

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

Printed Name: Robert Grubbs Jr. Title: Environmental Coordinator

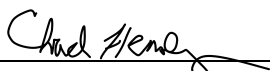
Signature:  Date: _____

email: Robert.D.Grubbs@conocophillps.com Telephone: 432-661-6601

OCD Only

Received by: Chad Hensley Date: 07/30/2021

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: 07/30/2021

Printed Name: Chad Hensley Title: Environmental Specialist Advanced



May 3, 2021

Oil Conservation Division, District II
811 S. First St.
Artesia, NM 88210

Closure Report

Ben Lilly 2 State Com

004

Incident #NRM2032857078

GPS: 32.50144, -103.54960

Unit Letter M, Section 02, 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 in a lined facility and overflowed onto the pad due to a valve coming loose causing fluids to come out of heater at the Ben Lilly State Com 004. The release is located in Unit Letter M, Section 02, Township 21 South, Range 33 East Lea County, New Mexico. The release occurred at latitude 32.50144, longitude -103.54960.

BACKGROUND

On October 25, 2020, a release was discovered and a C-141 initial report was submitted and approved by the State Land Office (SLO). The initial C-141 is presented in Appendix A. A valve coming loose causing fluids to come out of heater resulting in the release of approximately twenty (20) barrels of oil and twenty-five (25) barrels of produced water, eighteen (18) barrels of oil and twenty-three (23) barrels of produced water being recovered.

GROUNDWATER AND REGULATORY FRAMEWORK

According to the New Mexico Office of the State Engineer (NMOSE) the nearest water well (POD # C 02313 POD1) is located approximately 0.65 miles northwest of the release point and indicates that groundwater in the project vicinity one hundred and ten (110) feet below ground surface (BGS). In addition, during inspection, the windmill was inactive and had access to the well to collect a static water level. According to the United States Geological Survey (USGS) 2 wells are located approximately 1.8 miles southeast of the release point and indicates that groundwater in the project vicinity. One well dated in 1957 showed a depth of one hundred and two (102) below ground surface (BGS) and a second well dated in 1994 showed a depth of one hundred and thirty (130) below ground surface. COG collected a static water level of 135 feet below surface. The water well information is shown in Appendix B.

A risk-based evaluation and site determination was 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, this release site is located within low karst. The groundwater data and the site characterization evaluation data are summarized in Appendix B. The delineation and closure criteria are listed below:

General Site Characterization and Groundwater:

Site Characterization	Average Groundwater Depth (ft.)
Low Karst	>100 ft

Delineation and Closure Criteria:

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

ASSESSMENT

On November 4, 2020, a hand auger was utilized to collect soil samples to delineate the impacted area. A total of four (4) auger holes were installed to assess the impact. On March 18, 2021 the site was resampled the areas of AH-1 and AH-2 to with a back-hoe to achieve delineation. The sampling results are summarized in Table 1. The analytical reports are shown in Appendix B.

REMEDATION ACTIVITIES

Based on the assessment results, the area of T-1 and T-2 were excavated to a depth of six (6) below ground surface. The impacted material in the areas of AH-3 and AH-4 were excavated to a depth of two (2) foot below ground surface. Approximately 120 cubic yards were transported to proper disposal.

SAMPLING

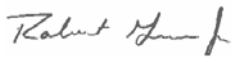
Once the excavation is complete, confirmation soil samples were collected from the excavated areas. To collect representative samples, composite samples (5-point composite) were collected every 200 square feet from the bottom and sidewalls of the excavated areas. The soil samples were analyzed for the constituents of concern. Discrete soil samples were collected from the excavation if any "hot spots" are encountered during the excavation.

SITE RECLAMATION AND RESTORATION

Upon completion of the remediation the excavation was backfilled with top soil and contoured to match the surrounding terrain. The surface was left in a rough condition to approximate natural surface deviations. The site will be mechanically seeded with the soil specific State Land seed mixture once proper seasonal conditions exist.

Should you have any questions or concerns on the remediation activities, please do not hesitate to contact me.

Sincerely,




Robert Grubbs Jr.
HSE Coordinator
robert.d.grubbs@conocophillips.com

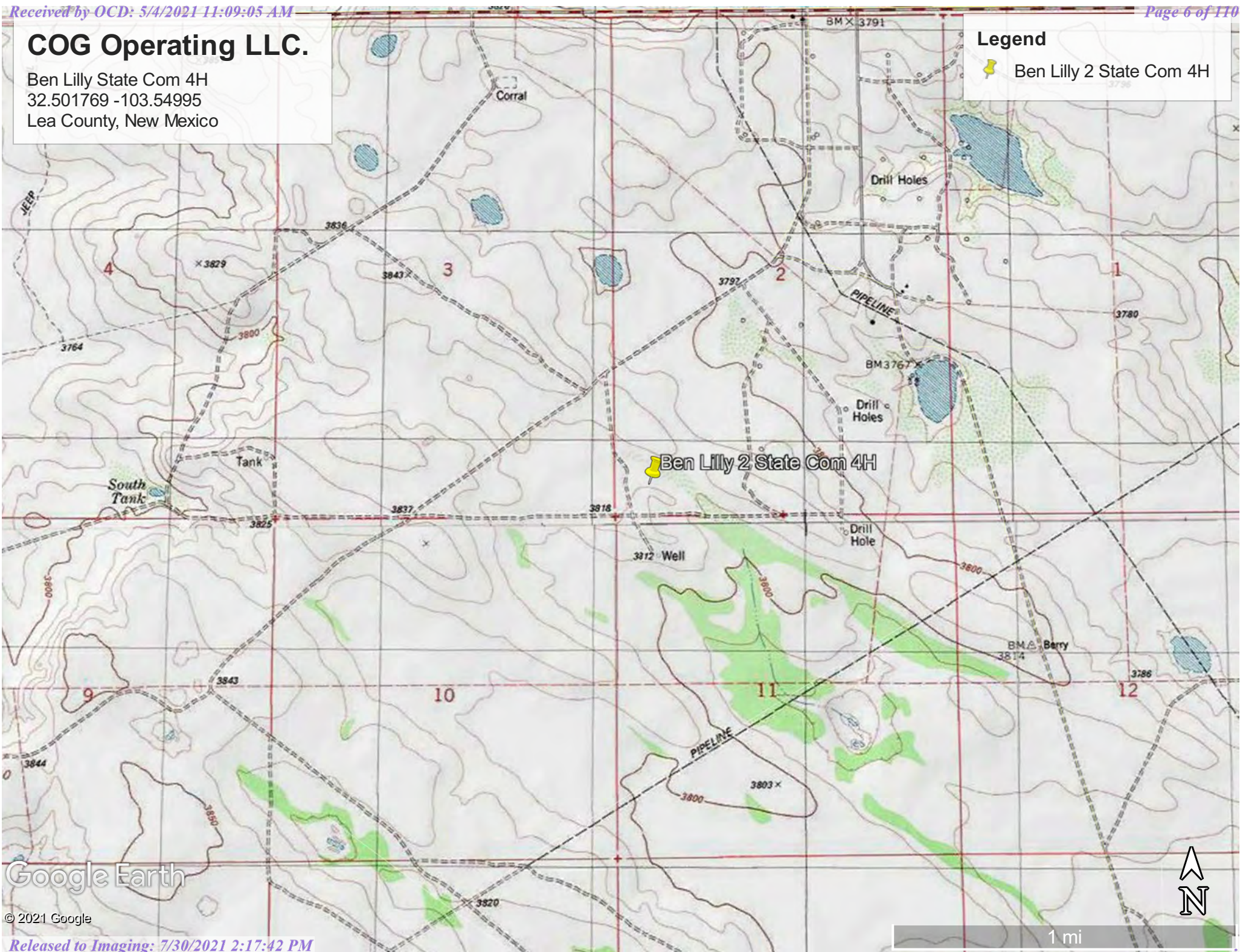
Maps

COG Operating LLC.

Ben Lilly State Com 4H
32.501769 -103.54995
Lea County, New Mexico

Legend



 Ben Lilly 2 State Com 4H



COG Operating LLC.

Ben Lilly State Com 4H
32.501769 -103.54995
Lea County, New Mexico

Legend

-  Release Area
-  Sample Locations

Lilly State Com 4H

G-1

T-2



G-3



COG Operating LLC.

