



December 16, 2019

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

Ryan Mann
New Mexico State Land Office
1001 S. Atkinson
Roswell, NM 88230

**Re: Closure Report
COG Operating
Corazon State Unit 3H (12/12/18)
API #: 30-025-40946
GPS: 32.50127, -103.56210
RP#: 1RP-5396
Unit Letter N, Section 3, Township 21 South, Range 33 East
Lea 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 Corazon State Unit 3H located in Unit Letter N, Section 3, Township 21 South, Range 33 East in Lea County, New Mexico.

BACKGROUND

On December 12, 2018, the release was caused by the oil dump failing to open on the FWKO sending oil out of the flare. Approximately 1 barrels of oil was released and no fluids were recovered due to the fire burning off any standing fluid. COG submitted a final C-141 to the NMOCD for closure of the release. The NMOCD requested samples in the area since the fluids hit the ground. The initial C-141 is shown in Appendix A.

GROUNDWATER AND REGULATORY FRAMEWORK

The USGS database showed water wells in Section 04 and Section 11 with a depth to water of approximately 128' and 142, respectively. No water wells were listed within Section 03 on the New Mexico Office of the State Engineer's (NMOSE) database. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in the area is 150' below surface. The groundwater data 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 facilities in New Mexico (effective August 14, 2018). According to the site characterization evaluation, no other receptors (water wells, playas, karst, water course, lake beds or ordinance boundaries)

were located within each specific boundaries or distance from the site. The delineation and closure criteria are listed below:

General Site Characterization and Groundwater:

Site Characterization	Average Groundwater Depth (ft.)
None Located	>100 feet

Table 1 Delineation and Closure Criteria:

Remedial Action Levels (RALs)	
Chlorides	20,000 mg/kg
TPH (GRO and DRO and MRO)	2,500 mg/kg
TPH (GRO and DRO)	1,000 mg/kg
Benzene	10 mg/kg
Total BTEX	50 mg/kg

REMEDICATION

All of the samples were below the Table 1 closure criteria concentrations and no remediation is required at the site.

SITE RECLAMATION AND RESTORATION

The spill remained on the facility pad and no reclamation is required for the release.

CLOSURE REQUEST

Based on the results and remediation performed, COG requesting closure of the release. The signed C-141 Final is included in Appendix A. Should you have any questions or concerns on the closure report, please do not hesitate to contact me.

