[Sheldon L. Hitchcock]
[HSE Coordinator]

APPROVED
By Olivia Yu at 8:51 am, Nov 14, 2018

NMOCD grants closure to 1RP-4909.

September 5, 2018

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

Ryan Mann
New Mexico State Land Office
2827 N. Dal Paso Suite 117
Hobbs, NM 88240

Re: Closure Letter
Red Raider BKS State #005H
API #: 30-025-42758
RP#: 1RP-4909
Unit Letter P Section 25, Township 24S, Range 33E
Lea County, NM

Ms. Yu/Mr. Mann,

COG Operating, LLC (COG) is pleased to submit for your consideration the following closure report for the Red Raider BKS State #005H. This release occurred on December 29, 2017. Following the release an assessment of impacted soils was conducted. A remediation work plan was submitted to and subsequently approved by the New Mexico Oil Conservation Division (NMOCD) and New Mexico State Land Office (NMSLO). A copy of the approved work plan is attached in Appendix V.

BACKGROUND

The Red Raider BKS State #005H release is located in Unit Letter P, Section 25, Township 24 South and Range 33 East in Lea County, New Mexico. More specifically the latitude and longitude for this release are 32.1819897 North and -103.518572 West.

On December 29, 2017, the Little Joe regulator on the casing supplying gas to the scrubber froze and resulted in the release of approximately eighteen (18) barrels (bbls) of oil. All of the fluid remained on location. A vacuum truck was able to recover approximately thirteen (13) bbls of oil.

Remediation activities were conducted in accordance with the approved work plan and NMOCD/NMSLO stipulations. The analytical results from the NMOCD and NMSLO stipulated confirmation soil sampling activities are summarized in the tables below. A site diagram of the excavated area is presented in Appendix I.

GROUNDWATER AND SITE RANKING

According United States Geological Survey groundwater in the project vicinity is approximately eighteen (18) feet below ground surface (BGS) (Appendix II). No water well was observed within one-thousand (1,000) feet of the release site. Therefore the site ranking for this release is twenty (20) based on the following:

Depth to groundwater	<50-feet
Distance to surface water body	<1000-feet
Wellhead Protection Area	>1000-feet

CONFIRMATION SOIL SAMPLING RESULTS

June 26, 2018

Sample ID	Depth (feet)	Chloride (mg/kg)	Total TPH (mg/kg)	SOIL STATUS
T-1	1	500	684	EX-SITU
SW-1	N/A	118	108	IN-SITU
SW-2	N/A	263	<15.0	IN-SITU
SW-3	N/A	52.9	<15.0	IN-SITU

June 28, 2018

Sample ID	Depth (feet)	Chloride (mg/kg)	Total TPH (mg/kg)	SOIL STATUS
SW-4	N/A	212	<15.0	IN-SITU
SW-5	N/A	102	<14.9	IN-SITU
T-2	4	26.5	<15.0	IN-SITU

July 6, 2018

Sample ID	Depth (feet)	Chloride (mg/kg)	Total TPH (mg/kg)	SOIL STATUS
T-1	2	--	<10.0	IN-SITU

(--) Analysis not requested

REMEDIAL ACTIONS

- Initially the impacted area in the vicinity of sample location T-1 was excavated to the depth of one (1) foot BGS and the impacted area in the vicinity of sample location T-2 was excavated to the depth of four (4) feet BGS per the approved work plan.

- Confirmation soil samples were taken from the bottom and sidewalls of the excavated areas.

- Upon receipt of analytical results from the initial confirmation soil sampling event it was determined that the impacted area in the vicinity of T-1 would have to be excavated deeper.

- The impacted area in the vicinity of sample location T-1 was excavated to the depth of two (2) feet BGS and a confirmation soil sample was taken from the bottom of the excavation.

- All of the excavated material was hauled to an NMOCD approved solid waste disposal facility

- Upon receipt of analytical results confirming that all impacted soil above NMOCD RRAL's was successfully removed the excavation was backfilled and contoured to match the surrounding location.

CLOSURE REQUEST

COG Operating, LLC respectfully requests that the New Mexico Oil Conservation Division and the New Mexico State Land Office grant closure approval for the Red Raider BKS State #005H incident that occurred on December 29, 2017.

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

Sincerely,

Sheldon L. Hitchcock
HSE Coordinator
slhitchcock@concho.com

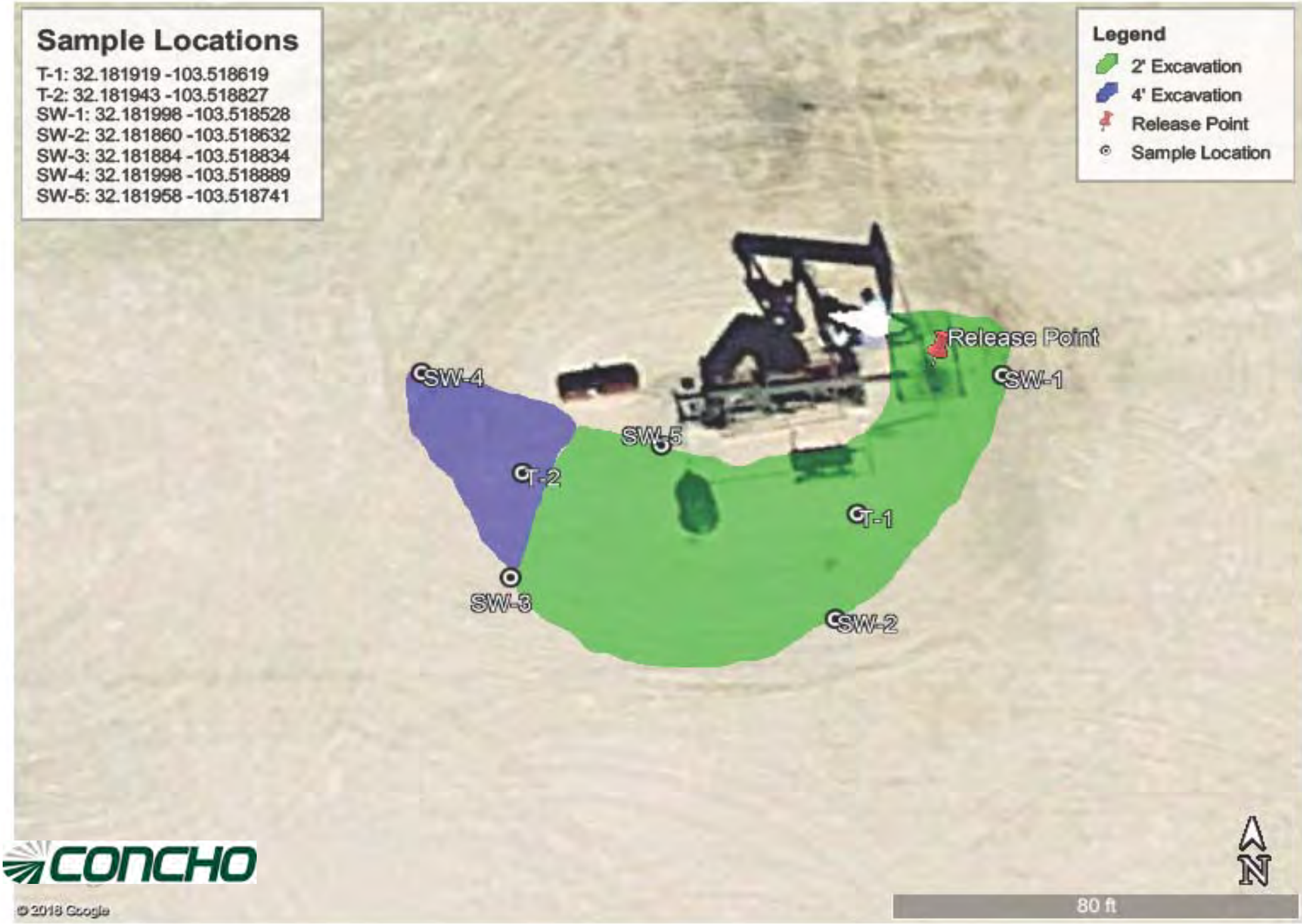
Enclosed:

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

APPENDIX I

December 29, 2017

Red Raider BKS State #005H



APPENDIX II

USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

Click to hideNews Bulletins

- Please see news on new formats
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 321127103310401

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 321127103310401 24S.33E.24.44444

Lea County, New Mexico
Latitude 32°11'27", Longitude 103°31'04" NAD27
Land-surface elevation 3,538 feet above NAVD88
This well is completed in the Ogallala Formation (121OGLL) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source o measure
1991-05-29		D	17.56			2		U		
1953-11-27		D	17.40			2		U		
1981-03-19		D	16.03			2		U		
1986-03-06		D	14.80			2		U		
1976-01-21		D	13.57			2		U		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

Questions about sites/data?
Feedback on this web site

APPENDIX III

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: **COG Operating, LLC** (OGRID# 229137)	Contact: **Robert McNeill**
Address: **600 West Illinois Avenue, Midland TX 79701**	Telephone No.: **432-683-7443**
Facility Name: **Red Raider BKS State #005H**	Facility Type: **Well**

Surface Owner: State	Mineral Owner: State	API No.: 30-025-42758

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	25	24S	33E	250	S	330	E	Lea

Latitude:32.1819897 **Longitude:** -103.518572 NAD83

NATURE OF RELEASE

Type of Release: Oil	Volume of Release:18 BBLS	Volume Recovered:13 BBLS
Source of Release: Well Head	Date and Hour of Occurrence: 12-29-2017 8:00 am	Date and Hour of Discovery: 12-29-2017 8:am
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED
By Olivia Yu at 9:39 am, Jan 03, 2018

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Little joe regulator on the casing supplying gas to the scrubber froze and failed sending oil up the casing resulting in the release of approximately 18 BBLS of oil. A vacuum truck was dispatched to recover free standing fluid approximately 13BBLS were recovered.