Ben Lilly State Com 4H
32.501769 -103.54995
Lea County, New Mexico

Legend

-  Excavated Area
-  T-1



Google Earth

Released to Imaging: 7/30/2021 2:17:42 PM

100 ft

Table of Analytical Data

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)			50 -100'											
NMOCD RRAL Limits (mg/kg)					-	-	-	2,500	-	-	250	10	50	600
T-1 0-1'	11/16/2020	0-1'	X		<50.0	<50.0	<50.0	<50.00	<50.0	<50.0	<50.0	<0.00200	<0.002000	1240
T-1 2'	11/16/2020	2'	X		<49.9	<49.9	<49.9	<49.90	<49.9	<49.9	<49.9	<0.00202	<0.002020	400
T-1 3'	11/16/2020	3'	X		<49.9	<49.9	<49.9	<49.90	<49.9	<49.9	<49.9	<0.00199	<0.001990	162
T-1 4'	11/16/2020	4'	X		<49.8	<49.8	<49.8	<49.80	<49.8	<49.8	<49.8	<0.00198	<0.001980	147
CS North Sidewall	12/17/2020	-		X	<49.9	702	227	929	<49.9	702	702	<0.00200	<0.00200	18.2
CS A North Sidewall	2/4/2021	-	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	-	-	-
CS South Sidewall	12/17/2020	-		X	<50.0	601	195	796	<50.0	601	601	<0.00198	<0.00198	16.9
CS A South Sidewall	2/4/2021	-	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	-	-	-
CS East Sidewall	12/17/2020	-		X	<50.0	602	199	801	<50.0	602	602	<0.00198	<0.00198	16.5
CS A East Sidewall	2/4/2021	-	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	-	-	-
CS West Sidewall	12/17/2020	-		X	<49.9	637	208	845	<49.9	637	637	<0.00199	<0.00199	15.6
CS A West Sidewall	2/4/2021	-	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	-	-	-
CS Bottomhole 1 1.5'	12/17/2020	1.5'		X	<49.9	703	224	927	<49.9	703	703	<0.00198	<0.00198	17.6
CS A Bottomhole 1 2'	2/4/2021	2'	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	-	-	-
CS Bottomhole 2 1.5'	12/17/2020	1.5'		X	<49.8	595	197	792	<49.8	595	595	<0.00199	<0.00199	17.7
CS A Bottomhole 2 2'	2/4/2021	2'	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0			-
T-2 0-1'	11/16/2020	0-1'	X		<50.0	<50.0	<50.0	<50.00	<50.0	<50.0	<50.0	<0.00200	<0.00200	53.9
T-2 2'	11/16/2020	2'	X		<50.0	<50.0	<50.0	<50.00	<50.0	<50.0	<50.0	<0.00200	<0.00200	91.9
T-2 3'	11/16/2020	3'	X		<49.9	<49.9	<49.9	<49.90	<49.9	<49.9	<49.9	<0.00200	<0.00200	126
T-2 4'	11/16/2020	4'	X		<50.0	<50.0	<50.0	<50.00	<50.0	<50.0	<50.0	<0.00202	<0.00202	143
T-3 0-1'	11/16/2020	0-1'	X		<50.0	<50.0	<50.0	<50.00	<50.0	<50.0	<50.0	<50.0	<0.001980	12.2
T-3 2'	11/16/2020	2'	X		<49.9	<49.9	<49.9	<49.90	<49.9	<49.9	<49.9	<49.9	<0.001980	37.6
T-3 3'	11/16/2020	3'	X		<49.9	<49.9	<49.9	<49.90	<49.9	<49.9	<49.9	<49.9	<0.002000	35.2
T-3 4'	11/16/2020	4'	X		<49.9	<49.9	<49.9	<49.90	<49.9	<49.9	<49.9	<49.9	<0.001980	81.1
North 0 - 0.5'	11/16/2020	0 - 0.5'	X		<49.8	<49.8	<49.8	<49.80	<49.8	<49.8	<49.8	<0.00200	<0.002000	<4.98
South 0 - 0.5'	11/16/2020	0 - 0.5'	X		<50.0	<50.0	<50.0	<50.00	<50.0	<50.0	<50.0	<0.00200	<0.002000	10.5
East 0 - 0.5'	11/16/2020	0 - 0.5'	X		<50.0	<50.0	<50.0	<50.00	<50.0	<50.0	<50.0	<0.00201	<0.002010	10.1
West 0 - 0.5'	11/16/2020	0 - 0.5'	X		<49.9	<49.9	<49.9	<49.90	<49.9	<49.9	<49.9	<0.00199	<0.001990	9.38

* CS Confirmation Sample

 Excavated and Removed

Appendix A

C-141

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

Incident ID	
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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>Pattani Espinoza</u>	Date: _____
email: _____	Telephone: _____
<u>OCD Only</u>	
Received by: _____	Date: _____

Incident ID	
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Facility ID	
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Site Assessment/Characterization

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

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

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

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

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

State of New Mexico
Oil Conservation Division

Page 4

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Printed Name: _____ Title: _____

Signature: Robert J. Smith Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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Printed Name: _____ Title: _____

Signature: Robert J. Smith Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

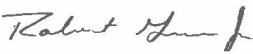
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- ☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
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- ☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☐ Description of remediation activities

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Printed Name: _____ Title: _____

Signature:  Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____



Appendix B


Site Assessment Data

COG Operating LLC.

Ben Lilly State Com 4H
32.501769 -103.54995
Lea County, New Mexico

Legend

-  Ben Lilly 2 State Com 4H
-  Low

 Ben Lilly 2 State Com 4H

Google Earth

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Released to Imaging: 7/30/2021 2:17:42 PM



900 ft

National Flood Hazard Layer FIRMMette



103°33'16"W 32°30'22"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards



The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/24/2021 at 2:20 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

COG Operating LLC.

Ben Lilly State Com 4H
32.501769 -103.54995
Lea County, New Mexico

Legend

-  Ben Lilly2 State Com 4H
-  Inactive Windmill





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Data Category:

Groundwater

Geographic Area:

United States

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Search Results -- 1 sites found

site_no list =

- 323016103323101

Minimum number of levels = 1

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USGS 323016103323101 21S.33E.02.411413

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°30'16", Longitude 103°32'31" NAD27

Land-surface elevation 3,801 feet above NAVD88

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

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

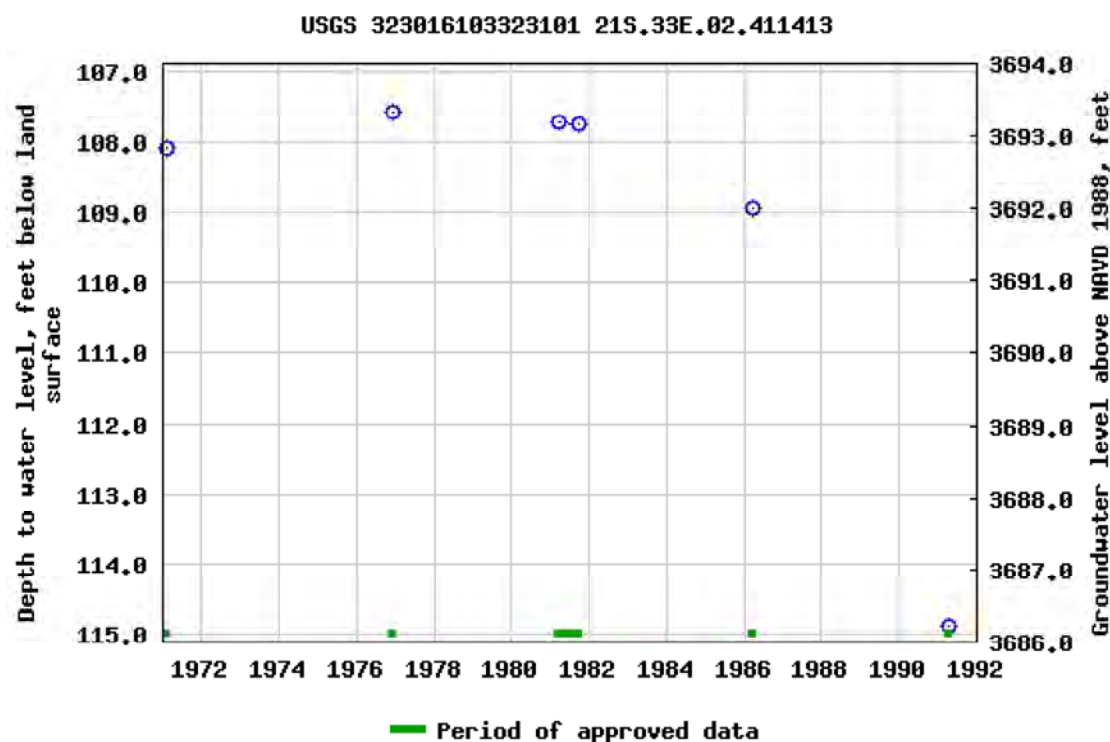
Output formats

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Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2021-04-29 11:09:17 EDT

0.61 0.53 nadww02



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site_no list =

- 322948103325901

Minimum number of levels = 1

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USGS 322948103325901 21S.33E.11.11144

Groundwater: Field measurements

GO

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 Other aquifers (N9999OTHER) national aquifer.