Sincerely,

Sincerely,
Concho Operating, LLC



Ike Tavarez, P. G.
 Senior HSE Supervisor
itavarez@concho.com

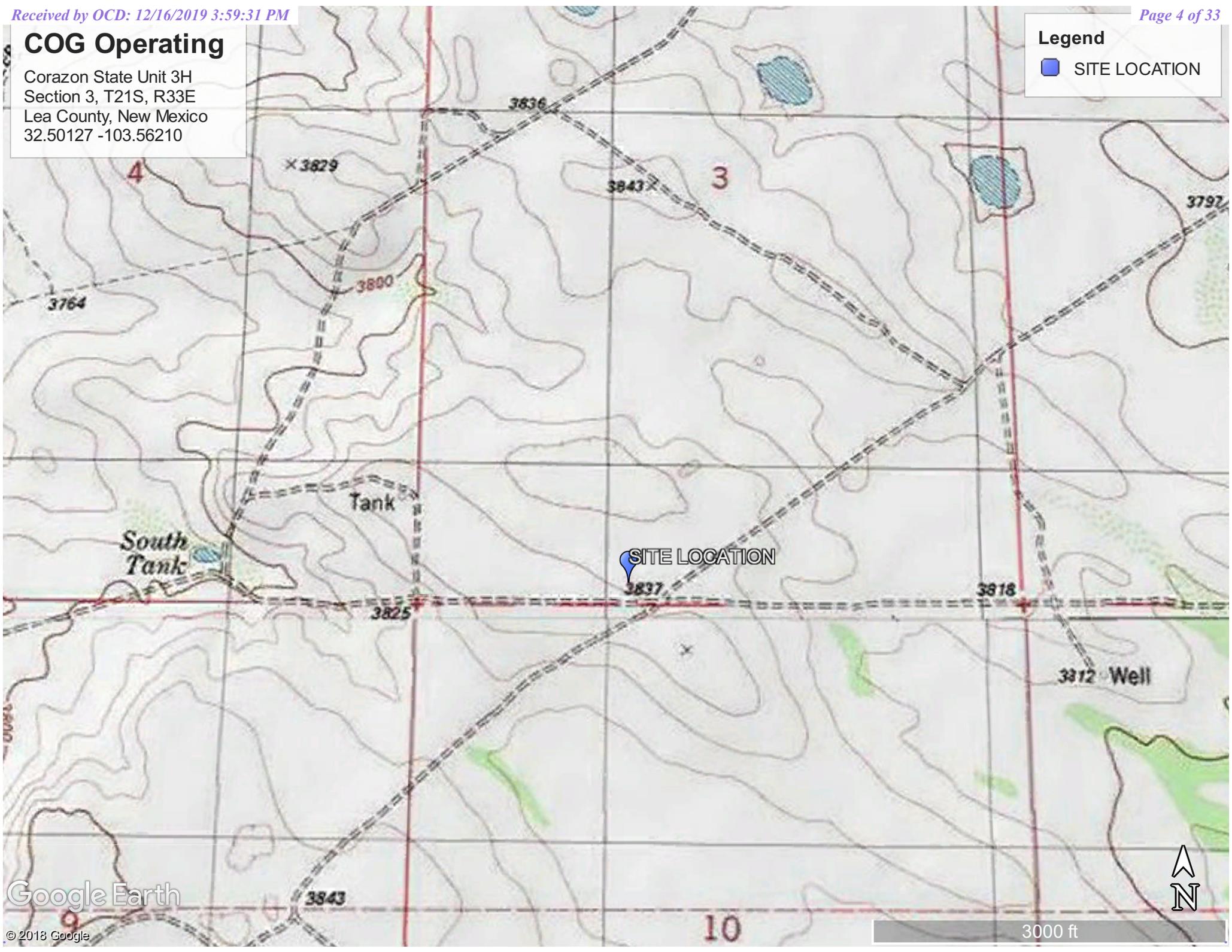
Figures

COG Operating

Corazon State Unit 3H
Section 3, T21S, R33E
Lea County, New Mexico
32.50127 -103.56210

