16.09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.12.18 16.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	80-120	02.12.18 16.09		
1,4-Difluorobenzene	540-36-3	84	%	80-120	02.12.18 16.09		



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: **W-1** Matrix: Soil Date Received: 02.09.18 13.00
 Lab Sample Id: 576109-007 Date Collected: 02.08.18 00.00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: OJS Date Prep: 02.16.18 09.00 Basis: Wet Weight
 Seq Number: 3041271

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	613	5.00	mg/kg	02.16.18 12.48		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.12.18 09.00 Basis: Wet Weight
 Seq Number: 3040880

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.12.18 14.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	70.3	15.0	mg/kg	02.12.18 14.47		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.12.18 14.47	U	1
Total TPH	PHC635	70.3	15.0	mg/kg	02.12.18 14.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	02.12.18 14.47	
o-Terphenyl	84-15-1	100	%	70-135	02.12.18 14.47	



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: **W-1**
 Lab Sample Id: 576109-007

Matrix: Soil
 Date Collected: 02.08.18 00.00

Date Received: 02.09.18 13.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.12.18 08.00

Basis: Wet Weight

Seq Number: 3040874

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.12.18 16.28	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.12.18 16.28	U	1
Ethylbenzene	100-41-4	0.00302	0.00201	mg/kg	02.12.18 16.28		1
m,p-Xylenes	179601-23-1	0.0180	0.00402	mg/kg	02.12.18 16.28		1
o-Xylene	95-47-6	0.0126	0.00201	mg/kg	02.12.18 16.28		1
Total Xylenes	1330-20-7	0.0306	0.00201	mg/kg	02.12.18 16.28		1
Total BTEX		0.0336	0.00201	mg/kg	02.12.18 16.28		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	80-120	02.12.18 16.28		
1,4-Difluorobenzene	540-36-3	82	%	80-120	02.12.18 16.28		



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: **W-2**
 Lab Sample Id: 576109-008

Matrix: Soil
 Date Collected: 02.08.18 00.00

Date Received: 02.09.18 13.00

Analytical Method: Chloride by EPA 300
 Tech: OJS
 Analyst: OJS
 Seq Number: 3041271

Date Prep: 02.16.18 09.00

Prep Method: E300P
 % Moisture:
 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	546	4.94	mg/kg	02.16.18 12.53		1

Analytical Method: TPH By SW8015 Mod
 Tech: ARM
 Analyst: ARM
 Seq Number: 3040880

Date Prep: 02.12.18 09.00

Prep Method: TX1005P
 % Moisture:
 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.12.18 15.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	87.4	15.0	mg/kg	02.12.18 15.06		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.12.18 15.06	U	1
Total TPH	PHC635	87.4	15.0	mg/kg	02.12.18 15.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.12.18 15.06	
o-Terphenyl	84-15-1	103	%	70-135	02.12.18 15.06	



Certificate of Analytical Results 576109



COG Operating LLC, Artesia, NM

Prohibition 12 Federal #008

Sample Id: **W-2**
 Lab Sample Id: 576109-008

Matrix: Soil
 Date Collected: 02.08.18 00.00

Date Received: 02.09.18 13.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.12.18 08.00

Basis: Wet Weight

Seq Number: 3040874

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.12.18 16.48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.12.18 16.48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.12.18 16.48	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.12.18 16.48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.12.18 16.48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.12.18 16.48	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.12.18 16.48	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	82		%	80-120	02.12.18 16.48	
4-Bromofluorobenzene	460-00-4	107		%	80-120	02.12.18 16.48	



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

+ NELAC certification not offered for this compound.

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

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COG Operating LLC
Prohibition 12 Federal #008

Analytical Method: Chloride by EPA 300

Seq Number: 3040740

MB Sample Id: 7638927-1-BLK

Matrix: Solid

LCS Sample Id: 7638927-1-BKS

Prep Method: E300P

Date Prep: 02.10.18

LCSD Sample Id: 7638927-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	271	108	271	108	90-110	0	20	mg/kg	02.12.18 09:42	

Analytical Method: Chloride by EPA 300

Seq Number: 3041271

MB Sample Id: 7639263-1-BLK

Matrix: Solid

LCS Sample Id: 7639263-1-BKS

Prep Method: E300P

Date Prep: 02.16.18

LCSD Sample Id: 7639263-1-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	272	109	264	106	90-110	3	20	mg/kg	02.16.18 10:24	

Analytical Method: Chloride by EPA 300

Seq Number: 3040740

Parent Sample Id: 576069-001

Matrix: Soil

MS Sample Id: 576069-001 S

Prep Method: E300P

Date Prep: 02.10.18

MSD Sample Id: 576069-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	202	247	451	101	451	101	90-110	0	20	mg/kg	02.12.18 10:03	

Analytical Method: Chloride by EPA 300

Seq Number: 3040740

Parent Sample Id: 576069-010

Matrix: Soil

MS Sample Id: 576069-010 S

Prep Method: E300P

Date Prep: 02.10.18

MSD Sample Id: 576069-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	230	250	545	126	523	117	90-110	4	20	mg/kg	02.12.18 11:41	X

Analytical Method: Chloride by EPA 300

Seq Number: 3041271

Parent Sample Id: 576645-001

Matrix: Soil

MS Sample Id: 576645-001 S

Prep Method: E300P

Date Prep: 02.16.18

MSD Sample Id: 576645-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	464	247	701	96	685	89	90-110	2	20	mg/kg	02.16.18 10:40	X

