



September 16, 2019

Mike Bratcher
NMOCD District 2
811 South First Street
Artesia, NM 88210

Jim Amos
Bureau of Land Management, CFO
620 E. Green Street
Carlsbad, NM 88220

Closure Report
Trigg Federal Gas Com #001
API#: 30-015-20159
RP#: 2RP-4922
DOR: August 10, 2018
GPS: 32.7925491, -104.2685165
Unit Letter F, Section 34, Township 17 South, Range 27 East
Eddy County, New Mexico

To Whom It May Concern,

COG Operating, LLC (COG) is pleased to submit the following closure report in response to a release that occurred at the Trigg Federal Gas Com #001.

BACKGROUND

The release was discovered on August 10, 2018 and a C-141 initial report was submitted to the New Mexico Oil Conservation Division (NMOCD) and the Bureau of Land Management (BLM). The release was caused when lightning struck the oil tank and resulted in the release of approximately two (2) barrels (bbls) of oil with zero (0) bbls recovered.

GROUNDWATER AND REGULATORY FRAMEWORK

According to the New Mexico Office of the State Engineer (NMOSE) the nearest active water well (CP-03661) is located approximately 2 miles west of the release point and indicates that groundwater in the project vicinity is approximately one-hundred and forty (140) feet below ground surface (BGS). The water well information is shown in Appendix B.

A risk based evaluation and site determinations were performed in accordance to the New Mexico Oil Conservation Division (NMOCD) Rule (Title 19 Chapter 15 Part 29) for releases on oil and gas development and production in New Mexico (effective August 14, 2018). According to the site

characterization evaluation, the release occurred in a high karst occurrence area. No other receptors (water wells, playas, water course, lake beds or ordinance boundaries) were located within each specific boundaries or distance from the site. The groundwater data and the site characterization evaluation data is summarized in Appendix B. The delineation and closure criteria are listed below:

General Site Characterization and Groundwater:

Site Characterization	Average Groundwater Depth (ft.)
High Karst Area	>100 feet

Delineation and Closure Criteria:

Recommended Remedial Action Levels (RRALs)	
Chlorides	600 mg/kg
TPH (GRO and DRO and MRO)	100 mg/kg
TPH (GRO and DRO)	100 mg/kg
Benzene	10 mg/kg
Total BTEX	50 mg/kg

REMEDIAL ACTIONS

- The impacted area was excavated to a depth of eight (8) feet BGS.
- All of the excavated material was hauled to an NMOCD approved solid waste disposal facility.
- Confirmation soil samples were taken from the excavation per NMOCD guidelines.
- The site was backfilled with caliche and contoured to match the surrounding location.

SITE RECLAMATION AND RESTORATION

All of the fluid remained on the well pad. No reclamation activities will be required at this site.

CLOSURE REQUEST

COG Operating, LLC respectfully requests that the New Mexico Oil Conservation Division and the Bureau of Land Management grant closure approval for the Trigg Federal Gas Com #001 incident that occurred on August 10, 2019.

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

Sincerely,

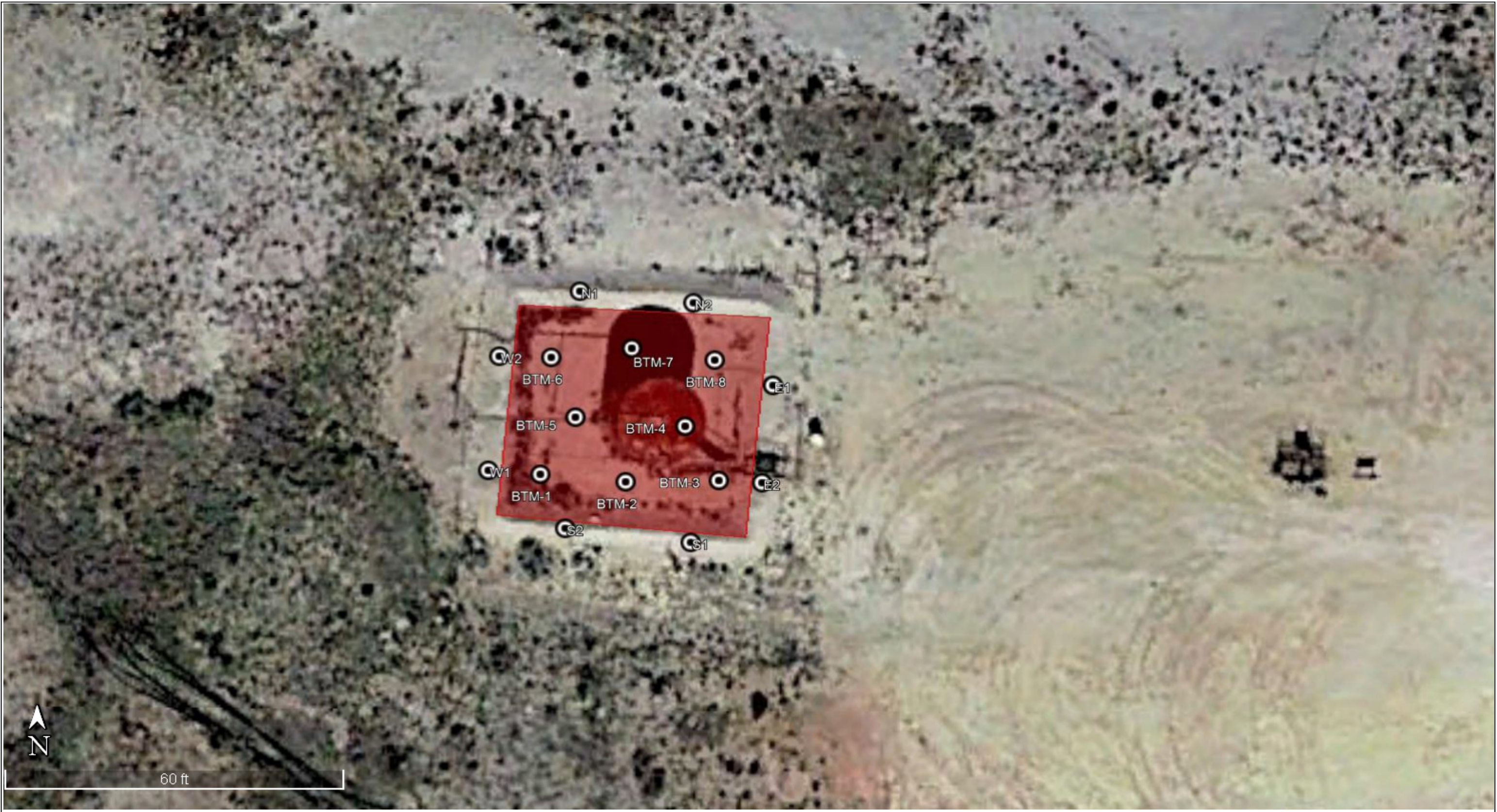
A handwritten signature in black ink that reads "Dakota Neel". The signature is written in a cursive, slightly slanted style.