Legend

-  SITE LOCATION

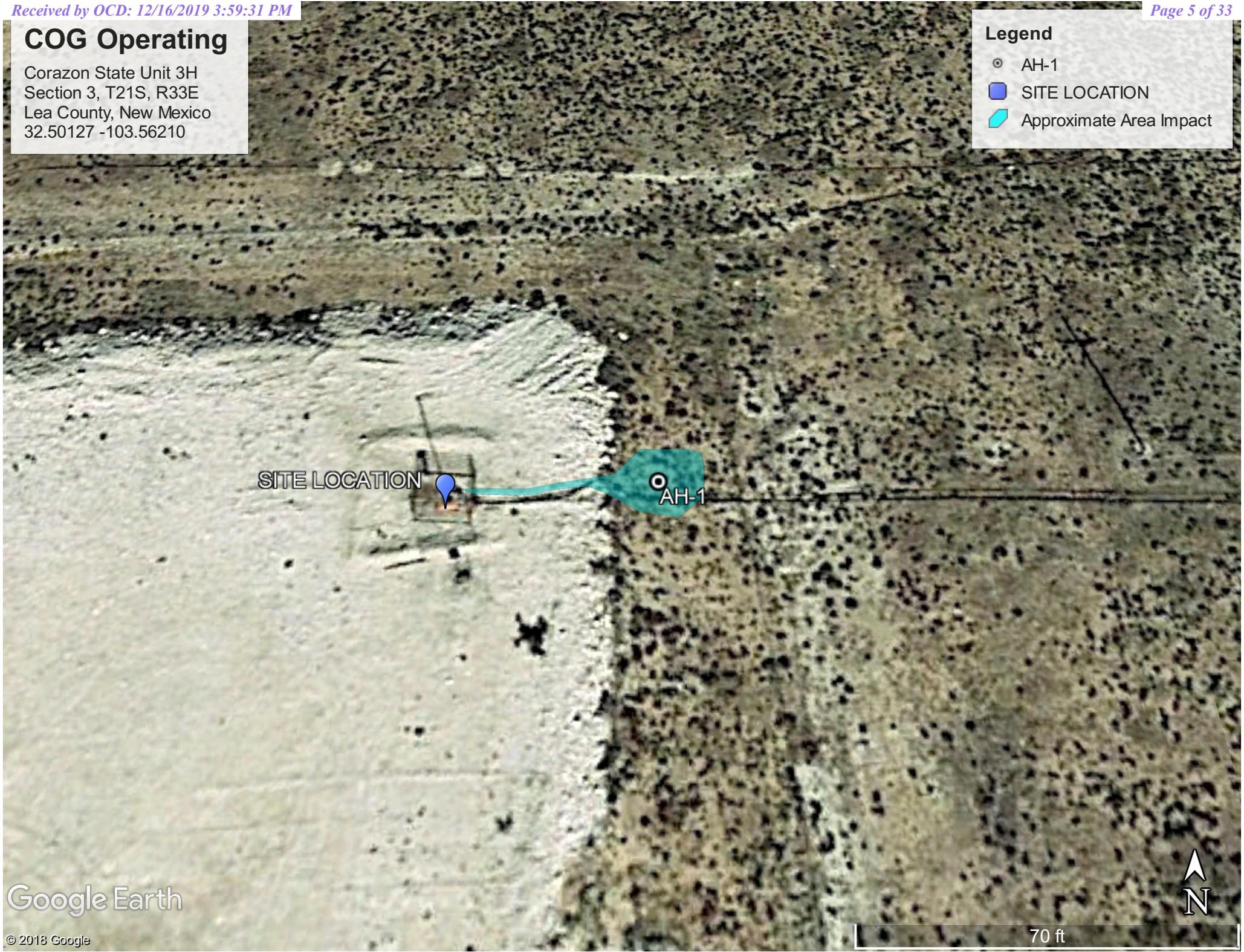


COG Operating

Corazon State Unit 3H
Section 3, T21S, R33E
Lea County, New Mexico
32.50127 -103.56210

Legend

- AH-1
- SITE LOCATION
- Approximate Area Impact



SITE LOCATION

AH-1



Tables

Table 1
COG Operating LLC.
Corazon State 3H (12.12.19)
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	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
Average Depth to Groundwater (ft)			>100'											
NMOCD Remediation Action Limits (mg/kg)					-	-	-	2,500	-	-	1,000	10	50	20,000
AH-1	10/8/2019	0-0.5	X		<50.0	277	57.7	335	<50.0	277	277	<0.001	<0.001	56.4

(-) Not Analyzed

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

Surface Owner: State Federal Tribal Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Form C-141

State of New Mexico
Oil Conservation Division

Page 2

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input type="checkbox"/> The source of the release has been stopped. <input type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <u>not</u> been undertaken, explain why:
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name: _____ Title: _____ Signature: <u>Delann Grant</u> Date: _____ email: _____ Telephone: _____
<p><u>OCD Only</u></p> Received by: _____ Date: _____

Form C-141

State of New Mexico
Oil Conservation Division

Page 3

Incident ID	NAB1907833391
District RP	IRP 5396
Facility ID	
Application ID	pAB1907831857

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
515 Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

<p>Characterization Report Checklist: <i>Each of the following items must be included in the report.</i></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. <input type="checkbox"/> Field data <input checked="" type="checkbox"/> Data table of soil contaminant concentration data <input checked="" type="checkbox"/> Depth to water determination <input checked="" type="checkbox"/> Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release <input type="checkbox"/> Boring or excavation logs <input type="checkbox"/> Photographs including date and GIS information <input checked="" type="checkbox"/> Topographic/Aerial maps <input checked="" type="checkbox"/> Laboratory data including chain of custody
--

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	NAB1907833391
District RP	1RP 5396
Facility ID	
Application ID	pAB1907831857

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

Printed Name: Ike Tavarez Title: Senior HSE Supervisor

Signature:  Date: 12/16/19

email: itavarez@concho.com Telephone: 432-683-7443

OCD Only

Received by: _____ Date: _____

Form C-141

State of New Mexico
Oil Conservation Division

Page 6

Incident ID	NAB1907833391
District RP	IRP 5396
Facility ID	
Application ID	pAB1907831857

Closure

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

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

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

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

Printed Name: Ike Tavaréz Title: Senior HSE Supervisor

Signature:  Date: 10/24/18

email: itavarez@concho.com Telephone: 432-683-7443

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Appendix B

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

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

(NAD83 UTM in meters) (In feet)