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

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

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

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



COG Operating LLC
Prohibition 12 Federal #008

Analytical Method: Chloride by EPA 300

Seq Number: 3041271

Parent Sample Id: 576652-004

Matrix: Soil

MS Sample Id: 576652-004 S

Prep Method: E300P

Date Prep: 02.16.18

MSD Sample Id: 576652-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.67	246	268	106	272	108	90-110	1	20	mg/kg	02.16.18 11:54	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3040880

MB Sample Id: 7639019-1-BLK

Matrix: Solid

LCS Sample Id: 7639019-1-BKS

Prep Method: TX1005P

Date Prep: 02.12.18

LCSD Sample Id: 7639019-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	854	85	973	97	70-135	13	35	mg/kg	02.12.18 11:03	
Diesel Range Organics (DRO)	<15.0	1000	966	97	1060	106	70-135	9	35	mg/kg	02.12.18 11:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		113		123		70-135	%	02.12.18 11:03
o-Terphenyl	104		106		124		70-135	%	02.12.18 11:03

Analytical Method: TPH By SW8015 Mod

Seq Number: 3040880

Parent Sample Id: 576109-001

Matrix: Soil

MS Sample Id: 576109-001 S

Prep Method: TX1005P

Date Prep: 02.12.18

MSD Sample Id: 576109-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	948	95	856	86	70-135	10	35	mg/kg	02.12.18 12:04	
Diesel Range Organics (DRO)	<15.0	998	1050	105	980	98	70-135	7	35	mg/kg	02.12.18 12:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		99		70-135	%	02.12.18 12:04
o-Terphenyl	107		97		70-135	%	02.12.18 12:04

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

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

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

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



COG Operating LLC
Prohibition 12 Federal #008

Analytical Method: BTEX by EPA 8021B

Seq Number: 3040874

MB Sample Id: 7639015-1-BLK

Matrix: Solid

LCS Sample Id: 7639015-1-BKS

Prep Method: SW5030B

Date Prep: 02.12.18

LCSD Sample Id: 7639015-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0928	93	0.0935	94	70-130	1	35	mg/kg	02.12.18 08:15	
Toluene	<0.00199	0.0994	0.0974	98	0.0987	99	70-130	1	35	mg/kg	02.12.18 08:15	
Ethylbenzene	<0.00199	0.0994	0.108	109	0.110	110	71-129	2	35	mg/kg	02.12.18 08:15	
m,p-Xylenes	<0.00398	0.199	0.213	107	0.217	109	70-135	2	35	mg/kg	02.12.18 08:15	
o-Xylene	<0.00199	0.0994	0.105	106	0.106	106	71-133	1	35	mg/kg	02.12.18 08:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		89		85		80-120	%	02.12.18 08:15
4-Bromofluorobenzene	98		115		120		80-120	%	02.12.18 08:15

Analytical Method: BTEX by EPA 8021B

Seq Number: 3040874

Parent Sample Id: 575585-001

Matrix: Soil

MS Sample Id: 575585-001 S

Prep Method: SW5030B

Date Prep: 02.12.18

MSD Sample Id: 575585-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0837	84	0.0842	84	70-130	1	35	mg/kg	02.12.18 09:00	
Toluene	<0.00200	0.0998	0.0878	88	0.0898	90	70-130	2	35	mg/kg	02.12.18 09:00	
Ethylbenzene	<0.00200	0.0998	0.0959	96	0.0976	98	71-129	2	35	mg/kg	02.12.18 09:00	
m,p-Xylenes	<0.00399	0.200	0.190	95	0.192	96	70-135	1	35	mg/kg	02.12.18 09:00	
o-Xylene	<0.00200	0.0998	0.0920	92	0.0960	96	71-133	4	35	mg/kg	02.12.18 09:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		85		80-120	%	02.12.18 09:00
4-Bromofluorobenzene	116		115		80-120	%	02.12.18 09:00

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

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

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

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



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576109

Matrix Codes

- W = Water
- S = Soil/Seed/Soil
- GW = Ground Water
- DW = Drinking Water
- P = Product
- SW = Surface water
- SL = Sludge
- OW = Ocean/Sea Water
- WI = Wipe
- O = Oil
- WW = Waste Water
- A = Air

Field Comments

No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCI	Number of preserved bottles							Analytical Information	Matrix Codes		
								NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	TPH EXTENDED (EPA8015M)			BTEX (EPA 8021B)	CHLORIDES (EPA 300)
1	T-1	1'	2/14/19		S	1												
2	T-2	1'			S	1												
3	W.				S	1												
4	S.				S	1												
5	E-1				S	1												
6	E.-2				S	1												
7	W.-1				S	1												
8	W.-2				S	1												
9					S	1												
10					S	1												

Notes:

Temp: 1.8 IR ID: R-8
 CF: (0-6: -0.2°C)
 (6-23: +0.2°C)
 Corrected Temp: 1.6

FEDERAL UPS TRACKING #

Turnaround Time (Business days) _____

Same Day TAT 6 Day TAT
 Next Day EMERGENCY 7 Day TAT
 2 Day EMERGENCY Contract TAT
 3 Day EMERGENCY TRRP Checklist