Describe Area Affected and Cleanup Action Taken.*

Fluid impacted the well pad. Concho will have the spill area evaluated for any possible impact from the release and we will present a remediation work plain to the NMOCD for approval prior to any significant remediation activates.

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: Christopher Gray	Approved by Environmental Specialist:
Title: HSE Coordinator	Approval Date: 1/3/2018 — Expiration Date:
E-mail Address: cgray@ concho.com	Conditions of Approval: see attached directive — Attached ☑
Date: 01-02-2018 Phone: 575-746-2010	

* Attach Additional Sheets If Necessary

1RP-4909

nOY1800336980

pOY1800337874

APPENDIX IV

District I
1625 N. French Dr., Hobbs, NM 88240
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State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
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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**: Red Raider BKS State #005H**	Facility Type**: Well**

Surface Owner: State	Mineral Owner: State	API No.: 30-025-42758

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	25	24S	33E	250	S	330	E	Lea

Latitude: 32.1819897 **Longitude**: -103.518572 NAD83

NATURE OF RELEASE

Type of Release: Oil	Volume of Release: 18bbls	Volume Recovered: 13bbls
Source of Release: Well Head	Date and Hour of Occurrence: 12/29/2018	Date and Hour of Discovery: 12/29/2017 8:00am
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

APPROVED
By Olivia Yu at 8:51 am, Nov 14, 2018

Describe Cause of Problem and Remedial Action Taken.*

The little joe regulator on the casing supplying gas to the scrubber froze sending oil up the casing.

Describe Area Affected and Cleanup Action Taken.*

All of the fluid remained on the well pad. A vacuum truck was utilized to recover freestanding fluids. Following the release COG had the site evaluated and drafted a remediation work plan that was subsequently approved by the NMOCD and NMSLO. The remediation was carried out 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: Sheldon Hitchcock	OIL CONSERVATION DIVISION
Printed Name: Sheldon L. Hitchcock	Approved by Environmental Specialist:
Title: HSE Coordinator	Approval Date: 11/14/2018 Expiration Date: xx/xx/xxxx
E-mail Address: slhitchcock@concho.com	Conditions of Approval: Attached ☐
Date: 9/5/2018 Phone: 575-746-2010	

* Attach Additional Sheets If Necessary

1RP-4909

APPENDIX V

[Sheldon L. Hitchcock]
[HSE Coordinator]

APPROVED
By Olivia Yu at 2:11 pm, Apr 09, 2018

NMOCD approves of the delineation completed for 1RP-4909 with these stipulations for proposed remediation:
1) excavate area represented by T1 to 1 ft. bgs and T2 to 4 ft. bgs.
2) confirmation bottom and sidewall samples for TPH extended and chlorides.

March 6, 2018

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

Mark Naranjo
New Mexico State Land Office
1001 S. Atkinson
Roswell, NM 88230

Re: Work Plan
Red Raider BKS State #005H
API #: 30-025-42758
RP#: 1RP-4909
Unit Letter P Section 25, Township 24S, Range 33E
Lea County, NM

Ms. Yu/Mr. Naranjo,

COG Operating, LLC (COG) is pleased to submit for your consideration the following remediation work plan for the Red Raider BKS State #005H. This plan is in response to an oil release that occurred on December 29, 2017. Subsequent to the release a C-141 initial report was approved by the New Mexico Oil Conservation Division (NMOCD) on January 3, 2018.

BACKGROUND

The Red Raider BKS State #005H release is located in Unit Letter P, Section 25, Township 24 South and Range 33 East in Lea County, New Mexico. More specifically the latitude and longitude for this release are 32.1819897 North and -103.518572 West.

On December 29, 2017, the Little Joe regulator on the casing supplying gas to the scrubber froze and resulted in the release of approximately eighteen (18) barrels (bbls) of oil. All of the fluid remained on location. A vacuum truck was able to recover approximately thirteen (13) bbls of oil.

On February 12, 2018 a site assessment and soil sampling were conducted in order to define the impacted area. A site diagram is included in Appendix I. The analytical results from the soil sampling activities are summarized in the table below.

GROUNDWATER AND SITE RANKING

According to the 2005 Chevron Texaco Groundwater Trend Map groundwater in the project vicinity is approximately fifty (50) 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 ten (10) based on the following:

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

Analytical Results

2/12/2018

Sample ID	Depth (feet)	Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	Total TPH (mg/kg)
T-1	0	<0.002	0.208	518	121
T-1	1	<0.002	<0.002	--	60
T-1	2	<0.002	<0.002	--	<15.0
T-2	0	<0.099	40.8	101	2980
T-2	1	<0.002	0.370	--	597
T-2	2	<0.002	0.192	--	350
T-2	3	<0.002	0.0642	--	171
T-2	5	<0.002	<0.002	--	26.7
T-2	6	<0.002	<0.002	--	<14.9

(--) Analysis not requested

PROPOSED REMEDIAL ACTIONS

- The impacted area will be excavated to a depth of one (1) foot BGS.
- Sidewall samples will be taken in all four cardinal directions and analyzed for total chlorides to confirm that all of the impacted soil above the NMOCD Recommended Remedial Action Levels (RRAL's) has been removed. The impacted area is fully vertically delineated therefore confirmation samples will not be taken at the bottom of the excavation.
- The excavated material will be hauled to an NMOCD approved solid waste disposal facility.
- Upon receipt of acceptable analytical results from the sidewall confirmation sampling the excavation will be backfilled with caliche and contoured to match the surrounding location.

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

Sincerely,

Sheldon Hitchcock

Sheldon L. Hitchcock
HSE Coordinator
slhitchcock@concho.com

Enclosed:

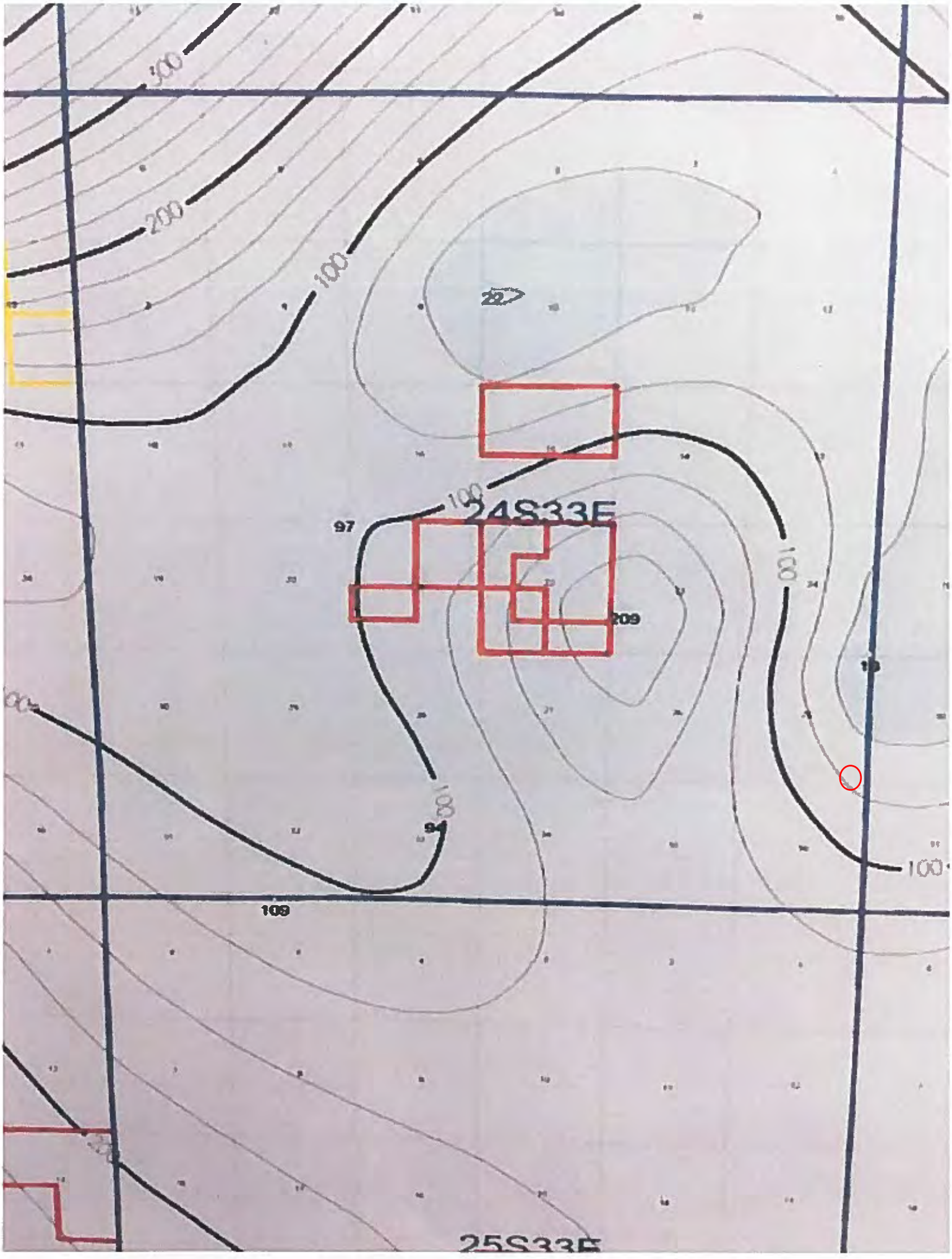
Appendix I: Site Diagram
Appendix II: Groundwater Data
Appendix III: Initial C-141 (Copy)
Appendix IV: Analytical Reports and Chain-of-Custody Forms

APPENDIX I

December 29, 2017

Red Raider BKS State #005H

APPENDIX II


100
200
100
22
24S33E
97
100
209
100
94
100
109
25S33E

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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: **Red Raider BKS State #005H**	Facility Type: **Well**

Surface Owner: State	Mineral Owner: State	API No.: 30-025-42758

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
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Latitude:32.1819897 **Longitude:** -103.518572 NAD83

NATURE OF RELEASE

Type of Release: Oil	Volume of Release:18 BBLS	Volume Recovered:13 BBLS
Source of Release: Well Head	Date and Hour of Occurrence: 12-29-2017 8:00 am	Date and Hour of Discovery: 12-29-2017 8:am
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED
By Olivia Yu at 9:39 am, Jan 03, 2018

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Little joe regulator on the casing supplying gas to the scrubber froze and failed sending oil up the casing resulting in the release of approximately 18 BBLS of oil. A vacuum truck was dispatched to recover free standing fluid approximately 13BBLS were recovered.