Dakota Neel
HSE Coordinator
Dneel2@concho.com

FIGURES



Trigg Federal Gas Com #1



TABLES

Table 1
COG Operating LLC.
Trigg Federal Gas Com #001
Eddy County, New Mexico

Sample ID	Sample Depth (ft)	Sample Date	Soil Status		TPH (mg/kg)						Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	
			In-Situ	Removed	GRO	DRO	MRO	Total	GRO	DRO				Total
NMOCD RRAL Limits (mg/kg)					-	-	-	100	-	-	100	10	50	600
BH-1	0-1	12/19/2018		X	65.6	163	<15.0	229.0	<0.00200	<0.00200	0.0	0.0123	0.0156	74.8
BH-1	2-3	12/19/2018		X	<15.0	48.7	<15.0	48.7	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	183
BH-1	4-5	12/19/2018		X	1100	1690	<15.0	2790.0	<0.00200	<0.00200	0.0	0.114	0.145	96
BH-1	6-7	12/19/2018		X	2290	1880	<15.0	4170.0	<0.00202	<0.00202	0.3	0.226	0.523	67.9
BH-1	9-10	12/19/2018	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	31.8
BH-1	14-15	12/19/2018	X		17	<15.0	<15.0	17.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	105
BH-1	19-20	12/19/2018	X		-	-	-	-	-	-	-	-	-	25.6
BH-1	24-25	12/19/2018	X		-	-	-	-	-	-	-	-	-	<4.98
BTTM- 1	8	2/1/2019	X		<10.0	23.4	<10.0	23.4	<10.0	23.4	23.4	<0.050	<0.597	80
BTTM- 2	8	2/1/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	32
BTTM- 3	8	2/11/2019	X		<10.0	41.4	<10.0	41.4	<10.0	41.4	41.4	<0.050	<0.300	192
BTTM -4	8	2/11/2019	X		<10.0	84.3	<10.0	84.3	<10.0	84.3	84.3	<0.050	<0.300	176
BTTM -5	8	2/11/2019	x		<10.0	71.6	<10.0	71.6	<10.0	71.6	71.6	<0.050	<0.300	144
BTTM-6	7	2/11/2019		X	<10.0	114	<10.0	114.0	<10.0	114	114.0	<0.050	<0.300	128
BTTM-6	7.5	2/20/2019		X	80.8	287	<10.0	367.8	80.8	287	367.8	<0.050	1.59	112
BTTM-6	8	2/26/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	64
BTTM-7	8	2/11/2019	X		<10.0	66.6	42.1	108.7	<10.0	66.6	66.6	<0.050	<0.300	160
BTTM-8	8	2/11/2019	X		<10.0	61.3	<10.0	61.3	<10.0	61.3	61.3	<0.050	<0.300	160
NORTH 1	-	2/20/2019		X	1780	2280	<10.0	4060.0	1780	2280	4,060.0	<0.050	<0.300	32
NORTH 1	-	2/26/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	48
NORTH 2	-	2/1/2019		X	22.5	553	<10.0	575.5	22.5	553	575.5	<0.050	<0.300	48
NORTH 2	-	2/11/2016		X	1070	3030	<10.0	4100.0	1070	3030	4,100.0	<0.050	3.31	240.0
NORTH 2	-	2/20/2016	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	416.0
EAST 1	-	2/1/2019	X		<10.0	261	<10.0	261.0	<10.0	261	261.0	<0.050	<0.300	160
EAST 2	-	2/11/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	464
WEST 1	-	2/1/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	160
WEST 2	-	2/11/2019	X		<10.0	211	<10.0	211.0	<10.0	211	211.0	<0.050	<0.300	320
SOUTH 1	-	2/1/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	128.0
SOUTH 2	-	2/20/2019	X		<10.0	26.2	<10.0	26.2	<10.0	26.2	26.2	<0.050	<0.300	160.0

APPENDIX A

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

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

Form C-141
Revised 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: Trigg Federal Gas Com #001	Facility Type: Tank Battery
Surface Owner: Federal	Mineral Owner: Federal
API No. 30-015-20159	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	34	17S	27E	1,980	North	1,980	West	Eddy

Latitude 32.7925491 Longitude -104.2685165 NAD83

NATURE OF RELEASE

Type of Release Oil	Volume of Release 2 bbl.	Volume Recovered 0 bbl.
Source of Release Lightning Strike	Date and Hour of Occurrence August 10, 2018 5:00am	Date and Hour of Discovery August 10, 2018 5:00am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher – NMOCD Maria Pruett – NMOCD Shelly Tucker – BLM James Amos – BLM	
By Whom? Dakota Neel	Date and Hour August 10, 2018 5:12pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*



Describe Cause of Problem and Remedial Action Taken.*

The release was caused by a lightning strike to the oil tank. The tank battery has been removed. This well is in the process of being plugged and abandoned.

Describe Area Affected and Cleanup Action Taken.*

The release remained on location within the earthen berm. The remediation for this release has been completed in accordance to NMOCD guidelines.

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

Signature: 		OIL CONSERVATION DIVISION Approved by Environmental Specialist: 	
Printed Name: Dakota Neel			
Title: HSE Coordinator	Approval Date: 11/22/2022	Expiration Date:	
E-mail Address: dneel2@concho.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: September 16, 2019 Phone: 575-746-2010			

* Attach Additional Sheets If Necessary

District I
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State of New Mexico
Energy Minerals and Natural Resources
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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

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Address: 600 West Illinois Avenue, Midland, TX 79701	Telephone No. 432-683-7443
Facility Name: Trigg Federal Gas Com #001	Facility Type: Tank Battery
Surface Owner: Federal	Mineral Owner: Federal
API No. 30-015-20159	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	34	17S	27E	1,980	North	1,980	West	Eddy

Latitude 32.7925491 Longitude -104.2685165 NAD83

NATURE OF RELEASE

Type of Release Oil	Volume of Release 2 bbl.	Volume Recovered 0 bbl.
Source of Release Lightning Strike	Date and Hour of Occurrence August 10, 2018 5:00am	Date and Hour of Discovery August 10, 2018 5:00am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher – NMOCD Maria Pruett – NMOCD Shelly Tucker – BLM James Amos – BLM	
By Whom? Dakota Neel	Date and Hour August 10, 2018 5:12pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*


Describe Cause of Problem and Remedial Action Taken.*

The release was caused by a lighting strike to the oil tank. The oil tank will be replaced.

Describe Area Affected and Cleanup Action Taken.*

The release was on location. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to 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: DeAnn Grant	Approved by Environmental Specialist:	
Title: HSE Administrative Assistant	Approval Date:	Expiration Date:
E-mail Address: agrant@concho.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: August 13, 2018	Phone: (432) 253-4513	