TAT Starts Day received by Lab, if received by 5:00 pm

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished by:	Date Time:	Received By:	Date Time:
1. Sheldon Pearson	2/14/19 1:00	1. Stephanie	2-5-18	2. Stephanie	2-5-18	3. Stephanie	2-5-18	4. Stephanie	2-5-18	5. Stephanie	2-5-18

On Ice Cooler Temp. Thermo. Corr. Factor

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for all losses or expenses incurred by the Client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



Client: COG Operating LLC

Date/ Time Received: 02/09/2018 01:00:00 PM

Work Order #: 576109

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.6
#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)?	No
#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: Connie Hernandez
Connie Hernandez

Date: 02/12/2018

Checklist reviewed by: Jessica Kramer
Jessica Kramer

Date: 02/12/2018

APPENDIX VI

SITE INFORMATION

Report Type: Work Plan

General Site Information:

Site:	Prohibition 12 Federal #008				
Company:	COG Operating LLC				
Section, Township and Range	Unit L	Sec. 12	T 22S	R 32E	
Lease Number:	API No. 30-025-37227				
County:	Lea County				
GPS:	32.40447° N			103.63496° W	
Surface Owner:	Federal				
Mineral Owner:					
Directions:	From intersection of HWY 128 & Delaware Basin Rd, travel west on HWY 128 for 3.3 mi, turn north onto CR 2-From HWY 176 & Co Rd 27A in Lea County, travel EAST on HWY 176 for 2.20 mi, turn SOUTH onto lease road for 3.70 mi to T in road, go right (SW) for 7.70 mi, turn SOUTH for 1.70 mi, turn WEST for 0.80 mi, turn SOUTH for 0.20 mi to location on west side of the road.				

Release Data:

Date Released:	10/21/2016	10/29/2016
Type Release:	Oil & Produced Water	Oil & Produced Water
Source of Contamination:	Wellhead	Wellhead
Fluid Released:	2 bbls oil & 3 bbls water	2.5 bbls oil & 8 bbls water
Fluids Recovered:	0 bbls	0 bbls

Official Communication:

Name:	Robert McNeil	Ike Tavaréz
Company:	COG Operating, LLC	Tetra Tech
Address:	One Concho Center 600 W. Illinois Ave.	4000 N. Big Spring Ste 401
City:	Midland Texas, 79701	Midland, Texas
Phone number:	(432) 686-3023	(432) 687-8110
Fax:	(432) 684-7137	
Email:	rmcneil@conchoresources.com	Ike.Tavaréz@tetrattech.com

Ranking Criteria

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	
>100 ft.	0	300'+
WellHead Protection:	Ranking Score	Site Data
Water Source <1,000 ft., Private <200 ft.	20	
Water Source >1,000 ft., Private >200 ft.	0	0
Surface Body of Water:	Ranking Score	Site Data
<200 ft.	20	
200 ft - 1,000 ft.	10	
>1,000 ft.	0	0
Total Ranking Score:		0

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



February 7, 2017

Ms. Kristen Lynch
Environmental Engineer Specialist
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Work Plan for the COG Operating LLC., Prohibition 12 Federal #008, Unit L, Section 12, Township 22 South, Range 32 East, Lea County, New Mexico.

Ms. Lynch:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC., (COG) to assess two spills from the Prohibition 12 Federal #008, Unit L, Section 12, Township 22 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.40447°, W 103.63496°. The site location is shown on Figures 1 and 2.

Background

Two reportable releases occurred at the site in October 2016. The first release occurred on October 21, 2016, and according to the State of New Mexico C-141 Initial Report, approximately two (2) barrels of oil and three (3) barrels of produced water were released due to a failed tubing gauge. The gauge was removed and replaced.

On October 29, 2016, the second release occurred and migrated on top of the first release footprint. According to the State of New Mexico C-141 Initial Report, approximately two and a half (2.5) barrels of oil and eight (8) barrels of produced water were released due to a failed packing in the well head stuffing box. None of the fluids were recovered from either release. The spills remained on the pad and measured approximately 60' x 75'. The initial C-141 forms are included in Appendix A.

Groundwater

No water wells were listed within Section 12 on the New Mexico Office of the State Engineer's database. The nearest well is located in Section 14 with a reported depth of approximately 360' below surface. According to the Chevron Texaco

Tetra Tech
4000 North Big Spring, Suite 401, Midland, TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com



Groundwater Trend map, the average depth to groundwater in this area is greater than 300' below surface. The groundwater data is shown in Appendix B.

Regulatory

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

Soil Assessment and Analytical Results

On November 30, 2016, Tetra Tech personnel were onsite to evaluate and sample the release area. Using a backhoe, two (2) sample trenches (T-1 and T-2) were installed to a total depth of 8.0' below surface. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The trench locations are shown on Figure 3.

Referring to Table 1, none of the samples showed total TPH, benzene, or total BTEX concentrations above the RRAL's. The area of trench (T-1) showed a total TPH concentration of 2,346 mg/kg and a total BTEX concentration of 12.7 mg/kg at 0-1' below surface. The area of trench (T-2) showed a total TPH concentration of 177.3 mg/kg and a total BTEX concentration of 12.5 mg/kg at 0-1' below surface.