Describe Area Affected and Cleanup Action Taken.*

Fluid impacted the well pad. Concho will have the spill area evaluated for any possible impact from the release and we will present a remediation work plain to the NMOCD for approval prior to any significant remediation activates.

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: Christopher Gray	Approved by Environmental Specialist:
Title: HSE Coordinator	Approval Date: 1/3/2018 — Expiration Date:
E-mail Address: cgray@ concho.com	Conditions of Approval: see attached directive — Attached ☑
Date: 01-02-2018 Phone: 575-746-2010	

* Attach Additional Sheets If Necessary

1RP-4909

nOY1800336980

pOY1800337874

APPENDIX IV

Certificate of Analysis Summary 576404

COG Operating LLC, Artesia, NM

Project Name: Red Raider BKS ST #005H

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea Co, NM

Date Received in Lab: Wed Feb-14-18 11:45 am

Report Date: 23-FEB-18

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	576404-001		576404-002		576404-003		576404-004		576404-005		576404-006	
	Field Id:	T-1		T-1		T-1		T-2		T-2		T-2	
	Depth:			1- ft		2- ft				1- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-12-18 00:00		Feb-12-18 00:00		Feb-12-18 00:00		Feb-12-18 00:00		Feb-12-18 00:00		Feb-12-18 00:00	
BTEX by EPA 8021B	***Extracted:***	Feb-19-18 09:30		Feb-17-18 08:30		Feb-17-18 08:30		Feb-17-18 08:30		Feb-17-18 08:30		Feb-17-18 08:30	
	Analyzed:	Feb-19-18 15:32		Feb-18-18 02:09		Feb-18-18 02:47		Feb-17-18 23:56		Feb-18-18 03:06		Feb-18-18 03:25	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0199	0.0199	<0.00200	0.00200	<0.00199	0.00199	<0.0992	0.0992	<0.00198	0.00198	<0.00201	0.00201
Toluene		<0.0199	0.0199	<0.00200	0.00200	<0.00199	0.00199	5.41	0.0992	0.00939	0.00198	0.00958	0.00201
Ethylbenzene		0.0232	0.0199	<0.00200	0.00200	<0.00199	0.00199	7.39	0.0992	0.0516	0.00198	0.0208	0.00201
m,p-Xylenes		0.118	0.0398	<0.00401	0.00401	<0.00398	0.00398	20.2	0.198	0.197	0.00396	0.101	0.00402
o-Xylene		0.0663	0.0199	<0.00200	0.00200	<0.00199	0.00199	7.77	0.0992	0.112	0.00198	0.0623	0.00201
Total Xylenes		0.184	0.0199	<0.00200	0.00200	<0.00199	0.00199	28.0	0.0992	0.309	0.00198	0.163	0.00201
Total BTEX		0.208	0.0199	<0.00200	0.00200	<0.00199	0.00199	40.8	0.0992	0.370	0.00198	0.194	0.00201
Chloride by EPA 300	***Extracted:***	Feb-22-18 12:55						Feb-21-18 16:30					
	Analyzed:	Feb-22-18 13:53						Feb-21-18 22:40					
	Units/RL:	mg/kg	RL					mg/kg	RL				
Chloride		518	4.90					101	5.04				
TPH By SW8015 Mod	***Extracted:***	Feb-18-18 11:00		Feb-18-18 11:00		Feb-18-18 11:00		Feb-18-18 11:00		Feb-18-18 11:00		Feb-18-18 11:00	
	Analyzed:	Feb-18-18 13:40		Feb-18-18 15:01		Feb-18-18 15:29		Feb-18-18 15:54		Feb-18-18 16:20		Feb-18-18 16:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		16.4	15.0	<14.9	14.9	<14.9	14.9	749	15.0	74.3	15.0	43.0	15.0
Diesel Range Organics (DRO)		105	15.0	60.1	14.9	<14.9	14.9	2200	15.0	523	15.0	307	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<14.9	14.9	<14.9	14.9	34.6	15.0	<15.0	15.0	<15.0	15.0
Total TPH		121	15.0	60.1	14.9	<14.9	14.9	2980	15.0	597	15.0	350	15.0

Jessica Kramer
Odessa Laboratory Director

Certificate of Analysis Summary 576404

COG Operating LLC, Artesia, NM

Project Name: Red Raider BKS ST #005H

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea Co, NM

Date Received in Lab: Wed Feb-14-18 11:45 am

Report Date: 23-FEB-18

Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	576404-007		576404-008		576404-009				
	Field Id:	T-2		T-2		T-2				
	Depth:	3- ft		5- ft		6- ft				
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	Feb-12-18 00:00		Feb-12-18 00:00		Feb-12-18 00:00				
BTEX by EPA 8021B	***Extracted:***	Feb-17-18 08:30		Feb-19-18 09:30		Feb-19-18 09:30				
	Analyzed:	Feb-18-18 01:50		Feb-19-18 12:26		Feb-19-18 12:45				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200			
Toluene		0.00426	0.00200	<0.00201	0.00201	<0.00200	0.00200			
Ethylbenzene		0.00738	0.00200	<0.00201	0.00201	<0.00200	0.00200			
m,p-Xylenes		0.0310	0.00399	<0.00402	0.00402	<0.00400	0.00400			
o-Xylene		0.0216	0.00200	<0.00201	0.00201	<0.00200	0.00200			
Total Xylenes		0.0526	0.00200	<0.00201	0.00201	<0.00200	0.00200			
Total BTEX		0.0642	0.00200	<0.00201	0.00201	<0.00200	0.00200			
TPH By SW8015 Mod	***Extracted:***	Feb-18-18 11:00		Feb-18-18 11:00		Feb-18-18 11:00				
	Analyzed:	Feb-18-18 17:11		Feb-18-18 17:37		Feb-18-18 18:03				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		18.0	15.0	<15.0	15.0	<14.9	14.9			
Diesel Range Organics (DRO)		153	15.0	26.7	15.0	<14.9	14.9			
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<14.9	14.9			
Total TPH		171	15.0	26.7	15.0	<14.9	14.9			

Jessica Kramer
Odessa Laboratory Director

Analytical Report 576404

for

COG Operating LLC

Project Manager: Sheldon Hitchcock

Red Raider BKS ST #005H

23-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)

23-FEB-18

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

Reference: XENCO Report No(s): **576404**
Red Raider BKS ST #005H
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) 576404. 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. 576404 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

Jessica Kramer
Odessa Laboratory Director

Sample Cross Reference 576404

COG Operating LLC, Artesia, NM

Red Raider BKS ST #005H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1	S	02-12-18 00:00		576404-001
T-1	S	02-12-18 00:00	1 ft	576404-002
T-1	S	02-12-18 00:00	2 ft	576404-003
T-2	S	02-12-18 00:00		576404-004
T-2	S	02-12-18 00:00	1 ft	576404-005
T-2	S	02-12-18 00:00	2 ft	576404-006
T-2	S	02-12-18 00:00	3 ft	576404-007
T-2	S	02-12-18 00:00	5 ft	576404-008
T-2	S	02-12-18 00:00	6 ft	576404-009

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3041450 BTEX by EPA 8021B
Dilution due to excessive hydrovarbons.