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

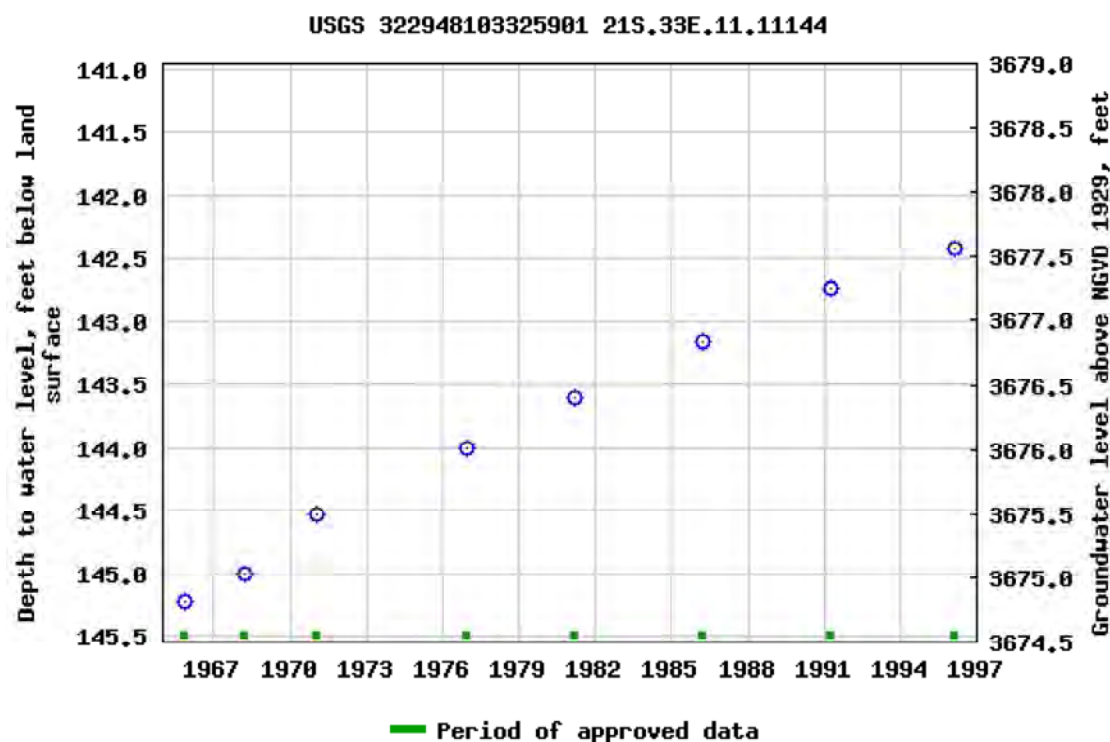
Output formats

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URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



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0.64 0.57 nadww02

Appendix C

Analytical Reports

Certificate of Analysis Summary 678242



COG Operating LLC, Artesia, NM

Project Name: Ben Lilly 2 State Com 4H Battery (10/25/20)

Project Id:

Date Received in Lab: Wed 11.18.2020 12:32

Contact: Ike Tavaréz

Report Date: 11.20.2020 16:09

Project Location: Lea Co, NM

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	678242-001	678242-002	678242-003	678242-004	678242-005	678242-006
	<i>Field Id:</i>	T-1 0-1'	T-1 2'	T-1 3'	T-4 4'	T-2 0-1'	T-2 2'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.16.2020 00:00	11.16.2020 00:00	11.16.2020 00:00	11.16.2020 00:00	11.16.2020 00:00	11.16.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	11.18.2020 13:00	11.18.2020 13:00	11.18.2020 13:00	11.18.2020 13:00	11.18.2020 13:00	11.18.2020 13:00
	<i>Analyzed:</i>	11.18.2020 16:18	11.18.2020 16:39	11.18.2020 17:00	11.18.2020 17:20	11.18.2020 17:41	11.18.2020 18:02
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00399 0.00399	<0.00403 0.00403	<0.00398 0.00398	<0.00397 0.00397	<0.00400 0.00400	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.002000 0.002000	<0.002020 0.002020	<0.001990 0.001990	<0.001980 0.001980	<0.002000 0.002000	<0.002000 0.002000
Total BTEX		<0.002000 0.002000	<0.002020 0.002020	<0.001990 0.001990	<0.001980 0.001980	<0.002000 0.002000	<0.002000 0.002000
Chloride by EPA 300	<i>Extracted:</i>	11.18.2020 14:20	11.18.2020 14:20	11.18.2020 14:20	11.18.2020 14:20	11.18.2020 14:20	11.18.2020 14:20
	<i>Analyzed:</i>	11.18.2020 16:36	11.18.2020 16:43	11.18.2020 16:50	11.18.2020 17:12	11.18.2020 17:20	11.18.2020 17:42
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1240 4.97	400 5.04	162 5.03	147 4.97	53.9 4.95	91.9 4.95
TPH By SW8015 Mod	<i>Extracted:</i>	11.18.2020 15:00	11.18.2020 15:00	11.18.2020 15:00	11.18.2020 15:00	11.18.2020 15:00	11.18.2020 15:00
	<i>Analyzed:</i>	11.18.2020 18:37	11.18.2020 19:37	11.18.2020 19:57	11.18.2020 20:17	11.18.2020 20:37	11.18.2020 20:57
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Diesel Range Organics		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.0 50.0
Total TPH		<50.00 50.00	<49.90 49.90	<49.90 49.90	<49.80 49.80	<50.00 50.00	<50.00 50.00

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Certificate of Analysis Summary 678242



COG Operating LLC, Artesia, NM

Project Name: Ben Lilly 2 State Com 4H Battery (10/25/20)

Project Id:

Date Received in Lab: Wed 11.18.2020 12:32

Contact: Ike Tavaréz

Report Date: 11.20.2020 16:09

Project Location: Lea Co, NM

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	678242-007	678242-008	678242-009	678242-010	678242-011	678242-012
	<i>Field Id:</i>	T-2 3'	T-2 4'	T-3 0-1'	T-3 2'	T-3 3'	T-3 '
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.16.2020 00:00	11.16.2020 00:00	11.16.2020 00:00	11.16.2020 00:00	11.16.2020 00:00	11.16.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	11.18.2020 13:00	11.18.2020 13:00	11.18.2020 13:00	11.18.2020 17:00	11.18.2020 13:00	11.18.2020 13:00
	<i>Analyzed:</i>	11.18.2020 18:22	11.18.2020 18:43	11.18.2020 19:04	11.19.2020 12:39	11.18.2020 20:46	11.18.2020 21:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00400 0.00400	<0.00403 0.00403	<0.00397 0.00397	<0.00396 0.00396	<0.00399 0.00399	<0.00396 0.00396
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.002000 0.002000	<0.002020 0.002020	<0.001980 0.001980	<0.001980 0.001980	<0.002000 0.002000	<0.001980 0.001980
Total BTEX		<0.002000 0.002000	<0.002020 0.002020	<0.001980 0.001980	<0.001980 0.001980	<0.002000 0.002000	<0.001980 0.001980
Chloride by EPA 300	<i>Extracted:</i>	11.18.2020 14:20	11.18.2020 14:20	11.18.2020 14:20	11.18.2020 14:20	11.18.2020 14:20	11.18.2020 14:20
	<i>Analyzed:</i>	11.18.2020 17:49	11.18.2020 17:56	11.18.2020 18:04	11.18.2020 18:11	11.18.2020 18:19	11.18.2020 18:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		126 5.04	143 4.99	12.2 4.98	37.6 4.98	35.2 4.98	81.1 4.98
TPH By SW8015 Mod	<i>Extracted:</i>	11.18.2020 15:00	11.18.2020 15:00	11.18.2020 15:00	11.18.2020 15:00	11.18.2020 15:00	11.18.2020 15:00
	<i>Analyzed:</i>	11.18.2020 21:17	11.18.2020 21:37	11.18.2020 21:57	11.18.2020 22:16	11.18.2020 22:56	11.18.2020 23:16
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.9 49.9
Diesel Range Organics		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.9 49.9
Total TPH		<49.90 49.90	<50.00 50.00	<50.00 50.00	<49.90 49.90	<49.90 49.90	<49.90 49.90

BRL - Below Reporting Limit

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Certificate of Analysis Summary 678242

COG Operating LLC, Artesia, NM

Project Name: Ben Lilly 2 State Com 4H Battery (10/25/20)

Project Id:

Date Received in Lab: Wed 11.18.2020 12:32

Contact: Ike Tavarez

Report Date: 11.20.2020 16:09

Project Location: Lea Co, NM

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	678242-013	678242-014	678242-015	678242-016		
	<i>Field Id:</i>	North	South	East	West		
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	11.16.2020 00:00	11.16.2020 00:00	11.16.2020 00:00	11.16.2020 00:00		
BTEX by EPA 8021B	<i>Extracted:</i>	11.18.2020 13:00	11.18.2020 13:00	11.18.2020 13:00	11.18.2020 13:00		
	<i>Analyzed:</i>	11.18.2020 21:28	11.18.2020 21:48	11.18.2020 22:09	11.18.2020 22:29		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199		
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199		
m,p-Xylenes		<0.00399 0.00399	<0.00399 0.00399	<0.00402 0.00402	<0.00398 0.00398		
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199		
Total Xylenes		<0.002000 0.002000	<0.002000 0.002000	<0.002010 0.002010	<0.001990 0.001990		
Total BTEX		<0.002000 0.002000	<0.002000 0.002000	<0.002010 0.002010	<0.001990 0.001990		
Chloride by EPA 300	<i>Extracted:</i>	11.18.2020 15:10	11.18.2020 15:10	11.18.2020 15:10	11.18.2020 15:10		
	<i>Analyzed:</i>	11.18.2020 19:10	11.18.2020 19:32	11.18.2020 19:39	11.18.2020 19:47		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		<4.98 4.98	10.5 4.96	10.1 4.97	9.38 5.03		
TPH By SW8015 Mod	<i>Extracted:</i>	11.18.2020 15:00	11.18.2020 15:00	11.18.2020 15:00	11.18.2020 15:00		
	<i>Analyzed:</i>	11.18.2020 23:35	11.18.2020 23:55	11.19.2020 00:15	11.19.2020 00:34		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons		<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9		
Diesel Range Organics		<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9		
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.0 50.0	<50.0 50.0	<49.9 49.9		
Total TPH		<49.80 49.80	<50.00 50.00	<50.00 50.00	<49.90 49.90		

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Analytical Report 678242

for

COG Operating LLC

Project Manager: Ike Tavaréz

Ben Lilly 2 State Com 4H Battery (10/25/20)

11.20.2020

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.20.2020

Project Manager: **Ike Tavaréz**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: Eurofins Xenco, LLC Report No(s): **678242**

Ben Lilly 2 State Com 4H Battery (10/25/20)

Project Address: Lea Co, NM

Ike Tavaréz:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 678242. 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 Eurofins Xenco, LLC. 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. 678242 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads "Jessica Kramer".