* Attach Additional Sheets If Necessary

APPENDIX B



Trigg Federal Gas Com #1

Legend

OSE PODs

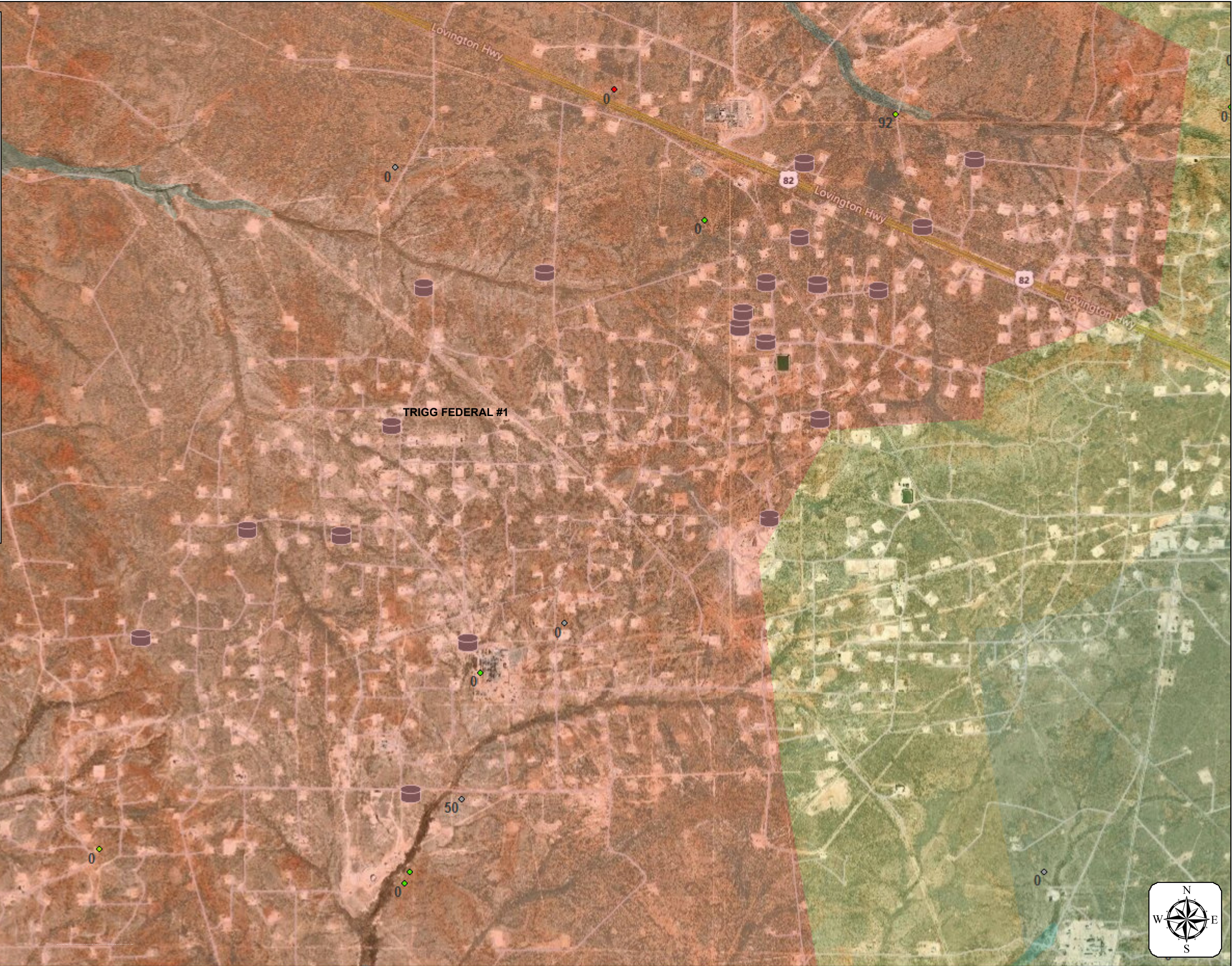
- Active
- Pending
- Plugged
- Unknown

Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Mine Workings

Karst Occurance Areas

- High
- Low
- Medium





Trigg Federal Gas Com #1

Legend

OSE PODs

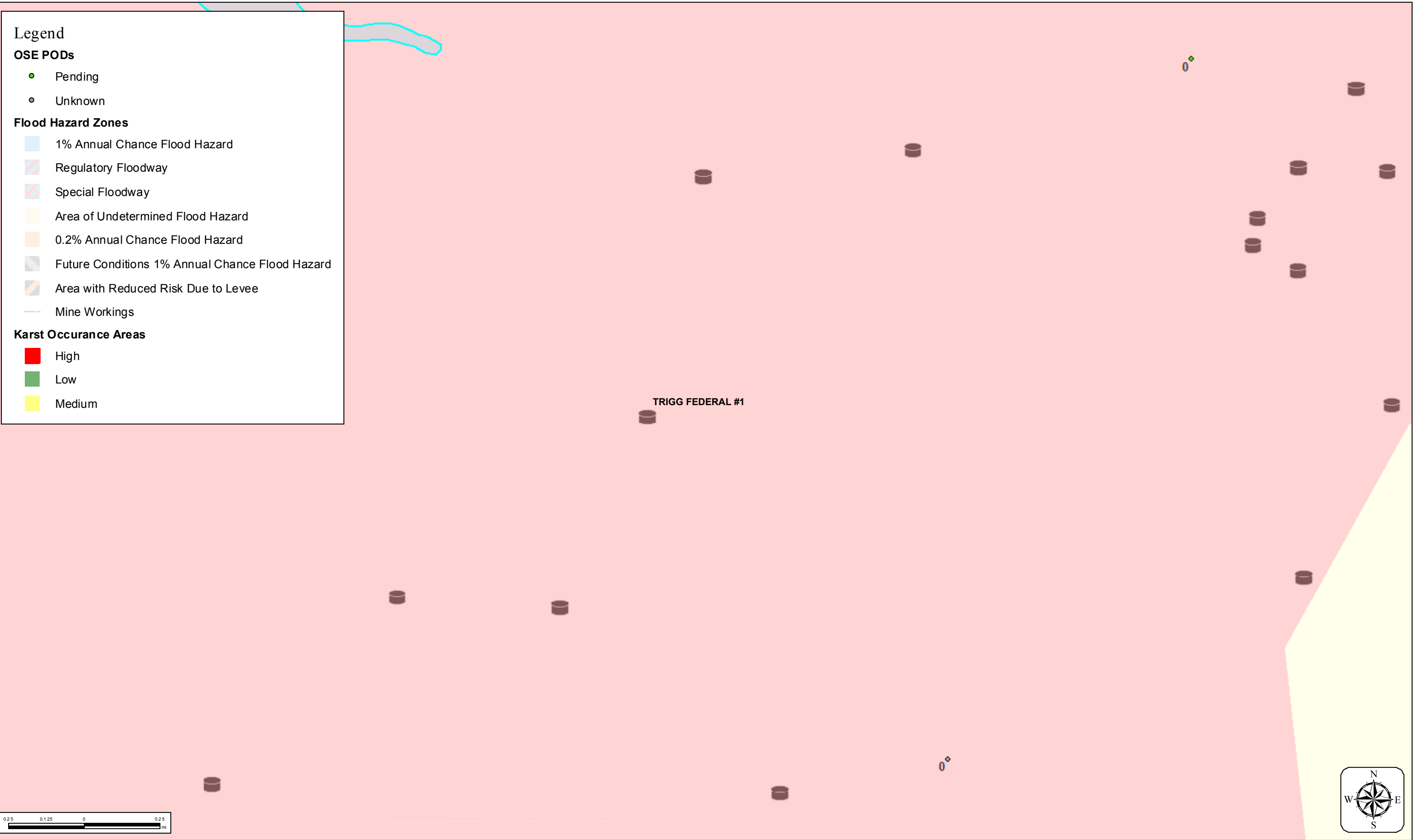
- Pending
- Unknown

Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Mine Workings

Karst Occurance Areas

- High
- Low
- Medium





New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	RA 03661	3	2	3	32	17S	27E	565186	3628038*

Driller License: 165	Driller Company: R.A. THOMAS DRILLING
Driller Name: THOMAS, R.A.	
Drill Start Date: 10/12/1956	Drill Finish Date: 10/26/1956
Log File Date: 11/26/1956	PCW Rcv Date:
Pump Type:	Pipe Discharge Size:
Casing Size: 7.00	Depth Well: 330 feet
	Depth Water: 140 feet

Water Bearing Stratifications:	Top	Bottom	Description
	120	137	Limestone/Dolomite/Chalk
	163	170	Sandstone/Gravel/Conglomerate

*UTM location was derived from PLSS - see Help

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

8/22/19 9:11 PM

Page 1 of 1

POD SUMMARY - RA 03661

APPENDIX C



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

November 20, 2018

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: TRIGG FEDERAL GAS COM #1

Enclosed are the results of analyses for samples received by the laboratory on 11/14/18 13:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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 accredited 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,

A handwritten signature in black ink, appearing to read "Mike Snyder", is written over a light blue horizontal line.

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



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:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 1 - SURFACE (H803321-01)

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	11/16/2018	ND	2.35	117	2.00	8.91	
Toluene*	<0.500	0.500	11/16/2018	ND	2.24	112	2.00	7.80	
Ethylbenzene*	2.58	0.500	11/16/2018	ND	2.17	109	2.00	7.53	
Total Xylenes*	25.6	1.50	11/16/2018	ND	6.75	113	6.00	7.33	
Total BTX	28.1	3.00	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 128 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	11/15/2018	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	801	10.0	11/15/2018	ND	214	107	200	1.99		
DRO >C10-C28*	2760	10.0	11/15/2018	ND	227	113	200	0.673		
EXT DRO >C28-C36	35.4	10.0	11/15/2018	ND						

Surrogate: 1-Chlorooctane 325 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: T 1 - 1' (H803321-02)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.35	117	2.00	8.91	
Toluene*	<0.050	0.050	11/16/2018	ND	2.24	112	2.00	7.80	
Ethylbenzene*	0.073	0.050	11/16/2018	ND	2.17	109	2.00	7.53	
Total Xylenes*	0.959	0.150	11/16/2018	ND	6.75	113	6.00	7.33	
Total BTEX	1.03	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	11/15/2018	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
S-04									

Surrogate: 1-Chlorooctane 156 % 41-142

Surrogate: 1-Chlorooctadecane 108 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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ARTESIA NM, 88210
Fax To: NONE

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Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 1 - 2' (H803321-03)

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.35	117	2.00	8.91	
Toluene*	<0.050	0.050	11/16/2018	ND	2.24	112	2.00	7.80	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.17	109	2.00	7.53	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.75	113	6.00	7.33	
Total BTX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	11/15/2018	ND	432	108	400	3.77		

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	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	35.3	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 115 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 1 - 3' (H803321-04)

BTEx 8021B		mg/kg	Analyzed By: ms					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.35	117	2.00	8.91	
Toluene*	<0.050	0.050	11/16/2018	ND	2.24	112	2.00	7.80	
Ethylbenzene*	0.375	0.050	11/16/2018	ND	2.17	109	2.00	7.53	
Total Xylenes*	0.283	0.150	11/16/2018	ND	6.75	113	6.00	7.33	
Total BTEX	0.601	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 160 % 73.3-129

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	11/15/2018	ND	432	108	400	3.77	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	77.3	10.0	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	1330	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 135 % 41-142

Surrogate: 1-Chlorooctadecane 108 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 1 - 4' (H803321-05)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.35	117	2.00	8.91	
Toluene*	<0.050	0.050	11/16/2018	ND	2.24	112	2.00	7.80	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.17	109	2.00	7.53	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.75	113	6.00	7.33	
Total BTEX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	11/15/2018	ND	432	108	400	3.77	

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	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	76.3	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 115 % 41-142

Surrogate: 1-Chlorooctadecane 110 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: T 1 - 5' (H803321-06)

BTEx 8021B		mg/kg	Analyzed By: ms					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.35	117	2.00	8.91	
Toluene*	<0.050	0.050	11/16/2018	ND	2.24	112	2.00	7.80	
Ethylbenzene*	0.697	0.050	11/16/2018	ND	2.17	109	2.00	7.53	
Total Xylenes*	1.13	0.150	11/16/2018	ND	6.75	113	6.00	7.33	
Total BTEX	1.83	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 188 % 73.3-129

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	11/15/2018	ND	432	108	400	3.77	

TPH 8015M		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	176	10.0	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	742	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 290 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 1 - 6' (H803321-07)

BTEx 8021B		mg/kg	Analyzed By: ms					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.35	117	2.00	8.91	
Toluene*	<0.050	0.050	11/16/2018	ND	2.24	112	2.00	7.80	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.17	109	2.00	7.53	
Total Xylenes*	2.46	0.150	11/16/2018	ND	6.75	113	6.00	7.33	
Total BTEX	2.46	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 250 % 73.3-129