Batch: LBA-3041581 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 576404

COG Operating LLC, Artesia, NM

Red Raider BKS ST #005H

Sample Id:	**T-1**	Matrix:	Soil	Date Received:	02.14.18 11.45
Lab Sample Id:	576404-001	Date Collected:	02.12.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.22.18 12.55	Basis:	Wet Weight
Seq Number:	3041865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**518**	4.90	mg/kg	02.22.18 13.53		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 11.00	Basis:	Wet Weight
Seq Number:	3041602				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**16.4**	15.0	mg/kg	02.18.18 13.40		1
Diesel Range Organics (DRO)	C10C28DRO	**105**	15.0	mg/kg	02.18.18 13.40		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.18.18 13.40	U	1
Total TPH	PHC635	**121**	15.0	mg/kg	02.18.18 13.40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.18.18 13.40	
o-Terphenyl	84-15-1	98	%	70-135	02.18.18 13.40	

Certificate of Analytical Results 576404

COG Operating LLC, Artesia, NM

Red Raider BKS ST #005H

Sample Id:	**T-1**	Matrix:	Soil	Date Received:	02.14.18 11.45
Lab Sample Id:	576404-001	Date Collected:	02.12.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 09.30	Basis:	Wet Weight
Seq Number:	3041581				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	02.19.18 15.32	U	10
Toluene	108-88-3	<0.0199	0.0199	mg/kg	02.19.18 15.32	U	10
Ethylbenzene	100-41-4	**0.0232**	0.0199	mg/kg	02.19.18 15.32		10
m,p-Xylenes	179601-23-1	**0.118**	0.0398	mg/kg	02.19.18 15.32		10
o-Xylene	95-47-6	**0.0663**	0.0199	mg/kg	02.19.18 15.32		10
Total Xylenes	1330-20-7	**0.184**	0.0199	mg/kg	02.19.18 15.32		10
Total BTEX		**0.208**	0.0199	mg/kg	02.19.18 15.32		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	80-120	02.19.18 15.32	
1,4-Difluorobenzene	540-36-3	80	%	80-120	02.19.18 15.32	

Certificate of Analytical Results 576404

COG Operating LLC, Artesia, NM

Red Raider BKS ST #005H

Sample Id:	**T-1**	Matrix:	Soil	Date Received:	02.14.18 11.45
Lab Sample Id:	576404-002	Date Collected:	02.12.18 00.00	Sample Depth:	1 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 11.00	Basis:	Wet Weight
Seq Number:	3041602				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.18.18 15.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	**60.1**	14.9	mg/kg	02.18.18 15.01		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.18.18 15.01	U	1
Total TPH	PHC635	**60.1**	14.9	mg/kg	02.18.18 15.01		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	02.18.18 15.01	
o-Terphenyl	84-15-1	99	%	70-135	02.18.18 15.01	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.17.18 08.30	Basis:	Wet Weight
Seq Number:	3041450				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.18.18 02.09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.18.18 02.09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.18.18 02.09	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.18.18 02.09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.18.18 02.09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.18.18 02.09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.18.18 02.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	80-120	02.18.18 02.09	
1,4-Difluorobenzene	540-36-3	84	%	80-120	02.18.18 02.09	

Certificate of Analytical Results 576404

COG Operating LLC, Artesia, NM

Red Raider BKS ST #005H

Sample Id:	**T-1**	Matrix:	Soil	Date Received:	02.14.18 11.45
Lab Sample Id:	576404-003	Date Collected:	02.12.18 00.00	Sample Depth:	2 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 11.00	Basis:	Wet Weight
Seq Number:	3041602				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.18.18 15.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.18.18 15.29	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.18.18 15.29	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.18.18 15.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	02.18.18 15.29	
o-Terphenyl	84-15-1	101	%	70-135	02.18.18 15.29	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.17.18 08.30	Basis:	Wet Weight
Seq Number:	3041450				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.18.18 02.47	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.18.18 02.47	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.18.18 02.47	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.18.18 02.47	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.18.18 02.47	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.18.18 02.47	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.18.18 02.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	81	%	80-120	02.18.18 02.47	
4-Bromofluorobenzene	460-00-4	106	%	80-120	02.18.18 02.47	

Certificate of Analytical Results 576404

COG Operating LLC, Artesia, NM

Red Raider BKS ST #005H

Sample Id:	**T-2**	Matrix:	Soil	Date Received:	02.14.18 11.45
Lab Sample Id:	576404-004	Date Collected:	02.12.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	OJS	Date Prep:	02.21.18 16.30	Basis:	Wet Weight
Seq Number:	3041784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**101**	5.04	mg/kg	02.21.18 22.40		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 11.00	Basis:	Wet Weight
Seq Number:	3041602				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**749**	15.0	mg/kg	02.18.18 15.54		1
Diesel Range Organics (DRO)	C10C28DRO	**2200**	15.0	mg/kg	02.18.18 15.54		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**34.6**	15.0	mg/kg	02.18.18 15.54		1
Total TPH	PHC635	**2980**	15.0	mg/kg	02.18.18 15.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	02.18.18 15.54	
o-Terphenyl	84-15-1	128	%	70-135	02.18.18 15.54	

Certificate of Analytical Results 576404

COG Operating LLC, Artesia, NM

Red Raider BKS ST #005H

Sample Id:	**T-2**	Matrix:	Soil	Date Received:	02.14.18 11.45
Lab Sample Id:	576404-004	Date Collected:	02.12.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.17.18 08.30	Basis:	Wet Weight
Seq Number:	3041450				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0992	0.0992	mg/kg	02.17.18 23.56	U	50
Toluene	108-88-3	**5.41**	0.0992	mg/kg	02.17.18 23.56		50
Ethylbenzene	100-41-4	**7.39**	0.0992	mg/kg	02.17.18 23.56		50
m,p-Xylenes	179601-23-1	**20.2**	0.198	mg/kg	02.17.18 23.56		50
o-Xylene	95-47-6	**7.77**	0.0992	mg/kg	02.17.18 23.56		50
Total Xylenes	1330-20-7	**28.0**	0.0992	mg/kg	02.17.18 23.56		50
Total BTEX		**40.8**	0.0992	mg/kg	02.17.18 23.56		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	87	%	80-120	02.17.18 23.56	
4-Bromofluorobenzene	460-00-4	111	%	80-120	02.17.18 23.56	

Certificate of Analytical Results 576404

COG Operating LLC, Artesia, NM

Red Raider BKS ST #005H

Sample Id:	**T-2**	Matrix:	Soil	Date Received:	02.14.18 11.45
Lab Sample Id:	576404-005	Date Collected:	02.12.18 00.00	Sample Depth:	1 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 11.00	Basis:	Wet Weight
Seq Number:	3041602				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**74.3**	15.0	mg/kg	02.18.18 16.20		1
Diesel Range Organics (DRO)	C10C28DRO	**523**	15.0	mg/kg	02.18.18 16.20		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.18.18 16.20	U	1
Total TPH	PHC635	**597**	15.0	mg/kg	02.18.18 16.20		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	02.18.18 16.20	
o-Terphenyl	84-15-1	122	%	70-135	02.18.18 16.20	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.17.18 08.30	Basis:	Wet Weight
Seq Number:	3041450				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.18.18 03.06	U	1
Toluene	108-88-3	**0.00939**	0.00198	mg/kg	02.18.18 03.06		1
Ethylbenzene	100-41-4	**0.0516**	0.00198	mg/kg	02.18.18 03.06		1
m,p-Xylenes	179601-23-1	**0.197**	0.00396	mg/kg	02.18.18 03.06		1
o-Xylene	95-47-6	**0.112**	0.00198	mg/kg	02.18.18 03.06		1
Total Xylenes	1330-20-7	**0.309**	0.00198	mg/kg	02.18.18 03.06		1
Total BTEX		**0.370**	0.00198	mg/kg	02.18.18 03.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83	%	80-120	02.18.18 03.06	
4-Bromofluorobenzene	460-00-4	113	%	80-120	02.18.18 03.06	

Certificate of Analytical Results 576404

COG Operating LLC, Artesia, NM

Red Raider BKS ST #005H

Sample Id:	**T-2**	Matrix:	Soil	Date Received:	02.14.18 11.45
Lab Sample Id:	576404-006	Date Collected:	02.12.18 00.00	Sample Depth:	2 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 11.00	Basis:	Wet Weight
Seq Number:	3041602				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**43.0**	15.0	mg/kg	02.18.18 16.46		1
Diesel Range Organics (DRO)	C10C28DRO	**307**	15.0	mg/kg	02.18.18 16.46		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.18.18 16.46	U	1
Total TPH	PHC635	**350**	15.0	mg/kg	02.18.18 16.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	02.18.18 16.46	
o-Terphenyl	84-15-1	106	%	70-135	02.18.18 16.46	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.17.18 08.30	Basis:	Wet Weight
Seq Number:	3041450				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.18.18 03.25	U	1
Toluene	108-88-3	**0.00958**	0.00201	mg/kg	02.18.18 03.25		1
Ethylbenzene	100-41-4	**0.0208**	0.00201	mg/kg	02.18.18 03.25		1
m,p-Xylenes	179601-23-1	**0.101**	0.00402	mg/kg	02.18.18 03.25		1
o-Xylene	95-47-6	**0.0623**	0.00201	mg/kg	02.18.18 03.25		1
Total Xylenes	1330-20-7	**0.163**	0.00201	mg/kg	02.18.18 03.25		1
Total BTEX		**0.194**	0.00201	mg/kg	02.18.18 03.25		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	80-120	02.18.18 03.25	
1,4-Difluorobenzene	540-36-3	83	%	80-120	02.18.18 03.25	

Certificate of Analytical Results 576404

COG Operating LLC, Artesia, NM

Red Raider BKS ST #005H

Sample Id:	**T-2**	Matrix:	Soil	Date Received:	02.14.18 11.45
Lab Sample Id:	576404-007	Date Collected:	02.12.18 00.00	Sample Depth:	3 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 11.00	Basis:	Wet Weight
Seq Number:	3041602				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**18.0**	15.0	mg/kg	02.18.18 17.11		1
Diesel Range Organics (DRO)	C10C28DRO	**153**	15.0	mg/kg	02.18.18 17.11		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.18.18 17.11	U	1
Total TPH	PHC635	**171**	15.0	mg/kg	02.18.18 17.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	02.18.18 17.11	
o-Terphenyl	84-15-1	115	%	70-135	02.18.18 17.11	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.17.18 08.30	Basis:	Wet Weight
Seq Number:	3041450				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.18.18 01.50	U	1
Toluene	108-88-3	**0.00426**	0.00200	mg/kg	02.18.18 01.50		1
Ethylbenzene	100-41-4	**0.00738**	0.00200	mg/kg	02.18.18 01.50		1
m,p-Xylenes	179601-23-1	**0.0310**	0.00399	mg/kg	02.18.18 01.50		1
o-Xylene	95-47-6	**0.0216**	0.00200	mg/kg	02.18.18 01.50		1
Total Xylenes	1330-20-7	**0.0526**	0.00200	mg/kg	02.18.18 01.50		1
Total BTEX		**0.0642**	0.00200	mg/kg	02.18.18 01.50		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	81	%	80-120	02.18.18 01.50	
4-Bromofluorobenzene	460-00-4	114	%	80-120	02.18.18 01.50	