The areas of trenches (T-1 and T-2) showed elevated chloride concentrations of 4,900 mg/kg and 3,040 mg/kg at 0-1' below surface. The chloride concentrations in both areas significantly declined at 2.0' below surface to 128 mg/kg and 464 mg/kg, respectively. The bottom trench samples at 8.0' below surface showed chloride concentrations of 128 mg/kg (T-1) and 48.0 mg/kg (T-2).

Work Plan

Based on the laboratory results, COG proposes to remove the impacted material as highlighted (green) in Table 1 and shown on Figure 4. The areas of trenches (T-1 and T-2) will be excavated to a depth of approximately 1.0' below surface to remove the elevated chloride impact in the shallow soils. Once excavated to the appropriate depth, the excavated areas will be backfilled with clean material to surface grade. All of the excavated material will be transported offsite for proper disposal.



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

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

Respectfully submitted,
TETRA TECH

A handwritten signature in blue ink that reads 'Clair Gonzales'.

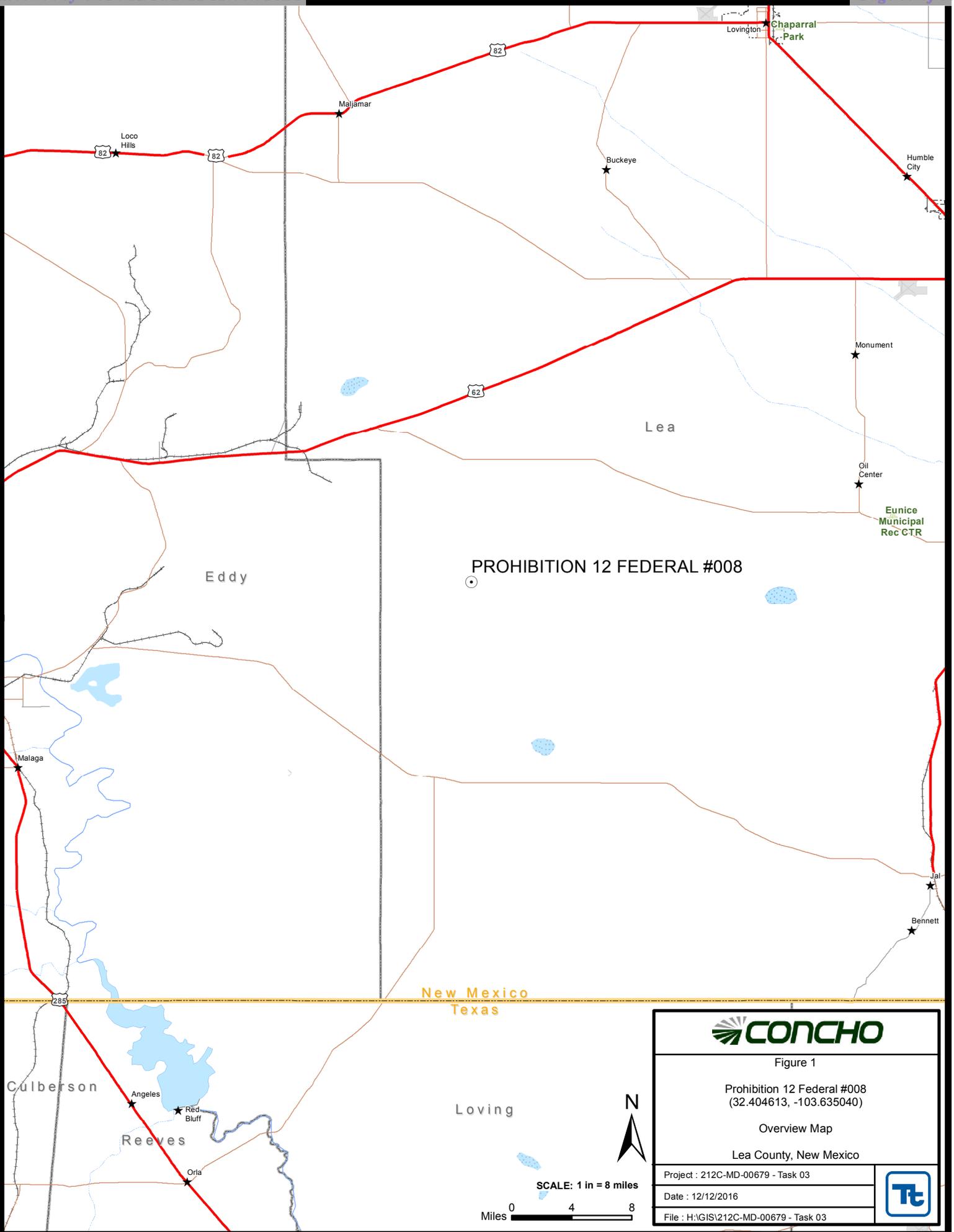
Clair Gonzales,
Geologist I

A handwritten signature in blue ink that reads 'Ike Tavarez'.