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	11/15/2018	ND	416	104	400	3.92	

TPH 8015M		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	868	10.0	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	2120	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 271 % 41-142

Surrogate: 1-Chlorooctadecane 109 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 2 - SURFACE (H803321-08)

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.35	117	2.00	8.91	
Toluene*	<0.050	0.050	11/16/2018	ND	2.24	112	2.00	7.80	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.17	109	2.00	7.53	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.75	113	6.00	7.33	
Total BTX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	11/15/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	121	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	90.3	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 115 % 41-142

Surrogate: 1-Chlorooctadecane 116 % 37.6-147

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Analytical Results For:

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

Received: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: T 2 - 1' (H803321-09)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/19/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/19/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	<0.150	0.150	11/19/2018	ND	6.85	114	6.00	4.85	
Total BTEX	<0.300	0.300	11/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	11/15/2018	ND	416	104	400	3.92	

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	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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Analytical Results For:

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

Received:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 2 - 2' (H803321-10)

BTX 8021B		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72	
Toluene*	0.101	0.050	11/16/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	1.30	0.150	11/16/2018	ND	6.85	114	6.00	4.85	
Total BTEX	1.41	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 155 % 73.3-129

Chloride, SM4500Cl-B			mg/kg					Analyzed By: AC	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	11/15/2018	ND	416	104	400	3.92	

TPH 8015M			mg/kg					Analyzed By: MS	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	28.8	10.0	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	188	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	43.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 113 % 41-142

Surrogate: 1-Chlorooctadecane 113 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 2 - 3' (H803321-11)

BTEx 8021B		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/19/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/19/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	29.1	0.150	11/19/2018	ND	6.85	114	6.00	4.85	
Total BTEX	29.1	0.300	11/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 162 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	11/15/2018	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1980	10.0	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	4540	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 372 % 41-142

Surrogate: 1-Chlorooctadecane 98.7 % 37.6-147

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Analytical Results For:

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

Received: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: T 2 - 4' (H803321-12)

BTX 8021B		mg/kg	Analyzed By: MS					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2018	ND	2.36	118	2.00	4.72	
Toluene*	0.547	0.050	11/19/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/19/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	14.4	0.150	11/19/2018	ND	6.85	114	6.00	4.85	
Total BTX	14.9	0.300	11/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 137 % 73.3-129

Chloride, SM4500CI-B		mg/kg	Analyzed By: AC					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	11/15/2018	ND	416	104	400	3.92	

TPH 8015M		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	924	10.0	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	2070	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	30.9	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 298 % 41-142

Surrogate: 1-Chlorooctadecane 118 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 2 - 5' (H803321-13)

BTEx 8021B		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/19/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/19/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	34.3	0.150	11/19/2018	ND	6.85	114	6.00	4.85	
Total BTEX	34.3	0.300	11/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 193 % 73.3-129

Chloride, SM4500Cl-B			mg/kg					Analyzed By: AC	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	11/15/2018	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	2810	10.0	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	4170	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	25.3	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 1030 % 41-142

Surrogate: 1-Chlorooctadecane 116 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 3 - SURFACE (H803321-14)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85	
Total BTX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	11/15/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	21.2	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 114 % 41-142

Surrogate: 1-Chlorooctadecane 118 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: T 3 - 1' (H803321-15)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85	
Total BTX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	11/15/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 3 - 2' (H803321-16)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85	
Total BTEX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	11/15/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	214	107	200	1.99	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	227	113	200	0.673	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 112 % 41-142

Surrogate: 1-Chlorooctadecane 111 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: T 3 - 3' (H803321-17)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85	
Total BTX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	11/15/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 88.5 % 41-142

Surrogate: 1-Chlorooctadecane 88.7 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: T 3 - 4' (H803321-18)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72		
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31		
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07		
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85		
Total BTEX	<0.300	0.300	11/16/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	11/15/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 99.9 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 3 - 5' (H803321-19)

BTEx 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	0.294	0.150	11/16/2018	ND	6.85	114	6.00	4.85	
Total BTEx	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 201 % 73.3-129

Chloride, SM4500CI-B			mg/kg					Analyzed By: AC	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	11/15/2018	ND	416	104	400	3.92	

TPH 8015M			mg/kg					Analyzed By: MS	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	186	10.0	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	1000	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 127 % 41-142

Surrogate: 1-Chlorooctadecane 94.0 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: T 4 - SURFACE (H803321-20)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85	
Total BTEx	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	11/15/2018	ND	416	104	400	3.92	

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	390	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	264	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 95.8 % 41-142

Surrogate: 1-Chlorooctadecane 110 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 4 - 1' (H803321-21)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85	
Total BTEX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	11/15/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	19.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 92.3 % 41-142

Surrogate: 1-Chlorooctadecane 94.9 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: T 4 - 2' (H803321-22)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85	
Total BTX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	11/15/2018	ND	416	104	400	3.92	

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 89.0 % 41-142

Surrogate: 1-Chlorooctadecane 89.9 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 4 - 3' (H803321-23)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72		
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31		
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07		
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85		
Total BTEX	<0.300	0.300	11/16/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	11/15/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 91.3 % 41-142

Surrogate: 1-Chlorooctadecane 90.6 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 4 - 4' (H803321-24)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85	
Total BTX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	11/15/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 87.1 % 41-142

Surrogate: 1-Chlorooctadecane 87.2 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: T 4 - 5' (H803321-25)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85	
Total BTX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	11/15/2018	ND	416	104	400	3.92	

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 85.2 % 41-142

Surrogate: 1-Chlorooctadecane 85.3 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 5 - SURFACE (H803321-26)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85	
Total BTX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	11/15/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 91.0 % 41-142

Surrogate: 1-Chlorooctadecane 91.5 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 5 - 1' (H803321-27)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72		
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31		
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07		
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85		
Total BTEx	<0.300	0.300	11/16/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	11/20/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 89.2 % 41-142

Surrogate: 1-Chlorooctadecane 88.3 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/14/2018	Sampling Date:	11/09/2018
Reported:	11/20/2018	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: T 5 - 2' (H803321-28)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	4.72	
Toluene*	<0.050	0.050	11/16/2018	ND	2.36	118	2.00	5.31	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	2.34	117	2.00	5.07	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	6.85	114	6.00	4.85	
Total BTEx	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	11/20/2018	ND	416	104	400	3.92	

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 98.2 % 41-142

Surrogate: 1-Chlorooctadecane 98.4 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: T 5 - 3' (H803321-29)

BTEx 8021B		mg/L		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	1.93	96.3	2.00	0.373	
Toluene*	<0.050	0.050	11/16/2018	ND	1.87	93.6	2.00	0.405	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	1.81	90.6	2.00	0.0627	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	5.71	95.2	6.00	0.177	
Total BTEX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 81.3-128

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	800	16.0	11/20/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 85.0 % 41-142

Surrogate: 1-Chlorooctadecane 82.8 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: T 5 - 4' (H803321-30)

BTX 8021B		mg/L		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	1.93	96.3	2.00	0.373	
Toluene*	<0.050	0.050	11/16/2018	ND	1.87	93.6	2.00	0.405	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	1.81	90.6	2.00	0.0627	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	5.71	95.2	6.00	0.177	
Total BTX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 81.3-128

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	11/20/2018	ND	416	104	400	3.92	

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 88.3 % 41-142

Surrogate: 1-Chlorooctadecane 88.4 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: T 5 - 5' (H803321-31)

BTEx 8021B		mg/L		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	1.93	96.3	2.00	0.373	
Toluene*	<0.050	0.050	11/16/2018	ND	1.87	93.6	2.00	0.405	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	1.81	90.6	2.00	0.0627	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	5.71	95.2	6.00	0.177	
Total BTEX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 81.3-128

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	11/20/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 86.0 % 41-142

Surrogate: 1-Chlorooctadecane 87.3 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: NORTH (H803321-32)

BTEx 8021B		mg/L		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/16/2018	ND	1.93	96.3	2.00	0.373		
Toluene*	<0.050	0.050	11/16/2018	ND	1.87	93.6	2.00	0.405		
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	1.81	90.6	2.00	0.0627		
Total Xylenes*	<0.150	0.150	11/16/2018	ND	5.71	95.2	6.00	0.177		
Total BTEX	<0.300	0.300	11/16/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 81.3-128

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	11/20/2018	ND	416	104	400	3.92	

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	64.3	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 93.8 % 41-142

Surrogate: 1-Chlorooctadecane 90.5 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SOUTH (H803321-33)

BTX 8021B		mg/L		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	1.93	96.3	2.00	0.373	
Toluene*	<0.050	0.050	11/16/2018	ND	1.87	93.6	2.00	0.405	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	1.81	90.6	2.00	0.0627	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	5.71	95.2	6.00	0.177	
Total BTX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 81.3-128

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	752	16.0	11/20/2018	ND	416	104	400	3.92		