Certificate of Analytical Results 576404

COG Operating LLC, Artesia, NM

Red Raider BKS ST #005H

Sample Id:	**T-2**	Matrix:	Soil	Date Received:	02.14.18 11.45
Lab Sample Id:	576404-008	Date Collected:	02.12.18 00.00	Sample Depth:	5 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 11.00	Basis:	Wet Weight
Seq Number:	3041602				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.18.18 17.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	**26.7**	15.0	mg/kg	02.18.18 17.37		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.18.18 17.37	U	1
Total TPH	PHC635	**26.7**	15.0	mg/kg	02.18.18 17.37		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	02.18.18 17.37	
o-Terphenyl	84-15-1	115	%	70-135	02.18.18 17.37	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 09.30	Basis:	Wet Weight
Seq Number:	3041581				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.19.18 12.26	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.19.18 12.26	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.19.18 12.26	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.19.18 12.26	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.19.18 12.26	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.19.18 12.26	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.19.18 12.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	82	%	80-120	02.19.18 12.26	
4-Bromofluorobenzene	460-00-4	107	%	80-120	02.19.18 12.26	

Certificate of Analytical Results 576404

COG Operating LLC, Artesia, NM

Red Raider BKS ST #005H

Sample Id:	**T-2**	Matrix:	Soil	Date Received:	02.14.18 11.45
Lab Sample Id:	576404-009	Date Collected:	02.12.18 00.00	Sample Depth:	6 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.18.18 11.00	Basis:	Wet Weight
Seq Number:	3041602				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.18.18 18.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.18.18 18.03	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.18.18 18.03	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.18.18 18.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	02.18.18 18.03	
o-Terphenyl	84-15-1	104	%	70-135	02.18.18 18.03	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.19.18 09.30	Basis:	Wet Weight
Seq Number:	3041581				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.19.18 12.45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.19.18 12.45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.19.18 12.45	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.19.18 12.45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.19.18 12.45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.19.18 12.45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.19.18 12.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	81	%	80-120	02.19.18 12.45	
4-Bromofluorobenzene	460-00-4	105	%	80-120	02.19.18 12.45	

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

QC Summary 576404

COG Operating LLC

Red Raider BKS ST #005H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3041784 Matrix: Solid Date Prep: 02.21.18
MB Sample Id: 7639546-1-BLK LCS Sample Id: 7639546-1-BKS LCSD Sample Id: 7639546-1-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	273	109	274	110	90-110	0	20	mg/kg	02.21.18 21:31	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3041865 Matrix: Solid Date Prep: 02.22.18
MB Sample Id: 7639620-1-BLK LCS Sample Id: 7639620-1-BKS LCSD Sample Id: 7639620-1-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	268	107	258	103	90-110	4	20	mg/kg	02.22.18 12:44	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3041784 Matrix: Soil Date Prep: 02.21.18
Parent Sample Id: 576403-019 MS Sample Id: 576403-019 S MSD Sample Id: 576403-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	184	248	454	109	424	97	90-110	7	20	mg/kg	02.21.18 21:47	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3041865 Matrix: Soil Date Prep: 02.22.18
Parent Sample Id: 576503-003 MS Sample Id: 576503-003 S MSD Sample Id: 576503-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	66.2	244	353	118	321	104	90-110	9	20	mg/kg	02.22.18 13:01	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3041865 Matrix: Soil Date Prep: 02.22.18
Parent Sample Id: 576503-004 MS Sample Id: 576503-004 S MSD Sample Id: 576503-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	42.3	252	345	120	330	114	90-110	4	20	mg/kg	02.22.18 14:25	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

QC Summary 576404

COG Operating LLC

Red Raider BKS ST #005H

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3041602 Matrix: Solid Date Prep: 02.18.18
MB Sample Id: 7639462-1-BLK LCS Sample Id: 7639462-1-BKS LCSD Sample Id: 7639462-1-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	864	86	882	88	70-135	2	35	mg/kg	02.18.18 12:46	
Diesel Range Organics (DRO)	<15.0	1000	943	94	965	97	70-135	2	35	mg/kg	02.18.18 12:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		111		109		70-135	%	02.18.18 12:46
o-Terphenyl	118		111		112		70-135	%	02.18.18 12:46

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3041602 Matrix: Soil Date Prep: 02.18.18
Parent Sample Id: 576404-001 MS Sample Id: 576404-001 S MSD Sample Id: 576404-001 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)	16.4	1000	876	86	866	85	70-135	1	35	mg/kg	02.18.18 14:06	
Diesel Range Organics (DRO)	105	1000	1020	92	1010	91	70-135	1	35	mg/kg	02.18.18 14:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		116		70-135	%	02.18.18 14:06
o-Terphenyl	115		114		70-135	%	02.18.18 14:06

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3041450 Matrix: Solid Date Prep: 02.17.18
MB Sample Id: 7639379-1-BLK LCS Sample Id: 7639379-1-BKS LCSD Sample Id: 7639379-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0838	84	0.0801	80	70-130	5	35	mg/kg	02.17.18 18:53	
Toluene	<0.00200	0.100	0.0881	88	0.0845	85	70-130	4	35	mg/kg	02.17.18 18:53	
Ethylbenzene	<0.00200	0.100	0.0969	97	0.0937	94	71-129	3	35	mg/kg	02.17.18 18:53	
m,p-Xylenes	<0.00401	0.200	0.192	96	0.185	93	70-135	4	35	mg/kg	02.17.18 18:53	
o-Xylene	<0.00200	0.100	0.0962	96	0.0924	93	71-133	4	35	mg/kg	02.17.18 18:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	84		87		92		80-120	%	02.17.18 18:53
4-Bromofluorobenzene	100		111		117		80-120	%	02.17.18 18:53

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

QC Summary 576404

COG Operating LLC

Red Raider BKS ST #005H

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3041581 Matrix: Solid Date Prep: 02.19.18
MB Sample Id: 7639452-1-BLK LCS Sample Id: 7639452-1-BKS LCSD Sample Id: 7639452-1-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	0.0907	91	0.0908	91	70-130	0	35	mg/kg	02.19.18 08:55	
Toluene	<0.00199	0.0994	0.0960	97	0.0966	97	70-130	1	35	mg/kg	02.19.18 08:55	
Ethylbenzene	<0.00199	0.0994	0.107	108	0.109	109	71-129	2	35	mg/kg	02.19.18 08:55	
m,p-Xylenes	<0.00398	0.199	0.211	106	0.217	109	70-135	3	35	mg/kg	02.19.18 08:55	
o-Xylene	<0.00199	0.0994	0.103	104	0.106	106	71-133	3	35	mg/kg	02.19.18 08:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	82		83		89		80-120	%	02.19.18 08:55
4-Bromofluorobenzene	99		113		116		80-120	%	02.19.18 08:55

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3041581 Matrix: Soil Date Prep: 02.19.18
Parent Sample Id: 576793-001 MS Sample Id: 576793-001 S MSD Sample Id: 576793-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0817	82	0.0725	73	70-130	12	35	mg/kg	02.19.18 09:34	
Toluene	<0.00199	0.0996	0.0873	88	0.0776	78	70-130	12	35	mg/kg	02.19.18 09:34	
Ethylbenzene	<0.00199	0.0996	0.0959	96	0.0888	89	71-129	8	35	mg/kg	02.19.18 09:34	
m,p-Xylenes	<0.00398	0.199	0.189	95	0.175	88	70-135	8	35	mg/kg	02.19.18 09:34	
o-Xylene	<0.00199	0.0996	0.0917	92	0.0875	88	71-133	5	35	mg/kg	02.19.18 09:34	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	84		80		80-120	%	02.19.18 09:34
4-Bromofluorobenzene	111		119		80-120	%	02.19.18 09:34

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3041450 Matrix: Soil Date Prep: 02.17.18
Parent Sample Id: 576501-002 MS Sample Id: 576501-002 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0765	77	70-130	mg/kg	02.17.18 19:29	
Toluene	<0.00200	0.0998	0.0743	74	70-130	mg/kg	02.17.18 19:29	
Ethylbenzene	<0.00200	0.0998	0.0790	79	71-129	mg/kg	02.17.18 19:29	
m,p-Xylenes	<0.00399	0.200	0.153	77	70-135	mg/kg	02.17.18 19:29	
o-Xylene	<0.00200	0.0998	0.0802	80	71-133	mg/kg	02.17.18 19:29	

Surrogate	MS %Rec	MS Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		80-120	%	02.17.18 19:29
4-Bromofluorobenzene	115		80-120	%	02.17.18 19:29

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

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

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Midland, Texas (432-704-5251)

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Xenco Quote #

Xenco Job # 576404

Client / Reporting Information

Company Name / Branch: COG Operating, LLC

Company Address: 2407 Pecos Ave. Artesia NM 88210

Email: slhitchcock@concho.com Phone No: 575-703-6475
dneel2@concho.com; cgray@concho.com; rhaskell@concho.com

Project Contact: Sheldon Hitchcock

Samplers's Name: Sheldon Hitchcock

Project Information

Project Name/Number: Red Hayden Bks St #005H

Project Location: Lea Co NM

Invoice To: COG Operating, LLC
Attn: Robert McNeill
600 W. Illnois Ave.
Midland Tx, 79701