Ike Tavarez,
Senior Project Manager, P.G.

cc: Robert McNeill – COG
Dakota Neel – COG
Shelly Tucker - BLM

Figures



PROHIBITION 12 FEDERAL #008



Figure 1

Prohibition 12 Federal #008
(32.404613, -103.635040)

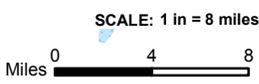
Overview Map

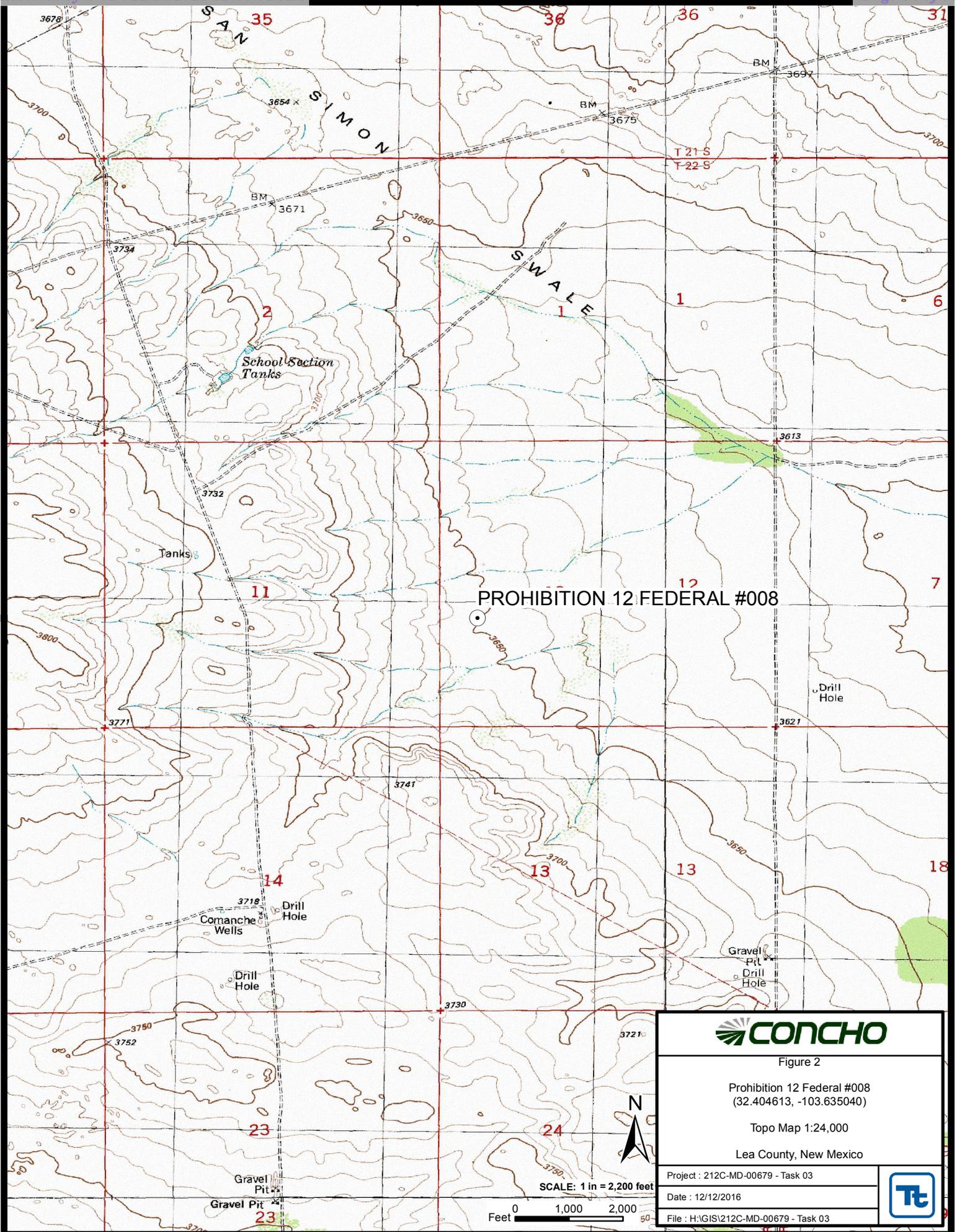
Lea County, New Mexico

Project : 212C-MD-00679 - Task 03

Date : 12/12/2016

File : H:\GIS\212C-MD-00679 - Task 03





CONCHO

Figure 2

Prohibition 12 Federal #008
(32.404613, -103.635040)

Topo Map 1:24,000

Lea County, New Mexico

Project : 212C-MD-00679 - Task 03	
Date : 12/12/2016	
File : H:\GIS\212C-MD-00679 - Task 03	

Tables

**Table 1
COG Operating LLC.
Prohibition 12 Federal #8
Lea County, New Mexico**

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
T-1	11/30/2016	0-1	X		116	2,230	2,350	0.300	3.68	1.80	6.90	12.7	4,900
	"	2	X		-	-	-	-	-	-	-	-	128
	"	3	X		-	-	-	-	-	-	-	-	720
	"	4	X		-	-	-	-	-	-	-	-	736
	"	6	X		-	-	-	-	-	-	-	-	240
	"	8	X		-	-	-	-	-	-	-	-	128
T-2	11/30/2016	0-1	X		33.3	144	177	<0.050	1.56	1.97	8.95	12.5	3,040
	"	2	X		-	-	-	-	-	-	-	-	464
	"	3	X		-	-	-	-	-	-	-	-	272
	"	4	X		-	-	-	-	-	-	-	-	640
	"	6	X		-	-	-	-	-	-	-	-	352
	"	8	X		-	-	-	-	-	-	-	-	48.0

(-) Not Analyzed

Proposed Excavation Depth

Appendix A

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: PROHIBITION 12 FEDERAL #008	Facility Type: Battery

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-025-37227
------------------------	------------------------	----------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	12	22S	32E	2030	South	610	West	Lea

32.4046135,-103.6350403

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 2bbls of Oil ; 3 bbls of PW	Volume Recovered: 0 bbls of Oil ; 0 bbls of PW
Source of Release: Wellhead	Date and Hour of Occurrence: 10/21/2016 unknown	Date and Hour of Discovery: 10/21/2016 8:00 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.*
The release was caused by a failed tubing gauge. The gauge was removed and replaced with a new one. The surface of the contaminated soil was removed.