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	11/15/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/15/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/15/2018	ND					

Surrogate: 1-Chlorooctane 93.6 % 41-142

Surrogate: 1-Chlorooctadecane 91.3 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: EAST (H803321-34)

BTEx 8021B		mg/L		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/16/2018	ND	1.93	96.3	2.00	0.373		
Toluene*	<0.050	0.050	11/16/2018	ND	1.87	93.6	2.00	0.405		
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	1.81	90.6	2.00	0.0627		
Total Xylenes*	<0.150	0.150	11/16/2018	ND	5.71	95.2	6.00	0.177		
Total BTEX	<0.300	0.300	11/16/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 81.3-128

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	11/20/2018	ND	416	104	400	3.92		

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	11/16/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/16/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/16/2018	ND					

Surrogate: 1-Chlorooctane 99.4 % 41-142

Surrogate: 1-Chlorooctadecane 97.2 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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: 11/14/2018
Reported: 11/20/2018
Project Name: TRIGG FEDERAL GAS COM #1
Project Number: NONE GIVEN
Project Location: COG

Sampling Date: 11/09/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: WEST (H803321-35)

BTEx 8021B		mg/L		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2018	ND	1.93	96.3	2.00	0.373	
Toluene*	<0.050	0.050	11/16/2018	ND	1.87	93.6	2.00	0.405	
Ethylbenzene*	<0.050	0.050	11/16/2018	ND	1.81	90.6	2.00	0.0627	
Total Xylenes*	<0.150	0.150	11/16/2018	ND	5.71	95.2	6.00	0.177	
Total BTEX	<0.300	0.300	11/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 81.3-128

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	11/20/2018	ND	416	104	400	3.92		

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	11/16/2018	ND	192	95.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/16/2018	ND	198	99.0	200	2.56	
EXT DRO >C28-C36	<10.0	10.0	11/16/2018	ND					

Surrogate: 1-Chlorooctane 92.7 % 41-142

Surrogate: 1-Chlorooctadecane 93.1 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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

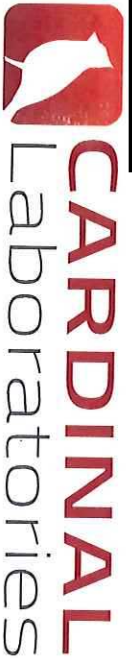
*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Mike Snyder".

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Page 38 of 41



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

[illegible]



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				ANALYSIS REQUEST									
Project Manager: Sheldon Hitchcock				P.O. #:													
Address: 2407 Pecos Avenue				Company: COG													
City: Artesia				Attn: Robert McNeill													
State: NM zip: 88210				Address:													
Phone #: 575-703-6475 Fax #:				City:													
Project #:				State:				Zip:									
Project Location:				Phone #:													
Sample Name:				Fax #:													
FOR LAB USE ONLY																	
Lab I.D. #803321		Sample I.D.		(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX			PRESERV.		SAMPLING						
				GROUNDWATER	WASTEWATER												
				SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME					
11	T2-3'							11-9-18	9:30AM	X							
12	T2-4'									X							
13	T2-5'									X							
14	T3 - SURFACE									X							
15	T3 - 1'									X							
16	T3 - 2'									X							
17	T3 - 3'									X							
18	T3 - 4'									X							
19	T3 - 5'									X							
20	T4 - SURFACE									X							

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Relinquished By:		Date: 11-14-18	Received By:	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By:		Date: 11-14-18	Received By:	Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
REMARKS:					

Delivered By: (Circle One)	Sample Condition	CHECKED BY:
Sampler - UPS - Bus - Other:	<input checked="" type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(Initials)



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		P.O. #:		BILL TO										ANALYSIS REQUEST																									
Project Manager: Sheldon Hitchcock		Company: COG																																					
Address: 2407 Pecos Avenue		Attn: Robert McNeill																																					
City: Artesia		Address:																																					
State: NM		City:																																					
Zip: 88210		State:																																					
Phone #: 575-703-6475		Zip:																																					
Fax #:		Phone #:																																					
Project #:		Project Owner: Concho																																					
Project Name:		TEI & LEONARDO GAS COM #1																																					
Project Location:		State:																																					
Sample Name:		Phone #:																																					
FOR LAB USE ONLY		Fax #:																																					
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											
H803321																										11-9-18		10:30AM		BTEX									
21		T4-1'										X																		TPH - EXTENDED									
22		T4-2'																												CHLORIDE									
23		T4-3'																																					
24		T4-4'																																					
25		T4-5'																																					
26		T5-SURFACE																																					
27		T5-1'																																					
28		T5-2'																																					
29		T5-3'																																					
30		T5-4'																																					
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 consequential 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:		Date: 11-14-18		Received By:		Phone Result:		<input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:																													
Relinquished By:		Time: 13:50		Received By:		Fax Result:		<input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:																													
Delivered By: (Circle One)		Sample Condition		Checked By: (Initials)																																			
Sampler - UPS - Bus - Other:		Cool <input type="checkbox"/> Intact <input type="checkbox"/>		Yes <input type="checkbox"/> No <input type="checkbox"/>																																			
3.92 #97		Cool <input type="checkbox"/> Intact <input type="checkbox"/>		Yes <input type="checkbox"/> No <input type="checkbox"/>																																			



CARDINAL
Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

[illegible]



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

February 05, 2019

DAKOTA NEEL

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: TRIGG FEDERAL GAS COM #1

Enclosed are the results of analyses for samples received by the laboratory on 02/04/19 12:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	02/04/2019	Sampling Date:	02/01/2019
Reported:	02/05/2019	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: BTM - 1 (H900387-01)

BTM 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2019	ND	2.17	109	2.00	1.97	
Toluene*	<0.050	0.050	02/05/2019	ND	2.06	103	2.00	0.641	
Ethylbenzene*	0.128	0.050	02/05/2019	ND	2.00	100	2.00	0.904	
Total Xylenes*	0.469	0.150	02/05/2019	ND	6.23	104	6.00	1.21	
Total BTEX	0.597	0.300	02/05/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	02/05/2019	ND	432	108	400	3.64	

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	02/05/2019	ND	171	85.7	200	3.36	
DRO >C10-C28*	23.4	10.0	02/05/2019	ND	175	87.6	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	02/05/2019	ND					

Surrogate: 1-Chlorooctane 85.1 % 41-142

Surrogate: 1-Chlorooctadecane 78.0 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received: 02/04/2019
 Reported: 02/05/2019
 Project Name: TRIGG FEDERAL GAS COM #1
 Project Number: NONE GIVEN
 Project Location: COG

Sampling Date: 02/01/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BTM -2 (H900387-02)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2019	ND	2.17	109	2.00	1.97	
Toluene*	<0.050	0.050	02/05/2019	ND	2.06	103	2.00	0.641	
Ethylbenzene*	<0.050	0.050	02/05/2019	ND	2.00	100	2.00	0.904	
Total Xylenes*	<0.150	0.150	02/05/2019	ND	6.23	104	6.00	1.21	
Total BTEX	<0.300	0.300	02/05/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	02/05/2019	ND	432	108	400	3.64		

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	02/05/2019	ND	171	85.7	200	3.36	
DRO >C10-C28*	<10.0	10.0	02/05/2019	ND	175	87.6	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	02/05/2019	ND					

Surrogate: 1-Chlorooctane 72.1 % 41-142

Surrogate: 1-Chlorooctadecane 66.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	02/04/2019	Sampling Date:	02/01/2019
Reported:	02/05/2019	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: NORTH (H900387-03)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2019	ND	2.17	109	2.00	1.97	
Toluene*	<0.050	0.050	02/05/2019	ND	2.06	103	2.00	0.641	
Ethylbenzene*	<0.050	0.050	02/05/2019	ND	2.00	100	2.00	0.904	
Total Xylenes*	<0.150	0.150	02/05/2019	ND	6.23	104	6.00	1.21	
Total BTEx	<0.300	0.300	02/05/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/05/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	22.5	10.0	02/05/2019	ND	171	85.7	200	3.36	
DRO >C10-C28*	553	10.0	02/05/2019	ND	175	87.6	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	02/05/2019	ND					

Surrogate: 1-Chlorooctane 99.1 % 41-142

Surrogate: 1-Chlorooctadecane 76.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received: 02/04/2019
 Reported: 02/05/2019
 Project Name: TRIGG FEDERAL GAS COM #1
 Project Number: NONE GIVEN
 Project Location: COG

Sampling Date: 02/01/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SOUTH (H900387-04)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2019	ND	2.17	109	2.00	1.97	
Toluene*	<0.050	0.050	02/05/2019	ND	2.06	103	2.00	0.641	
Ethylbenzene*	<0.050	0.050	02/05/2019	ND	2.00	100	2.00	0.904	
Total Xylenes*	<0.150	0.150	02/05/2019	ND	6.23	104	6.00	1.21	
Total BTEx	<0.300	0.300	02/05/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	02/05/2019	ND	432	108	400	3.64	