Jessica Kramer

Project Manager

A Small Business and Minority Company

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**Sample Cross Reference 678242****COG Operating LLC, Artesia, NM**

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 0-1'	S	11.16.2020 00:00		678242-001
T-1 2'	S	11.16.2020 00:00		678242-002
T-1 3'	S	11.16.2020 00:00		678242-003
T-4 4'	S	11.16.2020 00:00		678242-004
T-2 0-1'	S	11.16.2020 00:00		678242-005
T-2 2'	S	11.16.2020 00:00		678242-006
T-2 3'	S	11.16.2020 00:00		678242-007
T-2 4'	S	11.16.2020 00:00		678242-008
T-3 0-1'	S	11.16.2020 00:00		678242-009
T-3 2'	S	11.16.2020 00:00		678242-010
T-3 3'	S	11.16.2020 00:00		678242-011
T-3 '	S	11.16.2020 00:00		678242-012
North	S	11.16.2020 00:00		678242-013
South	S	11.16.2020 00:00		678242-014
East	S	11.16.2020 00:00		678242-015
West	S	11.16.2020 00:00		678242-016

**CASE NARRATIVE****Client Name: COG Operating LLC****Project Name: Ben Lilly 2 State Com 4H Battery (10/25/20)**

Project ID:
Work Order Number(s): 678242

Report Date: 11.20.2020
Date Received: 11.18.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3142682 Chloride by EPA 300

Lab Sample ID 678242-013 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 678242-013, -014, -015, -016.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3142686 BTEX by EPA 8021B

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

Samples affected are: 678242-003,678242-004,678242-005,678242-006,678242-007,678242-016,678242-009,678242-012,678242-013,678242-014,678242-008.

Batch: LBA-3142743 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Samples affected are: 7715524-1-BKS.

Benzene, Ethylbenzene, m,p-Xylenes RPD was outside laboratory control limits.

Samples in the analytical batch are: 678242-010



Certificate of Analytical Results 678242

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-1 0-1'**
Lab Sample Id: 678242-001

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3142680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1240	4.97	mg/kg	11.18.2020 16:36		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	11.18.2020 18:37	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	11.18.2020 18:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.18.2020 18:37	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	11.18.2020 18:37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	86	%	70-130	11.18.2020 18:37		
o-Terphenyl	84-15-1	104	%	70-130	11.18.2020 18:37		



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-1 0-1'**
Lab Sample Id: 678242-001

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.18.2020 16:18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.18.2020 16:18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.18.2020 16:18	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.18.2020 16:18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.18.2020 16:18	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.18.2020 16:18	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.18.2020 16:18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.18.2020 16:18		
1,4-Difluorobenzene	540-36-3	97	%	70-130	11.18.2020 16:18		



Certificate of Analytical Results 678242

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-1 2'**
Lab Sample Id: 678242-002

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3142680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	400	5.04	mg/kg	11.18.2020 16:43		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	11.18.2020 19:37	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	11.18.2020 19:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.18.2020 19:37	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	11.18.2020 19:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-130	11.18.2020 19:37	
o-Terphenyl	84-15-1	99	%	70-130	11.18.2020 19:37	



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-1 2'**
Lab Sample Id: 678242-002

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.18.2020 16:39	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.18.2020 16:39	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.18.2020 16:39	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	11.18.2020 16:39	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.18.2020 16:39	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	11.18.2020 16:39	U	1
Total BTEX		<0.002020	0.002020	mg/kg	11.18.2020 16:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.18.2020 16:39		
4-Bromofluorobenzene	460-00-4	124	%	70-130	11.18.2020 16:39		



Certificate of Analytical Results 678242

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-1 3'**
Lab Sample Id: 678242-003

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3142680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	162	5.03	mg/kg	11.18.2020 16:50		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	11.18.2020 19:57	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	11.18.2020 19:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.18.2020 19:57	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	11.18.2020 19:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	11.18.2020 19:57	
o-Terphenyl	84-15-1	103	%	70-130	11.18.2020 19:57	



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-1 3'**
Lab Sample Id: 678242-003

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.18.2020 17:00	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.18.2020 17:00	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.18.2020 17:00	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.18.2020 17:00	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.18.2020 17:00	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	11.18.2020 17:00	U	1
Total BTEX		<0.001990	0.001990	mg/kg	11.18.2020 17:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	11.18.2020 17:00	
4-Bromofluorobenzene	460-00-4	136	%	70-130	11.18.2020 17:00	**



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-4 4'**
Lab Sample Id: 678242-004

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3142680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	147	4.97	mg/kg	11.18.2020 17:12		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.8	49.8	mg/kg	11.18.2020 20:17	U	1
Diesel Range Organics	C10C28DRO	<49.8	49.8	mg/kg	11.18.2020 20:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.18.2020 20:17	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	11.18.2020 20:17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	85	%	70-130	11.18.2020 20:17		
o-Terphenyl	84-15-1	102	%	70-130	11.18.2020 20:17		



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-4 4'**
Lab Sample Id: 678242-004

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.18.2020 17:20	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.18.2020 17:20	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.18.2020 17:20	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.18.2020 17:20	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.18.2020 17:20	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	11.18.2020 17:20	U	1
Total BTEX		<0.001980	0.001980	mg/kg	11.18.2020 17:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.18.2020 17:20	
4-Bromofluorobenzene	460-00-4	132	%	70-130	11.18.2020 17:20	**



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-2 0-1'**
Lab Sample Id: 678242-005

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3142680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	53.9	4.95	mg/kg	11.18.2020 17:20		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	11.18.2020 20:37	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	11.18.2020 20:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.18.2020 20:37	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	11.18.2020 20:37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	83	%	70-130	11.18.2020 20:37		
o-Terphenyl	84-15-1	99	%	70-130	11.18.2020 20:37		



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-2 0-1'**
Lab Sample Id: 678242-005

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.18.2020 17:41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.18.2020 17:41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.18.2020 17:41	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.18.2020 17:41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.18.2020 17:41	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.18.2020 17:41	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.18.2020 17:41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	91	%	70-130	11.18.2020 17:41		
4-Bromofluorobenzene	460-00-4	138	%	70-130	11.18.2020 17:41	**	



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-2 2'**
Lab Sample Id: 678242-006

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3142680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	91.9	4.95	mg/kg	11.18.2020 17:42		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	11.18.2020 20:57	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	11.18.2020 20:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.18.2020 20:57	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	11.18.2020 20:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	11.18.2020 20:57	
o-Terphenyl	84-15-1	104	%	70-130	11.18.2020 20:57	



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-2 2'**
Lab Sample Id: 678242-006

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.18.2020 18:02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.18.2020 18:02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.18.2020 18:02	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.18.2020 18:02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.18.2020 18:02	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.18.2020 18:02	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.18.2020 18:02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	139	%	70-130	11.18.2020 18:02	**	
1,4-Difluorobenzene	540-36-3	91	%	70-130	11.18.2020 18:02		



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-2 3'**
Lab Sample Id: 678242-007

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3142680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	126	5.04	mg/kg	11.18.2020 17:49		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	11.18.2020 21:17	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	11.18.2020 21:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.18.2020 21:17	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	11.18.2020 21:17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	86	%	70-130	11.18.2020 21:17		
o-Terphenyl	84-15-1	103	%	70-130	11.18.2020 21:17		



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-2 3'**
Lab Sample Id: 678242-007

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.18.2020 18:22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.18.2020 18:22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.18.2020 18:22	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.18.2020 18:22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.18.2020 18:22	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.18.2020 18:22	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.18.2020 18:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	145	%	70-130	11.18.2020 18:22	**	
1,4-Difluorobenzene	540-36-3	87	%	70-130	11.18.2020 18:22		



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-2 4'**
Lab Sample Id: 678242-008

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3142680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	143	4.99	mg/kg	11.18.2020 17:56		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	11.18.2020 21:37	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	11.18.2020 21:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.18.2020 21:37	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	11.18.2020 21:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	11.18.2020 21:37	
o-Terphenyl	84-15-1	102	%	70-130	11.18.2020 21:37	



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-2 4'**
Lab Sample Id: 678242-008