PO Number:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
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

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH EXTENDED (EPA8015M)	BTEX (EPA 8021B)	CHLORIDES (EPA 300)	Field Comments
1	T-1	0'			S	1									X	X	X	
2	T-1	1'			S	1												
3	T-1	2'			S	1												
4	T-2	0'			S	1												
5	T-2	1'			S	1												
6	T-2	2'			S	1												
7	T-2	3'			S	1												
8	T-2	4'			S	1												
9	T-2	6'			S	1												
10					S	1												

Temp: 3.2 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 3

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

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

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Stop Cr If ≤ 600 mg/kg

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		2/13-18 10:00	Denna Sheen	Denna Sheen	2-13-18 12:20	
2	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3						
4	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
5						2/14/18 11:45

Notice: 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 any losses or expenses incurred by the Client if such loses 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.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 02/14/2018 11:45:00 AM

Work Order #: 576404

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3
#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 Date: 02/14/2018

Checklist reviewed by: Jessica Kramer Date: 02/15/2018

Jessica Kramer

APPENDIX VI

Certificate of Analysis Summary 590693

COG Operating LLC, Artesia, NM

Project Name: Red Raider BKS St.#5

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea Co. NM

Date Received in Lab: Thu Jun-28-18 10:10 am

Report Date: 29-JUN-18

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	590693-001		590693-002		590693-003		590693-004					
	Field Id:	T-1'		SW-1		SW-2		SW-3					
	Depth:	1- ft		1- ft		1- ft		1- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Jun-26-18 13:00		Jun-26-18 13:05		Jun-26-18 13:10		Jun-26-18 13:15					
Chloride by EPA 300	***Extracted:***	Jun-28-18 12:45		Jun-28-18 12:45		Jun-28-18 12:45		Jun-28-18 12:45					
	Analyzed:	Jun-28-18 16:26		Jun-28-18 16:36		Jun-28-18 16:41		Jun-28-18 16:47					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		500	4.98	118	4.97	263	4.97	52.9	4.93				
TPH By SW8015 Mod	***Extracted:***	** ** ** **		** ** ** **		** ** ** **		** ** ** **					
	Analyzed:	Jun-28-18 17:46		Jun-28-18 18:08		Jun-28-18 18:28		Jun-28-18 18:49					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		21.3	15.0	37.3	15.0	<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		612	15.0	71.0	15.0	<15.0	15.0	<15.0	15.0				
Oil Range Hydrocarbons (ORO)		50.9	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total TPH		684	15.0	108	15.0	<15.0	15.0	<15.0	15.0				

Mike Kimmel
Client Services Manager

Analytical Report 590693

for

COG Operating LLC

Project Manager: Sheldon Hitchcock

Red Raider BKS St.#5

29-JUN-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), 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 (T104704400-18-15)
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)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

29-JUN-18

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

Reference: XENCO Report No(s): **590693**
Red Raider BKS St.#5
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) 590693. 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. 590693 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,

Mike Kimmel
Client Services Manager

Sample Cross Reference 590693

COG Operating LLC, Artesia, NM

Red Raider BKS St.#5

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1'	S	06-26-18 13:00	1 ft	590693-001
SW-1	S	06-26-18 13:05	1 ft	590693-002
SW-2	S	06-26-18 13:10	1 ft	590693-003
SW-3	S	06-26-18 13:15	1 ft	590693-004

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 590693

COG Operating LLC, Artesia, NM

Red Raider BKS St.#5

Sample Id:	**T-1'**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590693-001	Date Collected:	06.26.18 13.00	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.28.18 12.45	Basis:	Wet Weight
Seq Number:	3055016				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**500**	4.98	mg/kg	06.28.18 16.26		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.28.18 07.00	Basis:	Wet Weight
Seq Number:	3054940				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**21.3**	15.0	mg/kg	06.28.18 17.46		1
Diesel Range Organics (DRO)	C10C28DRO	**612**	15.0	mg/kg	06.28.18 17.46		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**50.9**	15.0	mg/kg	06.28.18 17.46		1
Total TPH	PHC635	**684**	15.0	mg/kg	06.28.18 17.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	06.28.18 17.46	
o-Terphenyl	84-15-1	101	%	70-135	06.28.18 17.46	

Certificate of Analytical Results 590693

COG Operating LLC, Artesia, NM

Red Raider BKS St.#5

Sample Id:	**SW-1**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590693-002	Date Collected:	06.26.18 13.05	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.28.18 12.45	Basis:	Wet Weight
Seq Number:	3055016				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**118**	4.97	mg/kg	06.28.18 16.36		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.28.18 07.00	Basis:	Wet Weight
Seq Number:	3054940				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**37.3**	15.0	mg/kg	06.28.18 18.08		1
Diesel Range Organics (DRO)	C10C28DRO	**71.0**	15.0	mg/kg	06.28.18 18.08		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.28.18 18.08	U	1
Total TPH	PHC635	**108**	15.0	mg/kg	06.28.18 18.08		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	06.28.18 18.08	
o-Terphenyl	84-15-1	99	%	70-135	06.28.18 18.08	

Certificate of Analytical Results 590693

COG Operating LLC, Artesia, NM

Red Raider BKS St.#5

Sample Id:	**SW-2**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590693-003	Date Collected:	06.26.18 13.10	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.28.18 12.45	Basis:	Wet Weight
Seq Number:	3055016				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**263**	4.97	mg/kg	06.28.18 16.41		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.28.18 07.00	Basis:	Wet Weight
Seq Number:	3054940				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.28.18 18.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.28.18 18.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.28.18 18.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.28.18 18.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	06.28.18 18.28	
o-Terphenyl	84-15-1	95	%	70-135	06.28.18 18.28	

Certificate of Analytical Results 590693

COG Operating LLC, Artesia, NM

Red Raider BKS St.#5

Sample Id:	**SW-3**	Matrix:	Soil	Date Received:	06.28.18 10.10
Lab Sample Id:	590693-004	Date Collected:	06.26.18 13.15	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.28.18 12.45	Basis:	Wet Weight
Seq Number:	3055016				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**52.9**	4.93	mg/kg	06.28.18 16.47		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.28.18 07.00	Basis:	Wet Weight
Seq Number:	3054940				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.28.18 18.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.28.18 18.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	06.28.18 18.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.28.18 18.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	06.28.18 18.49	
o-Terphenyl	84-15-1	94	%	70-135	06.28.18 18.49	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 590693

COG Operating LLC

Red Raider BKS St.#5

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3055016 Matrix: Solid Date Prep: 06.28.18
MB Sample Id: 7657526-1-BLK LCS Sample Id: 7657526-1-BKS LCSD Sample Id: 7657526-1-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	248	99	238	95	90-110	4	20	mg/kg	06.28.18 15:58	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3055016 Matrix: Soil Date Prep: 06.28.18
Parent Sample Id: 590692-001 MS Sample Id: 590692-001 S MSD Sample Id: 590692-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	635	249	822	75	831	79	90-110	1	20	mg/kg	06.28.18 16:15	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3055016 Matrix: Soil Date Prep: 06.28.18
Parent Sample Id: 590743-004 MS Sample Id: 590743-004 S MSD Sample Id: 590743-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13.0	245	248	96	250	97	90-110	1	20	mg/kg	06.28.18 17:41	

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3054940 Matrix: Solid Date Prep: 06.28.18
MB Sample Id: 7657513-1-BLK LCS Sample Id: 7657513-1-BKS LCSD Sample Id: 7657513-1-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	978	98	1020	102	70-135	4	20	mg/kg	06.28.18 10:29	
Diesel Range Organics (DRO)	<15.0	1000	1070	107	1130	113	70-135	5	20	mg/kg	06.28.18 10:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	82		115		127		70-135	%	06.28.18 10:29
o-Terphenyl	86		124		127		70-135	%	06.28.18 10:29

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

QC Summary 590693

COG Operating LLC

Red Raider BKS St.#5

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P

Seq Number: 3054940 Matrix: Soil Date Prep: 06.28.18

Parent Sample Id: 590434-020 MS Sample Id: 590434-020 S MSD Sample Id: 590434-020 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	888	89	922	92	70-135	4	20	mg/kg	06.28.18 11:31	
Diesel Range Organics (DRO)	<15.0	998	962	96	1010	101	70-135	5	20	mg/kg	06.28.18 11:31	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		118		70-135	%	06.28.18 11:31
o-Terphenyl	109		109		70-135	%	06.28.18 11:31

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

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

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

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

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

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Stafford,Texas (281-240-4200) | San Antonio, Texas (210-509-3334) | Phoenix, Arizona (480-355-0900)

Dallas Texas (214-902-0300) | Midland, Texas (432-704-5251)

www.xenco.com

Xenco Quote # | Xenco Job # 590693

Client / Reporting Information

Company Name / Branch: COG Operating, LLC

Company Address: 2407 Pecos Ave. Artesia NM 88210

Email: slhitchcock@concho.com Phone No: 575-703-6475
dneel2@concho.com; cgray@concho.com; rhaskell@concho.com

Project Contact: Sheldon Hitchcock

Samplers's Name: Sheldon Hitchcock

Project Information

Project Name/Number: Red Raider BRS St. #5

Project Location: Lea Co. NM

Invoice To: COG Operating, LLC
Attn: Robert McNeill
600 W. Illinois Ave.
Midland Tx, 79701