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	02/05/2019	ND	171	85.7	200	3.36	
DRO >C10-C28*	<10.0	10.0	02/05/2019	ND	175	87.6	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	02/05/2019	ND					

Surrogate: 1-Chlorooctane 90.4 % 41-142

Surrogate: 1-Chlorooctadecane 84.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	02/04/2019	Sampling Date:	02/01/2019
Reported:	02/05/2019	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL GAS COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: EAST (H900387-05)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/05/2019	ND	2.17	109	2.00	1.97		
Toluene*	<0.050	0.050	02/05/2019	ND	2.06	103	2.00	0.641		
Ethylbenzene*	<0.050	0.050	02/05/2019	ND	2.00	100	2.00	0.904		
Total Xylenes*	<0.150	0.150	02/05/2019	ND	6.23	104	6.00	1.21		
Total BTEx	<0.300	0.300	02/05/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	02/05/2019	ND	432	108	400	3.64		

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	02/05/2019	ND	171	85.7	200	3.36	
DRO >C10-C28*	<10.0	10.0	02/05/2019	ND	175	87.6	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	02/05/2019	ND					

Surrogate: 1-Chlorooctane 80.5 % 41-142

Surrogate: 1-Chlorooctadecane 75.4 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received: 02/04/2019
 Reported: 02/05/2019
 Project Name: TRIGG FEDERAL GAS COM #1
 Project Number: NONE GIVEN
 Project Location: COG

Sampling Date: 02/01/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WEST (H900387-06)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2019	ND	2.17	109	2.00	1.97	
Toluene*	<0.050	0.050	02/05/2019	ND	2.06	103	2.00	0.641	
Ethylbenzene*	<0.050	0.050	02/05/2019	ND	2.00	100	2.00	0.904	
Total Xylenes*	<0.150	0.150	02/05/2019	ND	6.23	104	6.00	1.21	
Total BTEx	<0.300	0.300	02/05/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	02/05/2019	ND	432	108	400	3.64	

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	02/05/2019	ND	171	85.7	200	3.36	
DRO >C10-C28*	14.0	10.0	02/05/2019	ND	175	87.6	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	02/05/2019	ND					

Surrogate: 1-Chlorooctane 84.7 % 41-142

Surrogate: 1-Chlorooctadecane 78.0 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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

February 14, 2019

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: TRIGG FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 02/13/19 14:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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: 02/13/2019
Reported: 02/14/2019
Project Name: TRIGG FEDERAL #1
Project Number: NONE GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: BTM - 3 (H900574-01)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/13/2019	ND	2.04	102	2.00	13.2	
Toluene*	<0.050	0.050	02/13/2019	ND	2.06	103	2.00	10.1	
Ethylbenzene*	<0.050	0.050	02/13/2019	ND	1.96	98.2	2.00	9.66	
Total Xylenes*	<0.150	0.150	02/13/2019	ND	5.75	95.9	6.00	8.33	
Total BTEX	<0.300	0.300	02/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	02/14/2019	ND	416	104	400	0.00		

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	02/14/2019	ND	185	92.7	200	5.54	
DRO >C10-C28*	41.4	10.0	02/14/2019	ND	160	80.0	200	6.54	
EXT DRO >C28-C36	<10.0	10.0	02/14/2019	ND					

Surrogate: 1-Chlorooctane 83.3 % 41-142

Surrogate: 1-Chlorooctadecane 87.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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: 02/13/2019
Reported: 02/14/2019
Project Name: TRIGG FEDERAL #1
Project Number: NONE GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: BTM - 4 (H900574-02)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/13/2019	ND	2.04	102	2.00	13.2	
Toluene*	<0.050	0.050	02/13/2019	ND	2.06	103	2.00	10.1	
Ethylbenzene*	<0.050	0.050	02/13/2019	ND	1.96	98.2	2.00	9.66	
Total Xylenes*	<0.150	0.150	02/13/2019	ND	5.75	95.9	6.00	8.33	
Total BTEX	<0.300	0.300	02/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	02/14/2019	ND	416	104	400	0.00	

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	02/14/2019	ND	185	92.7	200	5.54	
DRO >C10-C28*	84.3	10.0	02/14/2019	ND	160	80.0	200	6.54	
EXT DRO >C28-C36	<10.0	10.0	02/14/2019	ND					

Surrogate: 1-Chlorooctane 81.4 % 41-142

Surrogate: 1-Chlorooctadecane 83.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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: 02/13/2019
Reported: 02/14/2019
Project Name: TRIGG FEDERAL #1
Project Number: NONE GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: BTM - 5 (H900574-03)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/13/2019	ND	2.04	102	2.00	13.2	
Toluene*	<0.050	0.050	02/13/2019	ND	2.06	103	2.00	10.1	
Ethylbenzene*	<0.050	0.050	02/13/2019	ND	1.96	98.2	2.00	9.66	
Total Xylenes*	<0.150	0.150	02/13/2019	ND	5.75	95.9	6.00	8.33	
Total BTEX	<0.300	0.300	02/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	02/14/2019	ND	416	104	400	0.00	

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	02/14/2019	ND	185	92.7	200	5.54	
DRO >C10-C28*	71.6	10.0	02/14/2019	ND	160	80.0	200	6.54	
EXT DRO >C28-C36	<10.0	10.0	02/14/2019	ND					

Surrogate: 1-Chlorooctane 88.5 % 41-142

Surrogate: 1-Chlorooctadecane 87.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 02/13/2019
Reported: 02/14/2019
Project Name: TRIGG FEDERAL #1
Project Number: NONE GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: BTM - 6 (H900574-04)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/13/2019	ND	2.04	102	2.00	13.2	
Toluene*	<0.050	0.050	02/13/2019	ND	2.06	103	2.00	10.1	
Ethylbenzene*	<0.050	0.050	02/13/2019	ND	1.96	98.2	2.00	9.66	
Total Xylenes*	<0.150	0.150	02/13/2019	ND	5.75	95.9	6.00	8.33	
Total BTEX	<0.300	0.300	02/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	02/14/2019	ND	416	104	400	0.00	

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	02/14/2019	ND	185	92.7	200	5.54	
DRO >C10-C28*	114	10.0	02/14/2019	ND	160	80.0	200	6.54	
EXT DRO >C28-C36	<10.0	10.0	02/14/2019	ND					

Surrogate: 1-Chlorooctane 89.9 % 41-142

Surrogate: 1-Chlorooctadecane 90.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 02/13/2019
Reported: 02/14/2019
Project Name: TRIGG FEDERAL #1
Project Number: NONE GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: BTM - 7 (H900574-05)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/13/2019	ND	2.04	102	2.00	13.2		
Toluene*	<0.050	0.050	02/13/2019	ND	2.06	103	2.00	10.1		
Ethylbenzene*	<0.050	0.050	02/13/2019	ND	1.96	98.2	2.00	9.66		
Total Xylenes*	<0.150	0.150	02/13/2019	ND	5.75	95.9	6.00	8.33		
Total BTEX	<0.300	0.300	02/13/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	02/14/2019	ND	416	104	400	0.00		

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	02/14/2019	ND	185	92.7	200	5.54	
DRO >C10-C28*	66.6	10.0	02/14/2019	ND	160	80.0	200	6.54	
EXT DRO >C28-C36	<10.0	10.0	02/14/2019	ND					

Surrogate: 1-Chlorooctane 91.2 % 41-142

Surrogate: 1-Chlorooctadecane 89.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 02/13/2019
Reported: 02/14/2019
Project Name: TRIGG FEDERAL #1
Project Number: NONE GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: BTM - 8 (H900574-06)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/13/2019	ND	2.04	102	2.00	13.2	
Toluene*	<0.050	0.050	02/13/2019	ND	2.06	103	2.00	10.1	
Ethylbenzene*	<0.050	0.050	02/13/2019	ND	1.96	98.2	2.00	9.66	
Total Xylenes*	<0.150	0.150	02/13/2019	ND	5.75	95.9	6.00	8.33	
Total BTEX	<0.300	0.300	02/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	02/14/2019	ND	416	104	400	0.00	

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	02/14/2019	ND	185	92.7	200	5.54	
DRO >C10-C28*	61.3	10.0	02/14/2019	ND	160	80.0	200	6.54	
EXT DRO >C28-C36	<10.0	10.0	02/14/2019	ND					

Surrogate: 1-Chlorooctane 81.3 % 41-142

Surrogate: 1-Chlorooctadecane 82.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



One Concho Center/800 Illinois
Avenue/Midland, Texas
Tel (432) 683-7443

Page 1 of 1

Client Name:		COG-Artesia		Site Manager:		Sheldon Hitchcock	
Project Name:		Ting Fcd #1					
Project Location:		(county, state)		Project #:			
Invoice to:		Eddy Co. NM					
Receiving Laboratory:		Sheldon Hitchcock		Sampler Name:		Sheldon Hitchcock	
Comments:		Rubin					