Describe Area Affected and Cleanup Action Taken.*
This release occurred on the well pad location. 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: 	OIL CONSERVATION DIVISION		
Printed Name: Dakota Neel	Approved by Environmental Specialist:		
Title: Environmental Coordinator	Approval Date:	Expiration Date:	
E-mail Address: dneel2@concho.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 10/28/2016	Phone: 575-748-6933		

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources

Form C-141
Revised August 8, 2011

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

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: PROHIBITION 12 FEDERAL #008		Facility Type: Battery	
Surface Owner: Federal		Mineral Owner: Federal	API No. 30-025-37227

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	12	22S	32E	2030	South	610	West	Lea

32.4046135,-103.6350403

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 2.5 bbls of Oil ; 8 bbls of PW	Volume Recovered: 0 bbls of Oil ; 0 bbls of PW
Source of Release: Wellhead	Date and Hour of Occurrence: 10/29/2016 unknown	Date and Hour of Discovery: 10/29/2016 2:00 PM
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.*
The release was caused by a failed packing in the stuffing box. The packing was removed and a new packing installed. The surface layer of the contaminated soil was scraped up and removed.

Describe Area Affected and Cleanup Action Taken.*
This release occurred on the well pad location surrounding the well. 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: 		OIL CONSERVATION DIVISION	
Printed Name: Dakota Neel		Approved by Environmental Specialist:	
Title: Environmental Coordinator		Approval Date:	Expiration Date:
E-mail Address: dneel2@concho.com		Conditions of Approval:	
Date: 11/3/2016 Phone: 575-748-6933		Attached <input type="checkbox"/>	

Attach Additional Sheets If Necessary

Appendix B

**Water Well Data
Average Depth to Groundwater (ft)
COG - Prohibition 12 Federal #008
Lea County, New Mexico**

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

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

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

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

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

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

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

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

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

- 88** New Mexico State Engineers Well Reports
- 105** USGS Well Reports
- 90** Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)
Geology and Groundwater Resources of Eddy County, NM (Report 3)
- 34** NMOCD - Groundwater Data
- 123** Tetra Tech installed temporary wells and field water level
- 143** NMOCD Groundwater map well location



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	Depth Well	Depth Water Column	Water
C 02096		ED		2	3	14	22S	32E		627204	3584464*	435	360	75
C 02821	C	LE		2	2	3	14	22S	32E	627303	3584563*	540	340	200
C 02939	C	LE		3	3	1	19	22S	32E	620234	3583042*	280		
C 03717 POD1	C	LE		4	4	1	09	22S	32E	624094	3586365	650		

Average Depth to Water: **350 feet**
 Minimum Depth: **340 feet**
 Maximum Depth: **360 feet**

Record Count: 4

PLSS Search:

Township: 22S

Range: 32E

*UTM location was derived from PLSS - see Help

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.

Appendix C



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

December 07, 2016

IKE TAVAREZ
TETRA TECH
1910 N. BIG SPRING STREET
MIDLAND, TX 79705

RE: PROHIBITION 12 FEDERAL #8

Enclosed are the results of analyses for samples received by the laboratory on 12/01/16 14:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2 Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2 Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH 1910 N. BIG SPRING STREET MIDLAND TX, 79705	Project: PROHIBITION 12 FEDERAL #8 Project Number: 212C-MD-00679.03 Project Manager: IKE TAVAREZ Fax To: (432) 682-3946	Reported: 07-Dec-16 14:17
--	--	------------------------------

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T-1 0-1	H602694-01	Soil	30-Nov-16 00:00	01-Dec-16 14:15
T-1 2	H602694-02	Soil	30-Nov-16 00:00	01-Dec-16 14:15
T-1 3	H602694-03	Soil	30-Nov-16 00:00	01-Dec-16 14:15
T-1 4	H602694-04	Soil	30-Nov-16 00:00	01-Dec-16 14:15
T-1 6	H602694-05	Soil	30-Nov-16 00:00	01-Dec-16 14:15
T-1 8	H602694-06	Soil	30-Nov-16 00:00	01-Dec-16 14:15
T-2 0-1	H602694-07	Soil	30-Nov-16 00:00	01-Dec-16 14:15
T-2 2	H602694-08	Soil	30-Nov-16 00:00	01-Dec-16 14:15
T-2 3	H602694-09	Soil	30-Nov-16 00:00	01-Dec-16 14:15
T-2 4	H602694-10	Soil	30-Nov-16 00:00	01-Dec-16 14:15
T-2 6	H602694-11	Soil	30-Nov-16 00:00	01-Dec-16 14:15
T-2 8	H602694-12	Soil	30-Nov-16 00:00	01-Dec-16 14:15