POD Number	Code	POD Sub-basin	County	Q 6	Q 4	Q 4	Sec	Tws	Rng	X	Y	DepthWell	DepthWater	Water Column	
CP 00578		CP	LE	4	3	11	21S	33E		636674	3595445*	<input type="checkbox"/>	165	150	15
CP 00579		CP	LE	2	2	02	21S	33E		637438	3598269*	<input type="checkbox"/>	125	100	25
CP 00600 POD1		CP	LE	2	4	25	21S	33E		639152	3591054*	<input type="checkbox"/>	65		
CP 00601 POD1		CP	LE	2	1	28	21S	33E		633502	3591791*	<input type="checkbox"/>	223		
CP 00765 POD1		CP	LE	3	2	13	21S	33E		638698	3594668*	<input type="checkbox"/>	508		
CP 00766 POD1		CP	LE	3	2	13	21S	33E		638698	3594668*	<input type="checkbox"/>	510		
CP 00794 POD1		CP	LE	4	1	1	18	21S	33E	629976	3594865*	<input type="checkbox"/>	160		
CP 00795 POD1		CP	LE	4	1	1	18	21S	33E	629976	3594865*	<input type="checkbox"/>	170		
CP 00796 POD1		CP	LE	2	2	4	02	21S	33E	637548	3597564*	<input type="checkbox"/>	102		
CP 00797 POD1		CP	LE	1	2	4	02	21S	33E	637348	3597564*	<input type="checkbox"/>	110		
CP 00801 POD1		CP	LE	3	2	1	11	21S	33E	636555	3596549*	<input type="checkbox"/>	200		
CP 00802 POD1		CP	LE	3	3	2	02	21S	33E	637001	3598672	<input type="checkbox"/>	1154		
CP 00803 POD1		CP	LE	3	2	2	02	21S	33E	637337	3598168*	<input type="checkbox"/>	1100		
CP 00804 POD1		CP	LE	3	2	2	02	21S	33E	637337	3598168*	<input type="checkbox"/>	170		
CP 00854 POD1		CP	LE	1	1	2	33	21S	33E	633879	3590223	<input type="checkbox"/>	950	600	350
CP 01290 POD1		CP	LE	3	1	02	21S	33E		637114	3598855	<input type="checkbox"/>	1250	725	525
CP 01316 POD1		CP	LE	3	2	4	02	21S	33E	637432	3597709	<input type="checkbox"/>	1370		
CP 01317 POD1		CP	LE	1	3	2	02	21S	33E	636884	3598450	<input type="checkbox"/>	1250	1025	225
CP 01349 POD1		CP	LE	2	3	1	27	21S	33E	635304	3591576	<input type="checkbox"/>	1188	572	616
CP 01355 POD1		CP	LE	2	1	3	27	21S	33E	634773	3591061	<input type="checkbox"/>	1192	582	610
CP 01356 POD1		CP	LE	4	2	2	33	21S	33E	634560	3590014	<input type="checkbox"/>	1098	555	543
CP 01357 POD1		CP	LE	4	3	1	27	21S	33E	634782	3591347	<input type="checkbox"/>	1286	578	708
CP 01411 POD1		CP	LE	2	2	34	21S	33E		635968	3590386	<input type="checkbox"/>	1149		
CP 01411 POD2		CP	LE	1	2	34	21S	33E		635534	3590380	<input type="checkbox"/>	1125		

Average Depth to Water: **543 feet**
 Minimum Depth: **100 feet**
 Maximum Depth: **1025 feet**

Record Count: 24

PLSS Search:

Township: 21S **Range:** 33E

*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.