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD				# CONTAINERS	Grab(G) / Comp(C)	ANALYSIS REQUEST (Circle or Specify Method No.)								
		YEAR: 2019	DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE			TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold					
1	Bttm-3	2/11	11:00	X						1	C	X	X	X						
2	Bttm-4		11:05	X						1	C	X	X	X						
3	Bttm-5		11:10	X						1	C	X	X	X						
4	Bttm-6		11:15	X						1	C	X	X	X						
5	Bttm-7		11:20	X						1	C	X	X	X						
6	Bttm-8		11:25	X						1	C	X	X	X						

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Sheldon Hitchcock			Sheldon Hitchcock	2/13/19	14:30
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY		REMARKS:	
Sample Temperature	24°C	<input checked="" type="checkbox"/> RUSH: Same Day 24 hr 48 hr 72 hr	
		<input type="checkbox"/> Rush Charges Authorized	
		<input type="checkbox"/> Special Report Limits or TRRP Report	

ORIGINAL COPY



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February 14, 2019

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: TRIGG FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 02/13/19 14:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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: 02/13/2019
Reported: 02/14/2019
Project Name: TRIGG FEDERAL #1
Project Number: NONE GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: N. 2 (H900575-01)

BTEx 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/13/2019	ND	2.04	102	2.00	13.2	
Toluene*	0.057	0.050	02/13/2019	ND	2.06	103	2.00	10.1	
Ethylbenzene*	0.760	0.050	02/13/2019	ND	1.96	98.2	2.00	9.66	
Total Xylenes*	2.49	0.150	02/13/2019	ND	5.75	95.9	6.00	8.33	
Total BTEx	3.31	0.300	02/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 139 % 73.3-129

Chloride, SM4500Cl-B			mg/kg					Analyzed By: AC	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	02/14/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1070	10.0	02/14/2019	ND	185	92.7	200	5.54	
DRO >C10-C28*	3030	10.0	02/14/2019	ND	160	80.0	200	6.54	
EXT DRO >C28-C36	<10.0	10.0	02/14/2019	ND					

Surrogate: 1-Chlorooctane 262 % 41-142

Surrogate: 1-Chlorooctadecane 95.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 02/13/2019
Reported: 02/14/2019
Project Name: TRIGG FEDERAL #1
Project Number: NONE GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S. 2 (H900575-02)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/13/2019	ND	2.04	102	2.00	13.2	
Toluene*	<0.050	0.050	02/13/2019	ND	2.06	103	2.00	10.1	
Ethylbenzene*	<0.050	0.050	02/13/2019	ND	1.96	98.2	2.00	9.66	
Total Xylenes*	<0.150	0.150	02/13/2019	ND	5.75	95.9	6.00	8.33	
Total BTEx	<0.300	0.300	02/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	02/14/2019	ND	416	104	400	0.00	

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	02/14/2019	ND	185	92.7	200	5.54	
DRO >C10-C28*	<10.0	10.0	02/14/2019	ND	160	80.0	200	6.54	
EXT DRO >C28-C36	<10.0	10.0	02/14/2019	ND					

Surrogate: 1-Chlorooctane 89.1 % 41-142

Surrogate: 1-Chlorooctadecane 92.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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: 02/13/2019
Reported: 02/14/2019
Project Name: TRIGG FEDERAL #1
Project Number: NONE GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: E. 2 (H900575-03)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/13/2019	ND	2.04	102	2.00	13.2	
Toluene*	<0.050	0.050	02/13/2019	ND	2.06	103	2.00	10.1	
Ethylbenzene*	<0.050	0.050	02/13/2019	ND	1.96	98.2	2.00	9.66	
Total Xylenes*	<0.150	0.150	02/13/2019	ND	5.75	95.9	6.00	8.33	
Total BTEX	<0.300	0.300	02/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	02/14/2019	ND	416	104	400	0.00	

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	02/14/2019	ND	185	92.7	200	5.54	
DRO >C10-C28*	<10.0	10.0	02/14/2019	ND	160	80.0	200	6.54	
EXT DRO >C28-C36	<10.0	10.0	02/14/2019	ND					

Surrogate: 1-Chlorooctane 93.7 % 41-142

Surrogate: 1-Chlorooctadecane 99.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 02/13/2019
Reported: 02/14/2019
Project Name: TRIGG FEDERAL #1
Project Number: NONE GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: W. 2 (H900575-04)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/13/2019	ND	2.04	102	2.00	13.2	
Toluene*	<0.050	0.050	02/13/2019	ND	2.06	103	2.00	10.1	
Ethylbenzene*	<0.050	0.050	02/13/2019	ND	1.96	98.2	2.00	9.66	
Total Xylenes*	<0.150	0.150	02/13/2019	ND	5.75	95.9	6.00	8.33	
Total BTEx	<0.300	0.300	02/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.9 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	02/14/2019	ND	416	104	400	0.00		

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	02/14/2019	ND	185	92.7	200	5.54	
DRO >C10-C28*	<10.0	10.0	02/14/2019	ND	160	80.0	200	6.54	
EXT DRO >C28-C36	<10.0	10.0	02/14/2019	ND					

Surrogate: 1-Chlorooctane 89.3 % 41-142

Surrogate: 1-Chlorooctadecane 93.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



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

Page 1 of 7

Client Name: COG-Artesia		Site Manager: Sheldon Hitchcock	
Project Name: Irving Fed #1		Project #:	
Project Location: (county, state) Eddy co, NM		Project #:	
Invoice to: Sheldon Hitchcock		Project #:	
Receiving Laboratory: Cardinal		Sampler Name: Sheldon Hitchcock	
Comments: Rush			
LAB # H900575			
LAB USE ONLY			
SAMPLE IDENTIFICATION			
YEAR: 2019			
DATE: 2/11		TIME: 11:45	
WATER		SOIL	
HCL		HNO3	
ICE			
# CONTAINERS		Grab(G) / Comp(C)	
TPH 8015M (GRO - DRO - MRO)			
BTX 8021B			
Chloride			
LAB USE ONLY			
REMARKS:			
RUSH: Same Day 24 hr 48 hr 72 hr			
Special Report Limits or TRRP Report			

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

February 21, 2019

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: TRIGG FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 02/20/19 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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: 02/20/2019
Reported: 02/21/2019
Project Name: TRIGG FEDERAL #1
Project Number: NOT GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/20/2019
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Jodi Henson

Sample ID: BOTTOM - 6 (H900662-01)

BTX 8021B		mg/kg	Analyzed By: ms					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/20/2019	ND	1.81	90.6	2.00	0.791	
Toluene*	<0.050	0.050	02/20/2019	ND	1.82	91.2	2.00	1.84	
Ethylbenzene*	0.248	0.050	02/20/2019	ND	1.85	92.7	2.00	1.21	
Total Xylenes*	1.34	0.150	02/20/2019	ND	5.40	90.0	6.00	1.01	
Total BTX	1.59	0.300	02/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 130 % 73.3-129

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/21/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	80.8	10.0	02/20/2019	ND	220	110	200	4.12	
DRO >C10-C28*	287	10.0	02/20/2019	ND	215	107	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	02/20/2019	ND					

Surrogate: 1-Chlorooctane 108 % 41-142

Surrogate: 1-Chlorooctadecane 89.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



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

Page 7 of 7

Page 4 of 4

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Circle ☒ HAND DELIVERED FEDEX UPS Tracking # _____

sample taken & brought directly to lab. *gjt*



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

February 21, 2019

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: TRIGG FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 02/20/19 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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: 02/20/2019
Reported: 02/21/2019
Project Name: TRIGG FEDERAL #1
Project Number: NOT GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/20/2019
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Jodi Henson

Sample ID: N. 1 (H900663-01)

BTEx 8021B		mg/kg	Analyzed By: ms					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.250	0.250	02/20/2019	ND	1.81	90.6	2.00	0.791	
Toluene*	<0.500	0.500	02/20/2019	ND	1.82	91.2	2.00	1.84	
Ethylbenzene*	3.63	0.500	02/20/2019	ND	1.85	92.7	2.00	1.21	
Total Xylenes*	33.6	1.50	02/20/2019	ND	5.40	90.0	6.00	1.01	
Total BTEx	37.2	2.75	02/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 131 % 73.3-129

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/21/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1780	10.0	02/20/2019	ND	220	110	200	4.12	
DRO >C10-C28*	2280	10.0	02/20/2019	ND	215	107	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	02/20/2019	ND					

Surrogate: 1-Chlorooctane 532 % 41-142

Surrogate: 1-Chlorooctadecane 91.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 02/20/2019
Reported: 02/21/2019
Project Name: TRIGG FEDERAL #1
Project Number: NOT GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/20/2019
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Jodi Henson