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence or any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damage including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TETRA TECH 1910 N. BIG SPRING STREET MIDLAND TX, 79705	Project: PROHIBITION 12 FEDERAL #8 Project Number: 212C-MD-00679.03 Project Manager: IKE TAVAREZ Fax To: (432) 682-3946	Reported: 07-Dec-16 14:17
--	--	------------------------------

**T-1 0-1
H602694-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

Cardinal Laboratories

Inorganic Compounds

Chloride	4900		16.0	mg/kg	4	6120504	AC	05-Dec-16	4500-Cl-B	
-----------------	-------------	--	------	-------	---	---------	----	-----------	-----------	--

Volatile Organic Compounds by EPA Method 8021

Benzene*	0.300		0.100	mg/kg	100	6120606	MS	06-Dec-16	8021B	
Toluene*	3.68		0.100	mg/kg	100	6120606	MS	06-Dec-16	8021B	QM-07
Ethylbenzene*	1.80		0.100	mg/kg	100	6120606	MS	06-Dec-16	8021B	
Total Xylenes*	6.90		0.300	mg/kg	100	6120606	MS	06-Dec-16	8021B	
Total BTEX	12.7		0.600	mg/kg	100	6120606	MS	06-Dec-16	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			129 %		73.6-140	6120606	MS	06-Dec-16	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10	116		50.0	mg/kg	5	6120204	MS	03-Dec-16	8015B	
DRO >C10-C28	2230		50.0	mg/kg	5	6120204	MS	03-Dec-16	8015B	

<i>Surrogate: 1-Chlorooctane</i>			86.6 %		35-147	6120204	MS	03-Dec-16	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			86.7 %		28-171	6120204	MS	03-Dec-16	8015B	
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Analytical Results For:

TETRA TECH 1910 N. BIG SPRING STREET MIDLAND TX, 79705	Project: PROHIBITION 12 FEDERAL #8 Project Number: 212C-MD-00679.03 Project Manager: IKE TAVAREZ Fax To: (432) 682-3946	Reported: 07-Dec-16 14:17
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**T-1 2
H602694-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	128		16.0	mg/kg	4	6120504	AC	06-Dec-16	4500-Cl-B	
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**T-1 3
H602694-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	720		16.0	mg/kg	4	6120504	AC	06-Dec-16	4500-Cl-B	
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**T-1 4
H602694-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	736		16.0	mg/kg	4	6120601	AC	06-Dec-16	4500-Cl-B	
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**T-1 6
H602694-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	240		16.0	mg/kg	4	6120601	AC	06-Dec-16	4500-Cl-B	
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**T-1 8
H602694-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	128		16.0	mg/kg	4	6120601	AC	06-Dec-16	4500-Cl-B	
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**T-2 0-1
H602694-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	3040		16.0	mg/kg	4	6120601	AC	06-Dec-16	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<0.050		0.050	mg/kg	50	6120606	MS	06-Dec-16	8021B	
Toluene*	1.56		0.050	mg/kg	50	6120606	MS	06-Dec-16	8021B	
Ethylbenzene*	1.97		0.050	mg/kg	50	6120606	MS	06-Dec-16	8021B	
Total Xylenes*	8.95		0.150	mg/kg	50	6120606	MS	06-Dec-16	8021B	
Total BTEX	12.5		0.300	mg/kg	50	6120606	MS	06-Dec-16	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			161 %	73.6-140		6120606	MS	06-Dec-16	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10	33.3		10.0	mg/kg	1	6120204	MS	03-Dec-16	8015B	
DRO >C10-C28	144		10.0	mg/kg	1	6120204	MS	03-Dec-16	8015B	
<i>Surrogate: 1-Chlorooctane</i>			61.5 %	35-147		6120204	MS	03-Dec-16	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			47.2 %	28-171		6120204	MS	03-Dec-16	8015B	

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Analytical Results For:

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**T-2 2
H602694-08 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	464		16.0	mg/kg	4	6120601	AC	06-Dec-16	4500-Cl-B	
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Analytical Results For:

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**T-2 3
H602694-09 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	272		16.0	mg/kg	4	6120601	AC	06-Dec-16	4500-Cl-B	
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**T-2 4
H602694-10 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	640		16.0	mg/kg	4	6120601	AC	06-Dec-16	4500-Cl-B	
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Analytical Results For:

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**T-2 6
H602694-11 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	352		16.0	mg/kg	4	6120601	AC	06-Dec-16	4500-Cl-B	
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**T-2 8
H602694-12 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	48.0		16.0	mg/kg	4	6120601	AC	06-Dec-16	4500-Cl-B	
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Analytical Results For:

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Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6120504 - 1:4 DI Water										
Blank (6120504-BLK1) Prepared & Analyzed: 05-Dec-16										
Chloride	ND	16.0	mg/kg							
LCS (6120504-BS1) Prepared & Analyzed: 05-Dec-16										
Chloride	416	16.0	mg/kg	400		104	80-120			
LCS Dup (6120504-BSD1) Prepared & Analyzed: 05-Dec-16										
Chloride	400	16.0	mg/kg	400		100	80-120	3.92	20	
Batch 6120601 - 1:4 DI Water										
Blank (6120601-BLK1) Prepared & Analyzed: 06-Dec-16										
Chloride	ND	16.0	mg/kg							
LCS (6120601-BS1) Prepared & Analyzed: 06-Dec-16										
Chloride	416	16.0	mg/kg	400		104	80-120			
LCS Dup (6120601-BSD1) Prepared & Analyzed: 06-Dec-16										
Chloride	416	16.0	mg/kg	400		104	80-120	0.00	20	