PO Number:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	Ice	TPH EXTENDED (EPA8015M)	BTEX (EPA 8021B)	CHLORIDES (EPA 300)	Field Comments
1	T-1 1'	1'	6/26/18	11:00	S	1								/	X		X	
2	SW-1	N/A	"	11:05	S	1								/	X		X	
3	SW-2	"	"	11:10	S	1								/	X		X	
4	SW-3	"	"	11:15	S	1								/	X		X	
5					S	1												
6					S	1												
7					S	1												
8					S	1												
9					S	1												
10					S	1												

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [X] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

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

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking # 772584593635

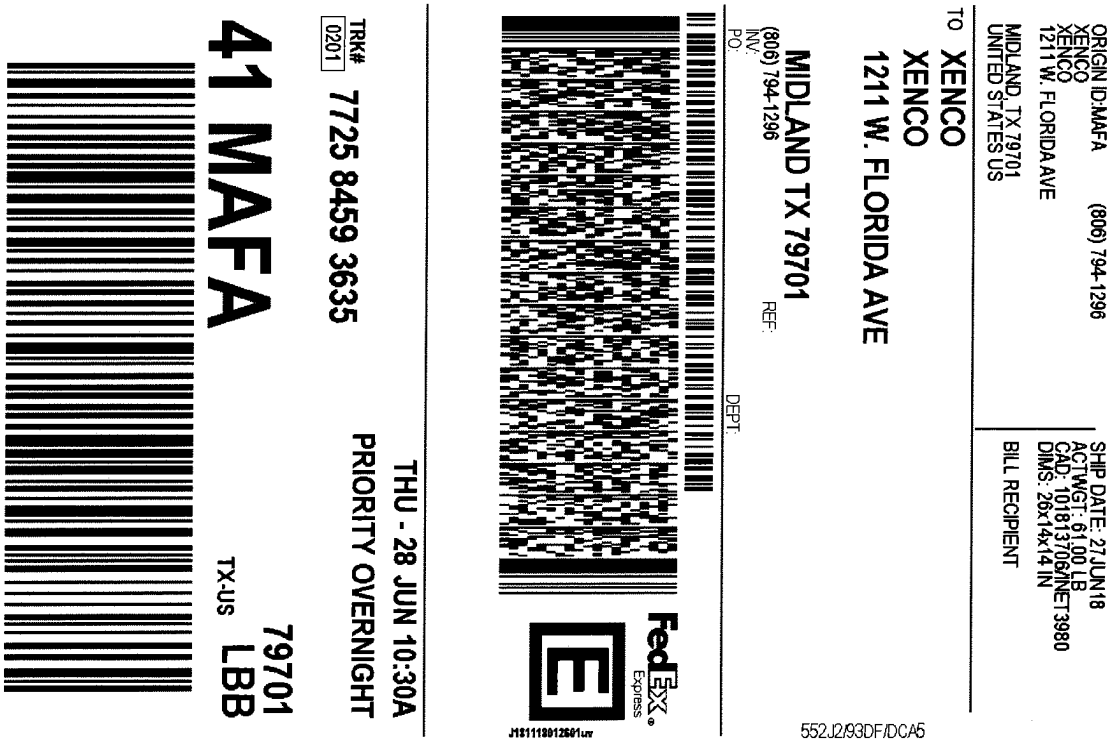
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Sheldon Hitchcock	6/27/18 14:00	Cami Wilson	Cami Wilson	6/27/18 15:30	2 Brittel 6/28/18 1010
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: X Cooler Temp.: 3.2 R Thermo. Corr. Factor: 0.0

Notice: 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 any losses or expenses incurred by the Client if such loses 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.

CUSTODY SEAL
Date
Signature

Thermo
SCIENTIFIC
90009



After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 06/28/2018 10:10:00 AM

Work Order #: 590693

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 06/28/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 06/28/2018
Jessica Kramer

Certificate of Analysis Summary 590993

COG Operating LLC, Artesia, NM

Project Name: Red Raider BKS. #005H

Project Id:
Contact: Sheldon Hitchcock
Project Location:

Date Received in Lab: Sat Jun-30-18 09:00 am
Report Date: 03-JUL-18
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	590993-001						
	Field Id:	SW-4						
	Depth:							
	Matrix:	SOIL						
	Sampled:	Jun-28-18 10:30						
Chloride by EPA 300	***Extracted:***	Jul-02-18 14:30						
	Analyzed:	Jul-02-18 21:18						
	Units/RL:	mg/kg	RL					
Chloride		212	49.6					
TPH By SW8015 Mod	***Extracted:***	Jul-02-18 11:00						
	Analyzed:	Jul-03-18 05:39						
	Units/RL:	mg/kg	RL					
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0					
Diesel Range Organics (DRO)		<15.0	15.0					
Oil Range Hydrocarbons (ORO)		<15.0	15.0					
Total TPH		<15.0	15.0					

Jessica Kramer
Project Assistant

Analytical Report 590993

for

COG Operating LLC

Project Manager: Sheldon Hitchcock

Red Raider BKS. #005H

03-JUL-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), 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 (T104704400-18-15)
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)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

03-JUL-18

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

Reference: XENCO Report No(s): **590993**
Red Raider BKS. #005H
Project Address:

Sheldon Hitchcock:

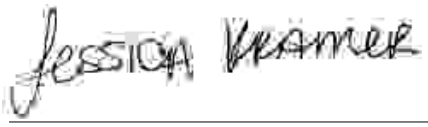
We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 590993. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory 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. 590993 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
Project Assistant

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

Sample Cross Reference 590993

COG Operating LLC, Artesia, NM

Red Raider BKS. #005H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW-4	S	06-28-18 10:30		590993-001

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 590993

COG Operating LLC, Artesia, NM

Red Raider BKS. #005H

Sample Id:	**SW-4**	Matrix:	Soil	Date Received:	06.30.18 09.00
Lab Sample Id:	590993-001	Date Collected:	06.28.18 10.30		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.02.18 14.30	Basis:	Wet Weight
Seq Number:	3055272				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**212**	49.6	mg/kg	07.02.18 21.18		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	07.02.18 11.00	Basis:	Wet Weight
Seq Number:	3055298				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.03.18 05.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.03.18 05.39	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.03.18 05.39	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.03.18 05.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	07.03.18 05.39	
o-Terphenyl	84-15-1	80	%	70-135	07.03.18 05.39	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 590993

COG Operating LLC

Red Raider BKS. #005H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3055272 Matrix: Solid Date Prep: 07.02.18
MB Sample Id: 7657698-1-BLK LCS Sample Id: 7657698-1-BKS LCSD Sample Id: 7657698-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	246	98	244	98	90-110	1	20	mg/kg	07.02.18 20:35	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3055272 Matrix: Soil Date Prep: 07.02.18
Parent Sample Id: 590700-003 MS Sample Id: 590700-003 S MSD Sample Id: 590700-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.98	249	230	92	234	94	90-110	2	20	mg/kg	07.02.18 20:51	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3055272 Matrix: Soil Date Prep: 07.02.18
Parent Sample Id: 590701-004 MS Sample Id: 590701-004 S MSD Sample Id: 590701-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	125	250	368	97	372	99	90-110	1	20	mg/kg	07.02.18 22:07	

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3055298 Matrix: Solid Date Prep: 07.02.18
MB Sample Id: 7657726-1-BLK LCS Sample Id: 7657726-1-BKS LCSD Sample Id: 7657726-1-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)	<14.9	992	877	88	885	89	70-135	1	20	mg/kg	07.02.18 15:19	
Diesel Range Organics (DRO)	<14.9	992	1120	113	1160	116	70-135	4	20	mg/kg	07.02.18 15:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		118		130		70-135	%	07.02.18 15:19
o-Terphenyl	100		120		122		70-135	%	07.02.18 15:19

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

QC Summary 590993

COG Operating LLC

Red Raider BKS. #005H

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P

Seq Number: 3055298 Matrix: Soil Date Prep: 07.02.18

Parent Sample Id: 590993-001 MS Sample Id: 590993-001 S MSD Sample Id: 590993-001 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)	<14.9	991	866	87	912	92	70-135	5	20	mg/kg	07.03.18 10:12	
Diesel Range Organics (DRO)	<14.9	991	913	92	854	86	70-135	7	20	mg/kg	07.03.18 10:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		116		70-135	%	07.03.18 10:12
o-Terphenyl	99		89		70-135	%	07.03.18 10:12

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

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

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

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

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

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Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Quote #
Xenco Job # 590993

Client / Reporting Information

Company Name / Branch: COG Operating, LLC
Company Address: 2407 Pecos Ave. Artesia NM 88210
Email: slhitchcock@concho.com Phone No: 575-703-6475
dneel2@concho.com; cgray@concho.com; rhaskell@concho.com
Project Contact: Sheldon Hitchcock
Samplers's Name: Sheldon Hitchcock

Project Information

Project Name/Number: Red Raider Brs St. #005H
Project Location:
Invoice To: COG Operating, LLC
Attn: Robert McNeill
600 W. Illnois Ave.
Midland Tx, 79701
PO Number:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH EXTENDED (EPA8015M)	BTEX (EPA 8021B)	CHLORIDES (EPA 300)	Field Comments
1	SW-4	N/A	6/29/18	10:30	S	1								/	X		X	
2					S	1												
3					S	1												
4					S	1												
5					S	1												
6					S	1												
7					S	1												
8					S	1												
9					S	1												
10					S	1												

Turnaround Time (Business days)

- [X] Same Day TAT
- [ ] Next Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 3 Day EMERGENCY
- [ ] 5 Day TAT
- [ ] 7 Day TAT
- [ ] Contract TAT

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

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level III Std QC+ Forms
- [ ] Level 3 (CLP Forms)
- [ ] TRRP Checklist
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] TRRP Level IV
- [ ] UST / RG -411

Notes:

FED-EX / UPS: Tracking # 772607057739

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Sheldon Hitchcock	6/29/18 13:19	1	2	6/29/18 15:30	2 6/30/18 0900
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
			5			3.2 NR 0.0

Notice: 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 any losses or expenses incurred by the Client if such loses 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.