Sample ID: N. 2 (H900663-02)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/20/2019	ND	1.81	90.6	2.00	0.791	
Toluene*	<0.050	0.050	02/20/2019	ND	1.82	91.2	2.00	1.84	
Ethylbenzene*	<0.050	0.050	02/20/2019	ND	1.85	92.7	2.00	1.21	
Total Xylenes*	<0.150	0.150	02/20/2019	ND	5.40	90.0	6.00	1.01	
Total BTEX	<0.300	0.300	02/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	416	16.0	02/21/2019	ND	416	104	400	3.77		

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	02/20/2019	ND	220	110	200	4.12	
DRO >C10-C28*	<10.0	10.0	02/20/2019	ND	215	107	200	4.57	
EXT DRO >C28-C36	<10.0	10.0	02/20/2019	ND					

Surrogate: 1-Chlorooctane 88.6 % 41-142

Surrogate: 1-Chlorooctadecane 91.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 02/20/2019
Reported: 02/21/2019
Project Name: TRIGG FEDERAL #1
Project Number: NOT GIVEN
Project Location: COG-EDDY CO., NM

Sampling Date: 02/20/2019
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Jodi Henson

Sample ID: S. 2 (H900663-03)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/20/2019	ND	1.81	90.6	2.00	0.791	
Toluene*	<0.050	0.050	02/20/2019	ND	1.82	91.2	2.00	1.84	
Ethylbenzene*	<0.050	0.050	02/20/2019	ND	1.85	92.7	2.00	1.21	
Total Xylenes*	<0.150	0.150	02/20/2019	ND	5.40	90.0	6.00	1.01	
Total BTEX	<0.300	0.300	02/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	02/21/2019	ND	416	104	400	3.77	

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	02/21/2019	ND	221	111	200	3.97	
DRO >C10-C28*	26.2	10.0	02/21/2019	ND	231	116	200	3.83	
EXT DRO >C28-C36	<10.0	10.0	02/21/2019	ND					

Surrogate: 1-Chlorooctane 78.1 % 41-142

Surrogate: 1-Chlorooctadecane 78.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



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

Page 1 of 1

Page 6 of 6

Client Name:

COG-Artesia

Site Manager:

Sheldon Hitchcock

Project Name:

Trigg Fed con #1

Project Location:

(county, state)

Eddy Co

Invoice to:

Sheldon Hitchcock

Receiving Laboratory:

Carvin

Sampler Name:

Sheldon Hitchcock

Comments:

LAB #

H900663

SAMPLE IDENTIFICATION

SAMPLING

YEAR:

2014

MATRIX

WATER

SOIL

PRESERVATIVE METHOD

HCL

HNO₃

ICE

CONTAINERS

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Grab(G) / Comp(C)

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12:45

TPH 8015M (GRO - DRO - MRO)

BTEX 8021B

Chloride

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ORIGINAL COPY

☒ (Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

Samples taken & brought directly



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

March 04, 2019

DAKOTA NEEL

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: TRIGG FEDERAL COM #1

Enclosed are the results of analyses for samples received by the laboratory on 03/01/19 10:46.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	03/01/2019	Sampling Date:	02/26/2019
Reported:	03/04/2019	Sampling Type:	Soil
Project Name:	TRIGG FEDERAL COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG-EDDY CO., NM		

Sample ID: BOTTOM - 6 (H900806-01)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/01/2019	ND	2.19	110	2.00	1.72	
Toluene*	<0.050	0.050	03/01/2019	ND	2.01	101	2.00	1.88	
Ethylbenzene*	<0.050	0.050	03/01/2019	ND	2.10	105	2.00	0.961	
Total Xylenes*	<0.150	0.150	03/01/2019	ND	6.35	106	6.00	0.649	
Total BTEX	<0.300	0.300	03/01/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	03/02/2019	ND	432	108	400	0.00		

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	03/01/2019	ND	204	102	200	0.396	
DRO >C10-C28*	<10.0	10.0	03/01/2019	ND	225	113	200	0.801	
EXT DRO >C28-C36	<10.0	10.0	03/01/2019	ND					

Surrogate: 1-Chlorooctane 78.3 % 41-142

Surrogate: 1-Chlorooctadecane 79.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received: 03/01/2019
 Reported: 03/04/2019
 Project Name: TRIGG FEDERAL COM #1
 Project Number: NONE GIVEN
 Project Location: COG-EDDY CO., NM

Sampling Date: 02/26/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: N.1 (H900806-02)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/01/2019	ND	2.19	110	2.00	1.72		
Toluene*	<0.050	0.050	03/01/2019	ND	2.01	101	2.00	1.88		
Ethylbenzene*	<0.050	0.050	03/01/2019	ND	2.10	105	2.00	0.961		
Total Xylenes*	<0.150	0.150	03/01/2019	ND	6.35	106	6.00	0.649		
Total BTEx	<0.300	0.300	03/01/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	03/02/2019	ND	432	108	400	0.00		

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	03/01/2019	ND	204	102	200	0.396	
DRO >C10-C28*	<10.0	10.0	03/01/2019	ND	225	113	200	0.801	
EXT DRO >C28-C36	<10.0	10.0	03/01/2019	ND					

Surrogate: 1-Chlorooctane 79.0 % 41-142

Surrogate: 1-Chlorooctadecane 81.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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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

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A handwritten signature in black ink, appearing to read "C. D. Keene".

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 3



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

APPENDIX D



☉ 71°E (T) ● 32.831593°, -104.366440° ±31956.9ft ▲ 3342ft

 **CONCHO**

COG Operating LLC

E N E R G Y L T D.

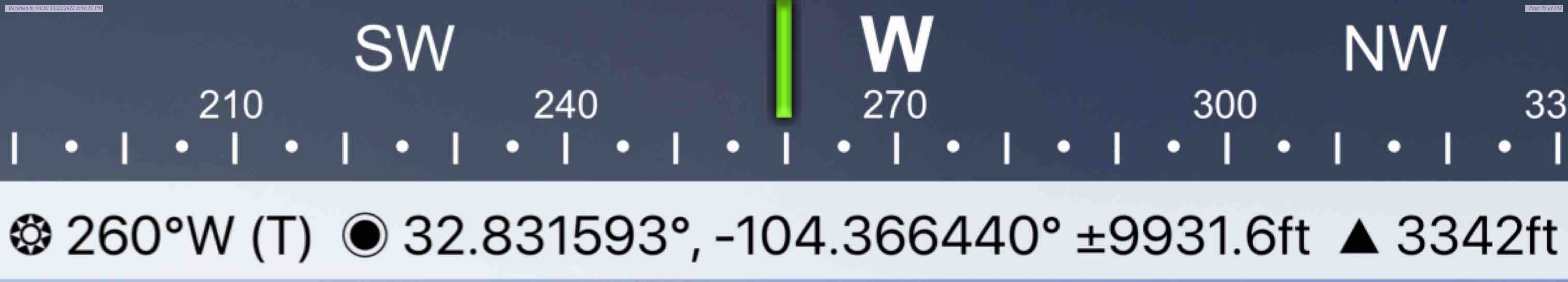
TRIGG FEDERAL GAS COM

FEDERAL LEASE NO. LC-0604050-A

WELL NO. 1

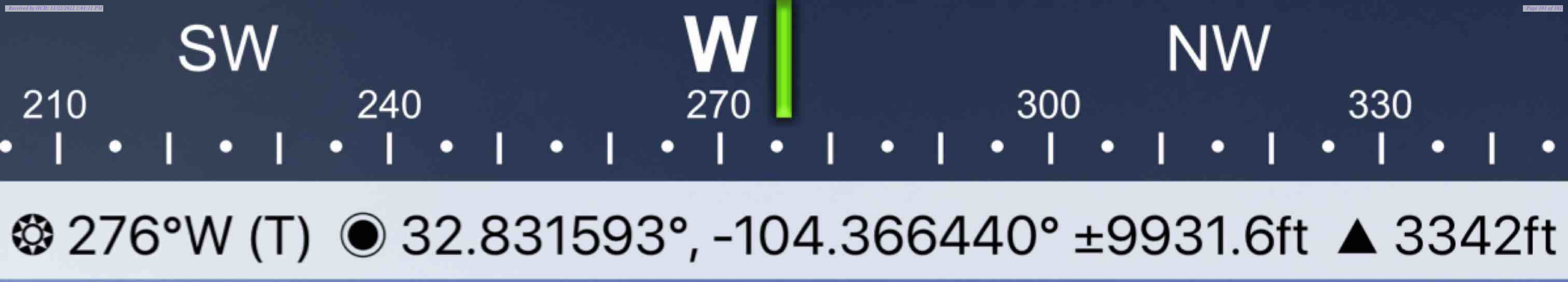
SE / 4 NW / 4 SEC. 34-T17S-R27E

EDDY COUNTY



11 Feb 2019, 12:41:21





11 Feb 2019, 12:41:26

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 160907

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 160907
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	11/22/2022