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Analytical Results For:

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Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 6120606 - Volatiles

Blank (6120606-BLK1)

Prepared & Analyzed: 06-Dec-16

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0590		mg/kg	0.0500		118	73.6-140			

LCS (6120606-BS1)

Prepared & Analyzed: 06-Dec-16

Benzene	2.16	0.050	mg/kg	2.00		108	82.6-122			
Toluene	2.23	0.050	mg/kg	2.00		112	72.9-122			
Ethylbenzene	2.17	0.050	mg/kg	2.00		108	65.4-131			
Total Xylenes	6.58	0.150	mg/kg	6.00		110	73.8-125			
Surrogate: 4-Bromofluorobenzene (PID)	0.0587		mg/kg	0.0500		117	73.6-140			

LCS Dup (6120606-BSD1)

Prepared & Analyzed: 06-Dec-16

Benzene	2.11	0.050	mg/kg	2.00		106	82.6-122	2.15	8.23	
Toluene	2.19	0.050	mg/kg	2.00		110	72.9-122	1.86	8.71	
Ethylbenzene	2.13	0.050	mg/kg	2.00		107	65.4-131	1.62	9.46	
Total Xylenes	6.46	0.150	mg/kg	6.00		108	73.8-125	1.84	8.66	
Surrogate: 4-Bromofluorobenzene (PID)	0.0597		mg/kg	0.0500		119	73.6-140			

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Analytical Results For:

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Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 6120204 - General Prep - Organics

Blank (6120204-BLK1)			Prepared & Analyzed: 02-Dec-16							
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	39.0		mg/kg	50.0		78.1	35-147			
Surrogate: 1-Chlorooctadecane	39.4		mg/kg	50.0		78.7	28-171			

LCS (6120204-BS1)			Prepared & Analyzed: 02-Dec-16							
GRO C6-C10	182	10.0	mg/kg	200		90.9	76.7-115			
DRO >C10-C28	192	10.0	mg/kg	200		96.0	78.3-122			
Total TPH C6-C28	374	10.0	mg/kg	400		93.5	79.8-117			
Surrogate: 1-Chlorooctane	39.1		mg/kg	50.0		78.3	35-147			
Surrogate: 1-Chlorooctadecane	39.8		mg/kg	50.0		79.7	28-171			

LCS Dup (6120204-BSD1)			Prepared & Analyzed: 02-Dec-16							
GRO C6-C10	185	10.0	mg/kg	200		92.6	76.7-115	1.79	9.42	
DRO >C10-C28	197	10.0	mg/kg	200		98.4	78.3-122	2.43	13.2	
Total TPH C6-C28	382	10.0	mg/kg	400		95.5	79.8-117	2.12	10.7	
Surrogate: 1-Chlorooctane	40.0		mg/kg	50.0		80.0	35-147			
Surrogate: 1-Chlorooctadecane	40.8		mg/kg	50.0		81.6	28-171			

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



TETRA TECH

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

CLIENT NAME: **HL022698094**

SITE MANAGER: **11e Tovaroz**

PROJECT NO.: **03** PROJECT NAME: **Provision 12 Federal #8**

LAB I.D. NUMBER: **2016** DATE: **2016** TIME: **11:30** MATRIX: **6** COMP: **X** GRAB: **T-1** SAMPLE IDENTIFICATION: **See Co**

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD				ANALYSIS REQUEST (Circle or Specify Method No.)
									HCL	HNO3	ICE	NONE	
01A	11/30		6	X	T-1	0-1						X	BTEX 8021B
21B						2						X	TPH 8015 MOD. TX1005 (Ext. to C35)
34						3						X	PAH 8270
41E						4						X	RCRA Metals Ag As Ba Cd Cr Pb Hg Se
513						4						X	TCLP Metals Ag As Ba Cd Vr Pd Hg Se
614						8						X	TCLP Volatiles
715						0-1						X	TCLP Semi Volatiles
816						2						X	RCI
917						3						X	GC.MS Vol. 8240/8260/624
1018						4						X	GC.MS Semi. Vol. 8270/625
												X	PCB's 8080/608
												X	Pest. 808/608
												X	Chloride
												X	Gamma Spec.
												X	Alpha Beta (Air)
												X	PLM (Asbestos)
												X	Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature) **[Signature]** Date: **12-16-16** Time: **14:15** RECEIVED BY: (Signature) **[Signature]** Date: **12/16/16** Time: **14:15**

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

RECEIVING LABORATORY: _____ RECEIVED BY: (Signature) _____

ADDRESS: _____ CITY: _____ STATE: _____ PHONE: _____ ZIP: _____ DATE: _____

SAMPLE CONDITION WHEN RECEIVED: **1.40 #75** REMARKS: **Run down samples if Benzene exceeds 10mg/kg, BTEX exceeds 50 mg/kg or TPH exceeds 5,000 mg/kg**

SAMPLE SHIPPED BY: (Circle) **UPS** AIRBILL #: _____

HAND DELIVERED: _____ OTHER: _____ Results by: _____

TETRA TECH CONTACT PERSON: _____

RUSH Charges Authorized: Yes No

PAGE: **1** OF: **2**
ANALYSIS REQUEST
(Circle or Specify Method No.)

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 167800

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 167800
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	2/7/2023