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XENCO
XENCO
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MIDLAND, TX 79701
UNITED STATES US

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CAD: 101813706/INET3980
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FEDEX OFFICE PRINT & SHIP CENTER
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(806) 794-1296
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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 06/30/2018 09:00:00 AM

Work Order #: 590993

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 07/02/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 07/02/2018
Jessica Kramer

Certificate of Analysis Summary 590994

COG Operating LLC, Artesia, NM

Project Name: Red Raider BKS #005H

Project Id:
Contact: Sheldon Hitchcock
Project Location:

Date Received in Lab: Mon Jul-02-18 08:10 am
Report Date: 03-JUL-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	590994-001				590994-002							
	Field Id:	T-2 4'				SW-5							
	Depth:	4- ft											
	Matrix:	SOIL				SOIL							
	Sampled:	Jun-28-18 10:00				Jun-28-18 10:05							
Chloride by EPA 300	***Extracted:***	Jul-02-18 14:30				Jul-02-18 14:30							
	Analyzed:	Jul-03-18 09:03				Jul-02-18 21:39							
	Units/RL:	mg/kg	RL			mg/kg	RL						
Chloride		26.5	4.99			102	4.97						
TPH By SW8015 Mod	***Extracted:***	Jul-02-18 11:00				Jul-02-18 11:00							
	Analyzed:	Jul-03-18 05:03				Jul-03-18 05:21							
	Units/RL:	mg/kg	RL			mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0			<14.9	14.9						
Diesel Range Organics (DRO)		<15.0	15.0			<14.9	14.9						
Oil Range Hydrocarbons (ORO)		<15.0	15.0			<14.9	14.9						
Total TPH		<15.0	15.0			<14.9	14.9						

Jessica Kramer
Project Assistant

Analytical Report 590994

for

COG Operating LLC

Project Manager: Sheldon Hitchcock

Red Raider BKS #005H

03-JUL-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), 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 (T104704400-18-15)
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)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

03-JUL-18

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

Reference: XENCO Report No(s): **590994**
Red Raider BKS #005H
Project Address:

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) 590994. 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. 590994 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

Jessica Kramer
Project Assistant

Sample Cross Reference 590994

COG Operating LLC, Artesia, NM

Red Raider BKS #005H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-2 4'	S	06-28-18 10:00	4 ft	590994-001
SW-5	S	06-28-18 10:05	ft	590994-002

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 590994

COG Operating LLC, Artesia, NM

Red Raider BKS #005H

Sample Id:	**T-2 4'**	Matrix:	Soil	Date Received:	07.02.18 08.10
Lab Sample Id:	590994-001	Date Collected:	06.28.18 10.00	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.02.18 14.30	Basis:	Wet Weight
Seq Number:	3055272				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.5**	4.99	mg/kg	07.03.18 09.03		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	07.02.18 11.00	Basis:	Wet Weight
Seq Number:	3055298				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.03.18 05.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.03.18 05.03	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.03.18 05.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.03.18 05.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-135	07.03.18 05.03	
o-Terphenyl	84-15-1	80	%	70-135	07.03.18 05.03	

Certificate of Analytical Results 590994

COG Operating LLC, Artesia, NM

Red Raider BKS #005H

Sample Id:	**SW-5**	Matrix:	Soil	Date Received:	07.02.18 08.10
Lab Sample Id:	590994-002	Date Collected:	06.28.18 10.05		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	07.02.18 14.30	Basis:	Wet Weight
Seq Number:	3055272				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**102**	4.97	mg/kg	07.02.18 21.39		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	07.02.18 11.00	Basis:	Wet Weight
Seq Number:	3055298				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.03.18 05.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.03.18 05.21	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	07.03.18 05.21	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.03.18 05.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	07.03.18 05.21	
o-Terphenyl	84-15-1	82	%	70-135	07.03.18 05.21	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 590994

COG Operating LLC

Red Raider BKS #005H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3055272 Matrix: Solid Date Prep: 07.02.18
MB Sample Id: 7657698-1-BLK LCS Sample Id: 7657698-1-BKS LCSD Sample Id: 7657698-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	246	98	244	98	90-110	1	20	mg/kg	07.02.18 20:35	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3055272 Matrix: Soil Date Prep: 07.02.18
Parent Sample Id: 590700-003 MS Sample Id: 590700-003 S MSD Sample Id: 590700-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.98	249	230	92	234	94	90-110	2	20	mg/kg	07.02.18 20:51	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3055272 Matrix: Soil Date Prep: 07.02.18
Parent Sample Id: 590701-004 MS Sample Id: 590701-004 S MSD Sample Id: 590701-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	125	250	368	97	372	99	90-110	1	20	mg/kg	07.02.18 22:07	

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3055298 Matrix: Solid Date Prep: 07.02.18
MB Sample Id: 7657726-1-BLK LCS Sample Id: 7657726-1-BKS LCSD Sample Id: 7657726-1-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)	<14.9	992	877	88	885	89	70-135	1	20	mg/kg	07.02.18 15:19	
Diesel Range Organics (DRO)	<14.9	992	1120	113	1160	116	70-135	4	20	mg/kg	07.02.18 15:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		118		130		70-135	%	07.02.18 15:19
o-Terphenyl	100		120		122		70-135	%	07.02.18 15:19

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

QC Summary 590994

COG Operating LLC

Red Raider BKS #005H

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P

Seq Number: 3055298 Matrix: Soil Date Prep: 07.02.18

Parent Sample Id: 590993-001 MS Sample Id: 590993-001 S MSD Sample Id: 590993-001 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)	<14.9	991	866	87	912	92	70-135	5	20	mg/kg	07.03.18 10:12	
Diesel Range Organics (DRO)	<14.9	991	913	92	854	86	70-135	7	20	mg/kg	07.03.18 10:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		116		70-135	%	07.03.18 10:12
o-Terphenyl	99		89		70-135	%	07.03.18 10:12

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

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

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

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

CHAIN OF CUSTODY

XENCO LABORATORIES
Setting the Standard since 1990
Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
www.xenco.com
Phoenix, Arizona (480-355-0900)

Xenco Quote # | Xenco Job # 590994

Client / Reporting Information

Company Name / Branch: COG Operating, LLC
Company Address: 2407 Pecos Ave. Artesia NM 88210
Email: slhitchcock@concho.com Phone No: 575-703-6475
dneel2@concho.com; cgray@concho.com; rhaskell@concho.com
Project Contact: Sheldon Hitchcock
Samplers's Name: Sheldon Hitchcock

Project Information

Project Name/Number: Red Raider BKS St. #005H
Project Location: Lea CO. NM
Invoice To: COG Operating, LLC
Attn: Robert McNeill
600 W. Illnois Ave.
Midland Tx, 79701
PO Number:

Analytical Information

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	ICE	TPH EXTENDED (EPA8015M)	BTEX (EPA 8021B)	CHLORIDES (EPA 300)
1	T-2 4'	4'	6/28/2018	10:00	S	1								x	X		X
2	SW-5	N/A	6/28/2018	10:05	S	1								x	X		X
3					S	1											
4					S	1											
5					S	1											
6					S	1											
7					S	1											
8					S	1											
9					S	1											
10					S	1											

Matrix Codes

W = Water
S = Soil/Sed/Solid
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

Turnaround Time (Business days)

- [X] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

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

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking # 772607552739

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Sheldon Hitchcock	6/29/18 13:19	1 Connie Wells	2 Connie Wells	6/29/18 15:30	2 Rachel Co/30/18 0900
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
			5			3.2 NA 0.0

Notice: 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 any losses or expenses incurred by the Client if such loses 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.

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 07/02/2018 08:10:40 AM

Work Order #: 590994

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 07/02/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 07/02/2018
Jessica Kramer

CARDINAL Laboratories

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

July 12, 2018

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: RED RAIDER BKS ST. #005H

Enclosed are the results of analyses for samples received by the laboratory on 07/11/18 13:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	07/11/2018	Sampling Date:	07/06/2018
Reported:	07/12/2018	Sampling Type:	Soil
Project Name:	RED RAIDER BKS ST. #005H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: T-1 2' (H801887-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/11/2018	ND	180	89.9	200	9.97	
DRO >C10-C28*	<10.0	10.0	07/11/2018	ND	203	101	200	6.66	
EXT DRO >C28-C36	<10.0	10.0	07/11/2018	ND					

Surrogate: 1-Chlorooctane	*83.6 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*88.5 %*	*37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Concho Resources	BILL TO
Project Manager: Sheldon Hitchcock	P.O. #:
Address: 2407 Pecos Avenue	Company: COG
City: Artesia State: NM Zip: 88210	Attn: Robert McNeill
Phone #: 575-703-6475 Fax #:	Address:
Project #: Project Owner: Concho	City:
Project Name: Red Raider BRS St. #005H	State: Zip:
Project Location:	Phone #:
Sampler Name: S. Hitchcock	Fax #:

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	TPH Extended
H801887	T-1 2'	G	1			/					/		7/6/18	12:00	X

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

Relinquished By: Sheldon Hitchcock	Date: 7-11-18 Time: 1:45	Received By: Tamara Oldaker	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	3.8°C Corrected 3.7°C	Sample Condition Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No	CHECKED BY: (Initials) TO. #25

REMARKS: Rush

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

APPENDIX VII

32.1819897 -103.518572

32.1819897 -103.51872


32.1819897 -103.5185.72


32.1819697 -103.518572
KOMATSU