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.18.2020 18:43	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.18.2020 18:43	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.18.2020 18:43	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	11.18.2020 18:43	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.18.2020 18:43	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	11.18.2020 18:43	U	1
Total BTEX		<0.002020	0.002020	mg/kg	11.18.2020 18:43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	141	%	70-130	11.18.2020 18:43	**	
1,4-Difluorobenzene	540-36-3	86	%	70-130	11.18.2020 18:43		



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-3 0-1'**
Lab Sample Id: 678242-009

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3142680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.2	4.98	mg/kg	11.18.2020 18:04		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	11.18.2020 21:57	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	11.18.2020 21:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.18.2020 21:57	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	11.18.2020 21:57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	75	%	70-130	11.18.2020 21:57		
o-Terphenyl	84-15-1	83	%	70-130	11.18.2020 21:57		



Certificate of Analytical Results 678242

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-3 0-1'**
Lab Sample Id: 678242-009

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.18.2020 19:04	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.18.2020 19:04	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.18.2020 19:04	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.18.2020 19:04	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.18.2020 19:04	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	11.18.2020 19:04	U	1
Total BTEX		<0.001980	0.001980	mg/kg	11.18.2020 19:04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	131	%	70-130	11.18.2020 19:04	**	
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.18.2020 19:04		



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-3 2'**
Lab Sample Id: 678242-010

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3142680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	37.6	4.98	mg/kg	11.18.2020 18:11		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	11.18.2020 22:16	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	11.18.2020 22:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.18.2020 22:16	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	11.18.2020 22:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-130	11.18.2020 22:16	
o-Terphenyl	84-15-1	102	%	70-130	11.18.2020 22:16	



Certificate of Analytical Results 678242

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-3 2'**
Lab Sample Id: 678242-010

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142743

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.19.2020 12:39	UF	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.19.2020 12:39	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.19.2020 12:39	UF	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	11.19.2020 12:39	UF	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.19.2020 12:39	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	11.19.2020 12:39	U	1
Total BTEX		<0.001980	0.001980	mg/kg	11.19.2020 12:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.19.2020 12:39		
4-Bromofluorobenzene	460-00-4	111	%	70-130	11.19.2020 12:39		



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-3 3'**
Lab Sample Id: 678242-011

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3142680

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	35.2	4.98	mg/kg	11.18.2020 18:19		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	11.18.2020 22:56	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	11.18.2020 22:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.18.2020 22:56	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	11.18.2020 22:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	11.18.2020 22:56	
o-Terphenyl	84-15-1	106	%	70-130	11.18.2020 22:56	



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-3 3'**
Lab Sample Id: 678242-011

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.18.2020 20:46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.18.2020 20:46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.18.2020 20:46	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.18.2020 20:46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.18.2020 20:46	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.18.2020 20:46	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.18.2020 20:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.18.2020 20:46		
4-Bromofluorobenzene	460-00-4	119	%	70-130	11.18.2020 20:46		



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-3 '** Matrix: Soil Date Received: 11.18.2020 12:32
 Lab Sample Id: 678242-012 Date Collected: 11.16.2020 00:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 11.18.2020 14:20 % Moisture:
 Seq Number: 3142680 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	81.1	4.98	mg/kg	11.18.2020 18:26		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 11.18.2020 15:00 % Moisture:
 Seq Number: 3142733 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	11.18.2020 23:16	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	11.18.2020 23:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.18.2020 23:16	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	11.18.2020 23:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-130	11.18.2020 23:16	
o-Terphenyl	84-15-1	98	%	70-130	11.18.2020 23:16	



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **T-3 '**
Lab Sample Id: 678242-012

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.18.2020 21:07	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.18.2020 21:07	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.18.2020 21:07	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	11.18.2020 21:07	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.18.2020 21:07	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	11.18.2020 21:07	U	1
Total BTEX		<0.001980	0.001980	mg/kg	11.18.2020 21:07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	132	%	70-130	11.18.2020 21:07	**	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.18.2020 21:07		



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **North**
Lab Sample Id: 678242-013

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 15:10

% Moisture:
Basis: Wet Weight

Seq Number: 3142682

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	11.18.2020 19:10	UX	1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.8	49.8	mg/kg	11.18.2020 23:35	U	1
Diesel Range Organics	C10C28DRO	<49.8	49.8	mg/kg	11.18.2020 23:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.18.2020 23:35	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	11.18.2020 23:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	11.18.2020 23:35	
o-Terphenyl	84-15-1	97	%	70-130	11.18.2020 23:35	



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **North**
Lab Sample Id: 678242-013

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.18.2020 21:28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.18.2020 21:28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.18.2020 21:28	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.18.2020 21:28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.18.2020 21:28	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.18.2020 21:28	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.18.2020 21:28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	87	%	70-130	11.18.2020 21:28		
4-Bromofluorobenzene	460-00-4	139	%	70-130	11.18.2020 21:28	**	



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **South**
Lab Sample Id: 678242-014

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 15:10

% Moisture:
Basis: Wet Weight

Seq Number: 3142682

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.5	4.96	mg/kg	11.18.2020 19:32		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	11.18.2020 23:55	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	11.18.2020 23:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.18.2020 23:55	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	11.18.2020 23:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-130	11.18.2020 23:55	
o-Terphenyl	84-15-1	85	%	70-130	11.18.2020 23:55	



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **South**
Lab Sample Id: 678242-014

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.18.2020 21:48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.18.2020 21:48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.18.2020 21:48	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.18.2020 21:48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.18.2020 21:48	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	11.18.2020 21:48	U	1
Total BTEX		<0.002000	0.002000	mg/kg	11.18.2020 21:48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	134	%	70-130	11.18.2020 21:48	**	
1,4-Difluorobenzene	540-36-3	92	%	70-130	11.18.2020 21:48		



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **East**
Lab Sample Id: 678242-015

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 15:10

% Moisture:
Basis: Wet Weight

Seq Number: 3142682

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.1	4.97	mg/kg	11.18.2020 19:39		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	11.19.2020 00:15	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	11.19.2020 00:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.19.2020 00:15	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	11.19.2020 00:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-130	11.19.2020 00:15	
o-Terphenyl	84-15-1	86	%	70-130	11.19.2020 00:15	



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COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **East**
Lab Sample Id: 678242-015

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.18.2020 22:09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.18.2020 22:09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.18.2020 22:09	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.18.2020 22:09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.18.2020 22:09	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	11.18.2020 22:09	U	1
Total BTEX		<0.002010	0.002010	mg/kg	11.18.2020 22:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	130	%	70-130	11.18.2020 22:09		
1,4-Difluorobenzene	540-36-3	97	%	70-130	11.18.2020 22:09		



Certificate of Analytical Results 678242

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **West**
Lab Sample Id: 678242-016

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.18.2020 15:10

% Moisture:
Basis: Wet Weight

Seq Number: 3142682

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.38	5.03	mg/kg	11.18.2020 19:47		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.18.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142733

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	11.19.2020 00:34	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	11.19.2020 00:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.19.2020 00:34	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	11.19.2020 00:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-130	11.19.2020 00:34	
o-Terphenyl	84-15-1	89	%	70-130	11.19.2020 00:34	



Certificate of Analytical Results 678242

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **West**
Lab Sample Id: 678242-016

Matrix: Soil
Date Collected: 11.16.2020 00:00

Date Received: 11.18.2020 12:32

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.18.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142686

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.18.2020 22:29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.18.2020 22:29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.18.2020 22:29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.18.2020 22:29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.18.2020 22:29	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	11.18.2020 22:29	U	1
Total BTEX		<0.001990	0.001990	mg/kg	11.18.2020 22:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.18.2020 22:29	
4-Bromofluorobenzene	460-00-4	137	%	70-130	11.18.2020 22:29	**

Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



COG Operating LLC
Ben Lilly 2 State Com 4H Battery (10/25/20)

Analytical Method: Chloride by EPA 300

Seq Number: 3142680

MB Sample Id: 7715459-1-BLK

Matrix: Solid

LCS Sample Id: 7715459-1-BKS

Prep Method: E300P

Date Prep: 11.18.2020

LCSD Sample Id: 7715459-1-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	257	103	259	104	90-110	1	20	mg/kg	11.18.2020 14:54	

Analytical Method: Chloride by EPA 300

Seq Number: 3142682

MB Sample Id: 7715463-1-BLK

Matrix: Solid

LCS Sample Id: 7715463-1-BKS

Prep Method: E300P

Date Prep: 11.18.2020

LCSD Sample Id: 7715463-1-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	265	106	265	106	90-110	0	20	mg/kg	11.18.2020 18:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3142680

Parent Sample Id: 678222-001

Matrix: Soil

MS Sample Id: 678222-001 S

Prep Method: E300P

Date Prep: 11.18.2020

MSD Sample Id: 678222-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.96	248	269	108	260	105	90-110	3	20	mg/kg	11.18.2020 15:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3142680

Parent Sample Id: 678242-003

Matrix: Soil

MS Sample Id: 678242-003 S

Prep Method: E300P

Date Prep: 11.18.2020

MSD Sample Id: 678242-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	162	252	429	106	424	104	90-110	1	20	mg/kg	11.18.2020 16:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3142682

Parent Sample Id: 678169-001

Matrix: Soil

MS Sample Id: 678169-001 S

Prep Method: E300P

Date Prep: 11.18.2020

MSD Sample Id: 678169-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	58.5	251	317	103	314	102	90-110	1	20	mg/kg	11.18.2020 21:00	