2/28/19 11:52 AM

WATER COLUMN/ AVERAGE DEPTH
TO WATER



USGS Home
 Contact USGS
 Search USGS

National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category: Geographic Area:

Click to [hide](#) News Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#)

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 322948103325901

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 322948103325901 21S.33E.11.11144

Available data for this site

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°29'56", Longitude 103°33'00" NAD27

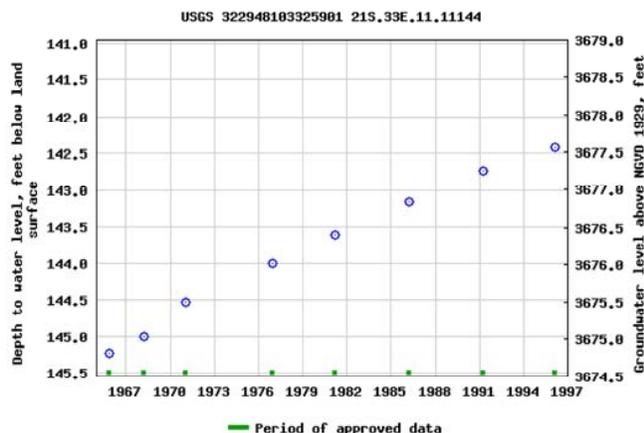
Land-surface elevation 3,820.00 feet above NGVD29

The depth of the well is 195 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.

[Download a presentation-quality graph](#)

- [Questions about sites/data?](#)
- [Feedback on this web site](#)
- [Automated retrievals](#)
- [Help](#)
- [Data Tips](#)
- [Explanation of terms](#)
- [Subscribe for system changes](#)
- [News](#)

Accessibility Plug-Ins FOIA Privacy Policies and Notices

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for USA: Water Levels

URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?site_no=322948103325901





USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category: Geographic Area:

Click to hide News Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#)

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =
• 322955103342801

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 322955103342801 21S.33E.04.43430

Available data for this site:

Lea County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°29'55", Longitude 103°34'28" NAD27

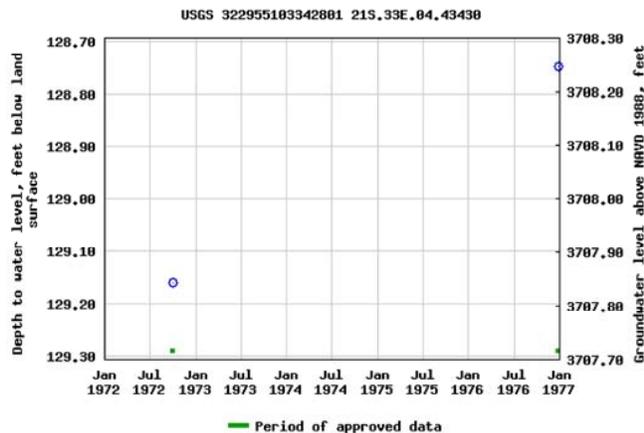
Land-surface elevation 3,837 feet above NAVD88

The depth of the well is 147 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.

[Download a presentation-quality graph](#)

- [Questions about sites/data?](#)
- [Feedback on this web site](#)
- [Automated retrievals](#)
- [Help](#)
- [Data Tips](#)
- [Explanation of terms](#)
- [Subscribe for system changes](#)
- [News](#)

Accessibility Plug-Ins FOIA Privacy Policies and Notices

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for USA: Water Levels

URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?site_no=322955103342801



COG Operating

Corazon State Unit 3H
Section 3, T21S, R33E
Lea County, New Mexico
32.50127 -103.56210

Legend

 SITE LOCATION

SITE LOCATION 



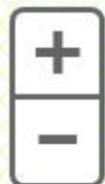


NFHL Web Mapping Application

Please select a county ▾

About

User Guide



▸ Data Layers

▸ Measure

▸ Print

▸ Bookmarks

▸ Switch Basemap

🔍 32.50127 -103.56210 ✕



Appendix C



Certificate of Analysis Summary 639770

COG Operating LLC, Artesia, NM

Project Name: Corazon State 3H (12/12/18)



Project Id:
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Fri Oct-11-19 02:54 pm
Report Date: 15-OCT-19
Project Manager: Jessica Kramer