Analytical Method: Chloride by EPA 300

Seq Number: 3142682

Parent Sample Id: 678242-013

Matrix: Soil

MS Sample Id: 678242-013 S

Prep Method: E300P

Date Prep: 11.18.2020

MSD Sample Id: 678242-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.98	249	297	119	282	113	90-110	5	20	mg/kg	11.18.2020 19:17	X

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

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

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

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



COG Operating LLC
Ben Lilly 2 State Com 4H Battery (10/25/20)

Analytical Method: TPH By SW8015 Mod

Seq Number: 3142733

MB Sample Id: 7715497-1-BLK

Matrix: Solid

LCS Sample Id: 7715497-1-BKS

Prep Method: SW8015P

Date Prep: 11.18.2020

LCSD Sample Id: 7715497-1-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	<50.0	1000	922	92	964	96	70-130	4	20	mg/kg	11.18.2020 17:56	
Diesel Range Organics	<50.0	1000	903	90	948	95	70-130	5	20	mg/kg	11.18.2020 17:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		96		100		70-130	%	11.18.2020 17:56
o-Terphenyl	115		107		114		70-130	%	11.18.2020 17:56

Analytical Method: TPH By SW8015 Mod

Seq Number: 3142733

MB Sample Id: 7715497-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 11.18.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.18.2020 17:36	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3142733

Parent Sample Id: 678242-001

Matrix: Soil

MS Sample Id: 678242-001 S

Prep Method: SW8015P

Date Prep: 11.18.2020

MSD Sample Id: 678242-001 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	<49.9	997	904	91	1010	101	70-130	11	20	mg/kg	11.18.2020 18:57	
Diesel Range Organics	<49.9	997	979	98	1010	101	70-130	3	20	mg/kg	11.18.2020 18:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		101		70-130	%	11.18.2020 18:57
o-Terphenyl	103		105		70-130	%	11.18.2020 18:57

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142686

MB Sample Id: 7715492-1-BLK

Matrix: Solid

LCS Sample Id: 7715492-1-BKS

Prep Method: SW5035A

Date Prep: 11.18.2020

LCSD Sample Id: 7715492-1-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	0.129	129	0.128	128	70-130	1	35	mg/kg	11.18.2020 13:56	
Toluene	<0.00200	0.100	0.106	106	0.0985	99	70-130	7	35	mg/kg	11.18.2020 13:56	
Ethylbenzene	<0.00200	0.100	0.112	112	0.106	106	70-130	6	35	mg/kg	11.18.2020 13:56	
m,p-Xylenes	<0.00400	0.200	0.230	115	0.216	108	70-130	6	35	mg/kg	11.18.2020 13:56	
o-Xylene	<0.00200	0.100	0.111	111	0.105	105	70-130	6	35	mg/kg	11.18.2020 13:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		104		105		70-130	%	11.18.2020 13:56
4-Bromofluorobenzene	111		115		113		70-130	%	11.18.2020 13:56

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

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

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

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



COG Operating LLC
Ben Lilly 2 State Com 4H Battery (10/25/20)

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142743

Matrix: Solid

Prep Method: SW5035A

Date Prep: 11.18.2020

MB Sample Id: 7715524-1-BLK

LCS Sample Id: 7715524-1-BKS

LCSD Sample Id: 7715524-1-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	0.110	110	0.0702	70	70-130	44	35	mg/kg	11.19.2020 11:17	F
Toluene	<0.00200	0.100	0.0981	98	0.0732	73	70-130	29	35	mg/kg	11.19.2020 11:17	
Ethylbenzene	<0.00200	0.100	0.127	127	0.0801	80	70-130	45	35	mg/kg	11.19.2020 11:17	F
m,p-Xylenes	<0.00400	0.200	0.240	120	0.157	79	70-130	42	35	mg/kg	11.19.2020 11:17	F
o-Xylene	<0.00200	0.100	0.0833	83	0.0804	80	70-130	4	35	mg/kg	11.19.2020 11:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		115		101		70-130	%	11.19.2020 11:17
4-Bromofluorobenzene	114		131	**	100		70-130	%	11.19.2020 11:17

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142686

Matrix: Soil

Prep Method: SW5035A

Date Prep: 11.18.2020

Parent Sample Id: 678242-001

MS Sample Id: 678242-001 S

MSD Sample Id: 678242-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.122	122	0.0893	90	70-130	31	35	mg/kg	11.18.2020 14:38	
Toluene	<0.00200	0.100	0.0915	92	0.0976	98	70-130	6	35	mg/kg	11.18.2020 14:38	
Ethylbenzene	<0.00200	0.100	0.0959	96	0.116	116	70-130	19	35	mg/kg	11.18.2020 14:38	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.203	102	70-130	5	35	mg/kg	11.18.2020 14:38	
o-Xylene	<0.00200	0.100	0.0935	94	0.104	104	70-130	11	35	mg/kg	11.18.2020 14:38	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		88		70-130	%	11.18.2020 14:38
4-Bromofluorobenzene	111		126		70-130	%	11.18.2020 14:38

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142743

Matrix: Soil

Prep Method: SW5035A

Date Prep: 11.18.2020

Parent Sample Id: 677959-001

MS Sample Id: 677959-001 S

MSD Sample Id: 677959-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0561	56	0.0488	48	70-130	14	35	mg/kg	11.19.2020 04:33	X
Toluene	0.00251	0.100	0.0530	50	0.0463	43	70-130	13	35	mg/kg	11.19.2020 04:33	X
Ethylbenzene	<0.00200	0.100	0.0444	44	0.0393	39	70-130	12	35	mg/kg	11.19.2020 04:33	X
m,p-Xylenes	<0.00401	0.200	0.0886	44	0.0788	39	70-130	12	35	mg/kg	11.19.2020 04:33	X
o-Xylene	<0.00200	0.100	0.0439	44	0.0395	39	70-130	11	35	mg/kg	11.19.2020 04:33	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	11.19.2020 04:33
4-Bromofluorobenzene	102		104		70-130	%	11.19.2020 04:33

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

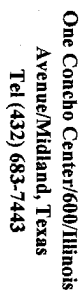


One Concho Center/600/Illinois
Avenue/Midland, Texas
Tel (432) 683-7443

678242

Client Name:		COG		Site Manager:		Ike Tavaraz iatavaraz@concho.com Robert Grubbs Jr rgrubbs@concho.com		
Project Name:		Ben Lilly 2 State Com 4H Battery (10/25/20)						
Project Location: (county, state)		Lea County, NM		Project #:				
Invoice to:		COG						
Receiving Laboratory:		Xenco		Sampler Signature:		Robert Grubbs Jr		
Comments:								
LAB # (USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	ANALYSIS REQUEST (Circle or Specify Method No.)
		YEAR: 2020	DATE					
	T-1 0-1'		11/16/2020		X		1	TPH TX1005 (Ext to C35)
	T-1 2'		11/16/2020		X		1	BTEX 8021B
	T-1 3'		11/16/2020		X		1	TPH 8015M (GRO - DRO - MRO)
	T-1 4'		11/16/2020		X		1	Chloride
	T-2 0-1'		11/16/2020		X		1	
	T-2 2'		11/16/2020		X		1	
	T-2 3'		11/16/2020		X		1	
	T-2 4'		11/16/2020		X		1	
	T-3 0-1'		11/16/2020		X		1	
	T-3 2		11/16/2020		X		1	
Relinquished by:		Date:	Time:	Received by:	Date:	Time:	LAB USE ONLY	REMARKS: RUSH: Same Day 24 hr 48 hr 72 hr Rush Charges Authorized Special Report Limits or TRRP Report
Robert Grubbs Jr		11/18/2020	12:32		11/18/2020	12:32		
Relinquished by:		Date:	Time:	Received by:	Date:	Time:		
Relinquished by:		Date:	Time:	Received by:	Date:	Time:		

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ORIGINAL COPY

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 11.18.2020 12:32:00 PM

Work Order #: 678242

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	0
#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 BTEX was in bulk container
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 11.18.2020

Checklist reviewed by:



Jessica Kramer

Date: 11.19.2020

Certificate of Analysis Summary 681778

COG Operating LLC, Artesia, NM

Project Name: Ben Lilly 2 State Com 4H Battery (10/25/20)

Project Id:

Date Received in Lab: Fri 12.18.2020 11:02

Contact: Ike Tavaréz

Report Date: 12.21.2020 15:34


Project Location: Lea County, NM

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	681778-001	681778-002	681778-003	681778-004	681778-005	681778-006
	<i>Field Id:</i>	Confirmation North Sidew	Confirmation South Sidew	Confirmation East Sidewa	Confirmation West Sidewa	Confirmation Bottomhole-	Confirmation Bottomhole-
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.17.2020 00:00	12.17.2020 00:00	12.17.2020 00:00	12.17.2020 00:00	12.17.2020 00:00	12.17.2020 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	12.18.2020 17:30	12.18.2020 17:30	12.18.2020 17:30	12.18.2020 17:30	12.18.2020 17:30	12.18.2020 17:30
	<i>Analyzed:</i>	12.20.2020 02:10	12.20.2020 02:30	12.20.2020 02:51	12.20.2020 03:11	12.20.2020 03:32	12.20.2020 03:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199
m,p-Xylenes		<0.00399 0.00399	<0.00396 0.00396	<0.00396 0.00396	<0.00398 0.00398	<0.00397 0.00397	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	12.18.2020 16:45	12.18.2020 16:45	12.18.2020 16:45	12.18.2020 16:45	12.18.2020 16:45	12.18.2020 16:45
	<i>Analyzed:</i>	12.18.2020 19:33	12.18.2020 19:39	12.18.2020 19:44	12.18.2020 19:49	12.18.2020 20:05	12.20.2020 10:05
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		18.2 4.97	16.9 5.05	16.5 4.95	15.6 5.00	17.6 5.00	17.7 5.00
TPH By SW8015 Mod	<i>Extracted:</i>	12.19.2020 10:00	12.19.2020 10:00	12.19.2020 10:00	12.19.2020 10:00	12.19.2020 10:00	12.19.2020 10:00
	<i>Analyzed:</i>	12.19.2020 20:08	12.19.2020 20:30	12.19.2020 20:52	12.19.2020 21:13	12.19.2020 21:35	12.19.2020 21:57
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons		<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8
Diesel Range Organics		702 49.9	601 50.0	602 50.0	637 49.9	703 49.9	595 49.8
Motor Oil Range Hydrocarbons (MRO)		227 49.9	195 50.0	199 50.0	208 49.9	224 49.9	197 49.8
Total TPH		929 49.9	796 50.0	801 50.0	845 49.9	927 49.9	792 49.8

BRL - Below Reporting Limit

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





Analytical Report 681778

for

COG Operating LLC

Project Manager: Ike Tavaréz

Ben Lilly 2 State Com 4H Battery (10/25/20)

12.21.2020

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.21.2020

Project Manager: **Ike Tavaréz**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: Eurofins Xenco, LLC Report No(s): **681778**

Ben Lilly 2 State Com 4H Battery (10/25/20)

Project Address: Lea County, NM

Ike Tavaréz:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 681778. 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 Eurofins Xenco, LLC. 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. 681778 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads "Jessica Kramer".

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 681778****COG Operating LLC, Artesia, NM**

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Confirmation North Sidewall	S	12.17.2020 00:00		681778-001
Confirmation South Sidewall	S	12.17.2020 00:00		681778-002
Confirmation East Sidewall	S	12.17.2020 00:00		681778-003
Confirmation West Sidewall	S	12.17.2020 00:00		681778-004
Confirmation Bottomhole-1 1.5'	S	12.17.2020 00:00		681778-005
Confirmation Bottomhole-2 1.5'	S	12.17.2020 00:00		681778-006



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Ben Lilly 2 State Com 4H Battery (10/25/20)

Project ID:

Report Date: 12.21.2020

Work Order Number(s): 681778

Date Received: 12.18.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 681778

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation North Sidewall**

Matrix: Soil

Date Received: 12.18.2020 11:02

Lab Sample Id: 681778-001

Date Collected: 12.17.2020 00:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 12.18.2020 16:45

% Moisture:

Seq Number: 3145510

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.2	4.97	mg/kg	12.18.2020 19:33		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 12.19.2020 10:00

% Moisture:

Seq Number: 3145533

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	12.19.2020 20:08	U	1
Diesel Range Organics	C10C28DRO	702	49.9	mg/kg	12.19.2020 20:08		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	227	49.9	mg/kg	12.19.2020 20:08		1
Total TPH	PHC635	929	49.9	mg/kg	12.19.2020 20:08		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	127	%	70-130	12.19.2020 20:08		
o-Terphenyl	84-15-1	130	%	70-130	12.19.2020 20:08		



Certificate of Analytical Results 681778

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation North Sidewall**

Matrix: Soil

Date Received: 12.18.2020 11:02

Lab Sample Id: 681778-001

Date Collected: 12.17.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.18.2020 17:30

% Moisture:

Seq Number: 3145474

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.20.2020 02:10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.20.2020 02:10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.20.2020 02:10	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.20.2020 02:10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.20.2020 02:10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.20.2020 02:10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.20.2020 02:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	12.20.2020 02:10		
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.20.2020 02:10		



Certificate of Analytical Results 681778

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation South Sidewall**

Matrix: Soil

Date Received: 12.18.2020 11:02

Lab Sample Id: 681778-002

Date Collected: 12.17.2020 00:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 12.18.2020 16:45

% Moisture:

Seq Number: 3145510

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.9	5.05	mg/kg	12.18.2020 19:39		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 12.19.2020 10:00

% Moisture:

Seq Number: 3145533

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	12.19.2020 20:30	U	1
Diesel Range Organics	C10C28DRO	601	50.0	mg/kg	12.19.2020 20:30		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	195	50.0	mg/kg	12.19.2020 20:30		1
Total TPH	PHC635	796	50.0	mg/kg	12.19.2020 20:30		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	116	%	70-130	12.19.2020 20:30		
o-Terphenyl	84-15-1	127	%	70-130	12.19.2020 20:30		



Certificate of Analytical Results 681778

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation South Sidewall**

Matrix: Soil

Date Received: 12.18.2020 11:02

Lab Sample Id: 681778-002

Date Collected: 12.17.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.18.2020 17:30

% Moisture:

Seq Number: 3145474

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.20.2020 02:30	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.20.2020 02:30	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.20.2020 02:30	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.20.2020 02:30	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.20.2020 02:30	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.20.2020 02:30	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.20.2020 02:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.20.2020 02:30		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.20.2020 02:30		



Certificate of Analytical Results 681778

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation East Sidewall**

Matrix: Soil

Date Received: 12.18.2020 11:02

Lab Sample Id: 681778-003

Date Collected: 12.17.2020 00:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 12.18.2020 16:45

% Moisture:

Seq Number: 3145510

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.5	4.95	mg/kg	12.18.2020 19:44		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 12.19.2020 10:00

% Moisture:

Seq Number: 3145533

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	12.19.2020 20:52	U	1
Diesel Range Organics	C10C28DRO	602	50.0	mg/kg	12.19.2020 20:52		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	199	50.0	mg/kg	12.19.2020 20:52		1
Total TPH	PHC635	801	50.0	mg/kg	12.19.2020 20:52		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	116	%	70-130	12.19.2020 20:52		
o-Terphenyl	84-15-1	123	%	70-130	12.19.2020 20:52		



Certificate of Analytical Results 681778

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation East Sidewall**

Matrix: Soil

Date Received: 12.18.2020 11:02

Lab Sample Id: 681778-003

Date Collected: 12.17.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.18.2020 17:30

% Moisture:

Seq Number: 3145474

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.20.2020 02:51	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.20.2020 02:51	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.20.2020 02:51	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.20.2020 02:51	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.20.2020 02:51	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.20.2020 02:51	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.20.2020 02:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	12.20.2020 02:51	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.20.2020 02:51	



Certificate of Analytical Results 681778

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation West Sidewall**

Matrix: Soil

Date Received: 12.18.2020 11:02

Lab Sample Id: 681778-004

Date Collected: 12.17.2020 00:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 12.18.2020 16:45

% Moisture:

Seq Number: 3145510

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.6	5.00	mg/kg	12.18.2020 19:49		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 12.19.2020 10:00

% Moisture:

Seq Number: 3145533

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	12.19.2020 21:13	U	1
Diesel Range Organics	C10C28DRO	637	49.9	mg/kg	12.19.2020 21:13		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	208	49.9	mg/kg	12.19.2020 21:13		1
Total TPH	PHC635	845	49.9	mg/kg	12.19.2020 21:13		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	116	%	70-130	12.19.2020 21:13		
o-Terphenyl	84-15-1	120	%	70-130	12.19.2020 21:13		



Certificate of Analytical Results 681778

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation West Sidewall**

Matrix: Soil

Date Received: 12.18.2020 11:02

Lab Sample Id: 681778-004

Date Collected: 12.17.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.18.2020 17:30

% Moisture:

Seq Number: 3145474

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.20.2020 03:11	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.20.2020 03:11	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.20.2020 03:11	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.20.2020 03:11	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.20.2020 03:11	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.20.2020 03:11	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.20.2020 03:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.20.2020 03:11	
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.20.2020 03:11	



Certificate of Analytical Results 681778

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation Bottomhole-1 1.5'** Matrix: Soil Date Received: 12.18.2020 11:02
 Lab Sample Id: 681778-005 Date Collected: 12.17.2020 00:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.18.2020 16:45 % Moisture:
 Seq Number: 3145510 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.6	5.00	mg/kg	12.18.2020 20:05		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:
 Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	12.19.2020 21:35	U	1
Diesel Range Organics	C10C28DRO	703	49.9	mg/kg	12.19.2020 21:35		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	224	49.9	mg/kg	12.19.2020 21:35		1
Total TPH	PHC635	927	49.9	mg/kg	12.19.2020 21:35		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	119	%	70-130	12.19.2020 21:35		
o-Terphenyl	84-15-1	123	%	70-130	12.19.2020 21:35		



Certificate of Analytical Results 681778

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation Bottomhole-1 1.5'**

Matrix: Soil

Date Received: 12.18.2020 11:02

Lab Sample Id: 681778-005

Date Collected: 12.17.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.18.2020 17:30