Analysis Requested	Lab Id: 639770-001 Field Id: AH-1 (0-0.5) Depth: Matrix: SOIL Sampled: Oct-08-19 00:00					
BTEX by EPA 8021B	Extracted: Oct-11-19 17:00 Analyzed: Oct-13-19 19:46 Units/RL: mg/kg RL					
Benzene	<0.00199 0.00199					
Toluene	<0.00199 0.00199					
Ethylbenzene	<0.00199 0.00199					
m,p-Xylenes	<0.00398 0.00398					
o-Xylene	<0.00199 0.00199					
Total Xylenes	<0.00199 0.00199					
Total BTEX	<0.00199 0.00199					
Chloride by EPA 300	Extracted: Oct-11-19 17:30 Analyzed: Oct-11-19 21:52 Units/RL: mg/kg RL					
Chloride	56.4 5.00					
TPH By SW8015 Mod	Extracted: ** ** ** ** Analyzed: Oct-11-19 20:58 Units/RL: mg/kg RL					
Gasoline Range Hydrocarbons	<50.0 50.0					
Diesel Range Organics	277 50.0					
Motor Oil Range Hydrocarbons (MRO)	57.7 50.0					
Total TPH	335 50.0					

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

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

Version: 1.0%

Jessica Kramer

Jessica Kramer
Project Assistant

Analytical Report 639770

for
COG Operating LLC

Project Manager: Ike Tavarez
Corazon State 3H (12/12/18)

15-OCT-19

Collected By: Client



1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



15-OCT-19

Project Manager: **Ike Tavarez**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: XENCO Report No(s): **639770**

Corazon State 3H (12/12/18)

Project Address: Lea County, New Mexico

Ike Tavarez:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 639770. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 639770 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 639770



COG Operating LLC, Artesia, NM

Corazon State 3H (12/12/18)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-1 (0-0.5)	S	10-08-19 00:00	In	639770-001



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Corazon State 3H (12/12/18)

Project ID:

Work Order Number(s): 639770

Report Date: 15-OCT-19

Date Received: 10/11/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3104134 BTEX by EPA 8021B

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

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 639570-001 SD.



Certificate of Analytical Results 639770



COG Operating LLC, Artesia, NM

Corazon State 3H (12/12/18)

Sample Id: **AH-1 (0-0.5)** Matrix: Soil Date Received: 10.11.19 14.54
 Lab Sample Id: 639770-001 Date Collected: 10.08.19 00.00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 10.11.19 17.30 Basis: Wet Weight
 Seq Number: 3104147

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	56.4	5.00	mg/kg	10.11.19 21.52		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 10.11.19 11.00 Basis: Wet Weight
 Seq Number: 3104204

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	10.11.19 20.58	U	1
Diesel Range Organics	C10C28DRO	277	50.0	mg/kg	10.11.19 20.58		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	57.7	50.0	mg/kg	10.11.19 20.58		1
Total TPH	PHC635	335	50.0	mg/kg	10.11.19 20.58		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.11.19 20.58	
o-Terphenyl	84-15-1	108	%	70-135	10.11.19 20.58	



Certificate of Analytical Results 639770



COG Operating LLC, Artesia, NM

Corazon State 3H (12/12/18)

Sample Id: **AH-1 (0-0.5)**

Matrix: Soil

Date Received: 10.11.19 14.54

Lab Sample Id: 639770-001

Date Collected: 10.08.19 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 10.11.19 17.00

Basis: Wet Weight

Seq Number: 3104134

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.13.19 19.46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.13.19 19.46	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.13.19 19.46	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.13.19 19.46	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.13.19 19.46	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.13.19 19.46	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.13.19 19.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	73	%	70-130	10.13.19 19.46		
4-Bromofluorobenzene	460-00-4	114	%	70-130	10.13.19 19.46		



QC Summary 639770

COG Operating LLC
Corazon State 3H (12/12/18)

Analytical Method: Chloride by EPA 300

Seq Number: 3104147
MB Sample Id: 7687993-1-BLK

Matrix: Solid
LCS Sample Id: 7687993-1-BKS

Prep Method: E300P
Date Prep: 10.11.19
LCSD Sample Id: 7687993-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	247	99	246	98	90-110	0	20	mg/kg	10.11.19 19:13	

Analytical Method: Chloride by EPA 300

Seq Number: 3104147
Parent Sample Id: 639515-001

Matrix: Soil
MS Sample Id: 639515-001 S

Prep Method: E300P
Date Prep: 10.11.19
MSD Sample Id: 639515-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	18.7	250	270	101	274	102	90-110	1	20	mg/kg	10.11.19 19:29	

Analytical Method: Chloride by EPA 300

Seq Number: 3104147
Parent Sample Id: 639515-011

Matrix: Soil
MS Sample Id: 639515-011 S

Prep Method: E300P
Date Prep: 10.11.19
MSD Sample Id: 639515-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	635	252	859	89	857	88	90-110	0	20	mg/kg	10.11.19 20:43	X

Analytical Method: TPH By SW8015 Mod

Seq Number: 3104204
MB Sample Id: 7687940-1-BLK

Matrix: Solid
LCS Sample Id: 7687940-1-BKS

Prep Method: SW8015P
Date Prep: 10.11.19
LCSD Sample Id: 7687940-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<15.0	1000	1190	119	1180	118	70-135	1	20	mg/kg	10.11.19 12:37	
Diesel Range Organics	<50.0	1000	1150	115	1200	120	70-135	4	20	mg/kg	10.11.19 12:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		124		113		70-135	%	10.11.19 12:37
o-Terphenyl	118		112		97		70-135	%	10.11.19 12:37

Analytical Method: TPH By SW8015 Mod

Seq Number: 3104204

Matrix: Solid
MB Sample Id: 7687940-1-BLK

Prep Method: SW8015P
Date Prep: 10.11.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.11.19 12:16	

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

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

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

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



QC Summary 639770

COG Operating LLC
Corazon State 3H (12/12/18)

Analytical Method: TPH By SW8015 Mod

Seq Number: 3104204

Parent Sample Id: 639399-001

Matrix: Soil

MS Sample Id: 639399-001 S

Prep Method: SW8015P

Date Prep: 10.11.19

MSD Sample Id: 639399-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<15.0	999	1190	119	1180	118	70-135	1	20	mg/kg	10.11.19 13:39	
Diesel Range Organics	28.8	999	1160	113	1140	111	70-135	2	20	mg/kg	10.11.19 13:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		121		70-135	%	10.11.19 13:39
o-Terphenyl	88		103		70-135	%	10.11.19 13:39

Analytical Method: BTEX by EPA 8021B

Seq Number: 3104134

MB Sample Id: 7687868-1-BLK

Matrix: Solid

LCS Sample Id: 7687868-1-BKS

Prep Method: SW5030B

Date Prep: 10.11.19

LCSD Sample Id: 7687868-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.104	104	0.0895	90	70-130	15	35	mg/kg	10.13.19 17:07	
Toluene	<0.00200	0.100	0.0987	99	0.0881	88	70-130	11	35	mg/kg	10.13.19 17:07	
Ethylbenzene	<0.00200	0.100	0.106	106	0.0958	96	70-130	10	35	mg/kg	10.13.19 17:07	
m,p-Xylenes	<0.00400	0.200	0.208	104	0.189	95	70-130	10	35	mg/kg	10.13.19 17:07	
o-Xylene	<0.00200	0.100	0.106	106	0.0971	97	70-130	9	35	mg/kg	10.13.19 17:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		90		90		70-130	%	10.13.19 17:07
4-Bromofluorobenzene	99		102		106		70-130	%	10.13.19 17:07

Analytical Method: BTEX by EPA 8021B

Seq Number: 3104134

Parent Sample Id: 639570-001

Matrix: Soil

MS Sample Id: 639570-001 S

Prep Method: SW5030B

Date Prep: 10.11.19

MSD Sample Id: 639570-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0417	41	0.0514	52	70-130	21	35	mg/kg	10.13.19 17:48	X
Toluene	<0.00201	0.101	0.0323	32	0.0376	38	70-130	15	35	mg/kg	10.13.19 17:48	X
Ethylbenzene	0.0152	0.101	0.0259	11	0.0326	17	70-130	23	35	mg/kg	10.13.19 17:48	X
m,p-Xylenes	0.0266	0.201	0.0548	14	0.0634	18	70-130	15	35	mg/kg	10.13.19 17:48	X
o-Xylene	0.0803	0.101	0.0228	0	0.0329	0	70-130	36	35	mg/kg	10.13.19 17:48	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		90		70-130	%	10.13.19 17:48
4-Bromofluorobenzene	126		145	**	70-130	%	10.13.19 17:48

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

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

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

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



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

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

Date/ Time Received: 10/11/2019 02:54:00 PM

Temperature Measuring device used : R8

Work Order #: 639770

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6*Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes TPH in bulk
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:  Date: 10/11/2019
 Amanda Levario

Checklist reviewed by:  Date: 10/13/2019
 Jessica Kramer

Photos