% Moisture:

Seq Number: 3145474

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.20.2020 03:32	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.20.2020 03:32	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.20.2020 03:32	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.20.2020 03:32	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.20.2020 03:32	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.20.2020 03:32	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.20.2020 03:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.20.2020 03:32	
4-Bromofluorobenzene	460-00-4	130	%	70-130	12.20.2020 03:32	



Certificate of Analytical Results 681778

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation Bottomhole-2 1.5'** Matrix: Soil Date Received: 12.18.2020 11:02
 Lab Sample Id: 681778-006 Date Collected: 12.17.2020 00:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.18.2020 16:45 % Moisture:
 Seq Number: 3145510 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.7	5.00	mg/kg	12.20.2020 10:05		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:
 Seq Number: 3145533 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.8	49.8	mg/kg	12.19.2020 21:57	U	1
Diesel Range Organics	C10C28DRO	595	49.8	mg/kg	12.19.2020 21:57		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	197	49.8	mg/kg	12.19.2020 21:57		1
Total TPH	PHC635	792	49.8	mg/kg	12.19.2020 21:57		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	116	%	70-130	12.19.2020 21:57		
o-Terphenyl	84-15-1	122	%	70-130	12.19.2020 21:57		



Certificate of Analytical Results 681778

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation Bottomhole-2 1.5'**

Matrix: Soil

Date Received: 12.18.2020 11:02

Lab Sample Id: 681778-006

Date Collected: 12.17.2020 00:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.18.2020 17:30

% Moisture:

Seq Number: 3145474

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.20.2020 03:52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.20.2020 03:52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.20.2020 03:52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.20.2020 03:52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.20.2020 03:52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.20.2020 03:52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.20.2020 03:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	12.20.2020 03:52		
4-Bromofluorobenzene	460-00-4	130	%	70-130	12.20.2020 03:52		

Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



COG Operating LLC
Ben Lilly 2 State Com 4H Battery (10/25/20)

Analytical Method: Chloride by EPA 300

Seq Number: 3145510

MB Sample Id: 7717473-1-BLK

Matrix: Solid

LCS Sample Id: 7717473-1-BKS

Prep Method: E300P

Date Prep: 12.18.2020

LCSD Sample Id: 7717473-1-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	255	102	255	102	90-110	0	20	mg/kg	12.18.2020 18:25	

Analytical Method: Chloride by EPA 300

Seq Number: 3145510

Parent Sample Id: 681715-001

Matrix: Soil

MS Sample Id: 681715-001 S

Prep Method: E300P

Date Prep: 12.18.2020

MSD Sample Id: 681715-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1350	1260	2620	101	2610	100	90-110	0	20	mg/kg	12.18.2020 18:41	

Analytical Method: Chloride by EPA 300

Seq Number: 3145510

Parent Sample Id: 681778-004

Matrix: Soil

MS Sample Id: 681778-004 S

Prep Method: E300P

Date Prep: 12.18.2020

MSD Sample Id: 681778-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	15.6	250	272	103	272	103	90-110	0	20	mg/kg	12.18.2020 19:54	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3145533

MB Sample Id: 7717575-1-BLK

Matrix: Solid

LCS Sample Id: 7717575-1-BKS

Prep Method: SW8015P

Date Prep: 12.19.2020

LCSD Sample Id: 7717575-1-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	<50.0	1000	1100	110	1140	114	70-130	4	20	mg/kg	12.19.2020 13:14	
Diesel Range Organics	<50.0	1000	1190	119	1180	118	70-130	1	20	mg/kg	12.19.2020 13:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		125		123		70-130	%	12.19.2020 13:14
o-Terphenyl	126		128		130		70-130	%	12.19.2020 13:14

Analytical Method: TPH By SW8015 Mod

Seq Number: 3145533

Matrix: Solid

MB Sample Id: 7717575-1-BLK

Prep Method: SW8015P

Date Prep: 12.19.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.19.2020 12:52	

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

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

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

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



COG Operating LLC
Ben Lilly 2 State Com 4H Battery (10/25/20)

Analytical Method: TPH By SW8015 Mod

Seq Number: 3145533

Parent Sample Id: 681479-001

Matrix: Soil

MS Sample Id: 681479-001 S

Prep Method: SW8015P

Date Prep: 12.19.2020

MSD Sample Id: 681479-001 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	997	991	98	1000	99	70-130	1	20	mg/kg	12.19.2020 14:19	
Diesel Range Organics	<49.9	997	1150	115	1160	116	70-130	1	20	mg/kg	12.19.2020 14:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		118		70-130	%	12.19.2020 14:19
o-Terphenyl	124		121		70-130	%	12.19.2020 14:19

Analytical Method: BTEX by EPA 8021B

Seq Number: 3145474

MB Sample Id: 7717524-1-BLK

Matrix: Solid

LCS Sample Id: 7717524-1-BKS

Prep Method: SW5035A

Date Prep: 12.18.2020

LCSD Sample Id: 7717524-1-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	0.101	101	0.0941	94	70-130	7	35	mg/kg	12.19.2020 23:29	
Toluene	<0.00200	0.100	0.0944	94	0.0885	89	70-130	6	35	mg/kg	12.19.2020 23:29	
Ethylbenzene	<0.00200	0.100	0.0948	95	0.0892	89	70-130	6	35	mg/kg	12.19.2020 23:29	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.178	89	70-130	6	35	mg/kg	12.19.2020 23:29	
o-Xylene	<0.00200	0.100	0.0950	95	0.0902	90	70-130	5	35	mg/kg	12.19.2020 23:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		99		99		70-130	%	12.19.2020 23:29
4-Bromofluorobenzene	106		97		101		70-130	%	12.19.2020 23:29

Analytical Method: BTEX by EPA 8021B

Seq Number: 3145474

Parent Sample Id: 681586-030

Matrix: Soil

MS Sample Id: 681586-030 S

Prep Method: SW5035A

Date Prep: 12.18.2020

MSD Sample Id: 681586-030 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	0.100	0.0832	83	0.0857	86	70-130	3	35	mg/kg	12.20.2020 00:10	
Toluene	<0.00201	0.100	0.0773	77	0.0784	78	70-130	1	35	mg/kg	12.20.2020 00:10	
Ethylbenzene	0.00210	0.100	0.0723	70	0.0722	70	70-130	0	35	mg/kg	12.20.2020 00:10	
m,p-Xylenes	0.00419	0.201	0.141	68	0.140	68	70-130	1	35	mg/kg	12.20.2020 00:10	X
o-Xylene	0.00344	0.100	0.0702	67	0.0709	67	70-130	1	35	mg/kg	12.20.2020 00:10	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		100		70-130	%	12.20.2020 00:10
4-Bromofluorobenzene	104		103		70-130	%	12.20.2020 00:10

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



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

u81778

[illegible]

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 12.18.2020 11.02.00 AM

Work Order #: 681778

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes BTEX was in bulk container
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 12.18.2020

Checklist reviewed by:



Jessica Kramer

Date: 12.21.2020

Certificate of Analysis Summary 687484

COG Operating LLC, Artesia, NM

Project Name: Ben Lilly 2 State Com 4H Battery (10/25/20)

Project Id: COG - High Brass

Date Received in Lab: Fri 02.05.2021 11:55

Contact: Ike Tavaréz

Report Date: 02.08.2021 19:44

Project Location: Lea County, NM

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	687484-001	687484-002	687484-003	687484-004	687484-005	687484-006
	<i>Field Id:</i>	Confirmation A North Side	Confirmation A South Side	Confirmation A East Side	Confirmation A West Side	Confirmation A Bottomho	Confirmation A Bottomhc
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	02.04.2021 00:00	02.04.2021 00:00	02.04.2021 00:00	02.04.2021 00:00	02.04.2021 00:00	02.04.2021 00:00
TPH By SW8015 Mod	<i>Extracted:</i>	02.07.2021 10:00	02.07.2021 10:00	02.07.2021 10:00	02.07.2021 10:00	02.07.2021 10:00	02.07.2021 10:00
	<i>Analyzed:</i>	02.07.2021 23:00	02.08.2021 00:04	02.08.2021 00:25	02.08.2021 00:46	02.08.2021 01:07	02.08.2021 01:28
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0
Diesel Range Organics		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0
Total TPH		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0

BRL - Below Reporting Limit

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





Analytical Report 687484

for

COG Operating LLC

Project Manager: Ike Tavaréz

Ben Lilly 2 State Com 4H Battery (10/25/20)

COG - High Brass

02.08.2021

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



02.08.2021

Project Manager: **Ike Tavaréz**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: Eurofins Xenco, LLC Report No(s): **687484**

Ben Lilly 2 State Com 4H Battery (10/25/20)

Project Address: Lea County, NM

Ike Tavaréz:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 687484. 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 Eurofins Xenco, LLC. 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. 687484 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads "Jessica Kramer".

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 687484****COG Operating LLC, Artesia, NM**

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Confirmation A North Sidewall	S	02.04.2021 00:00		687484-001
Confirmation A South Sidewall	S	02.04.2021 00:00		687484-002
Confirmation A East Sidewall	S	02.04.2021 00:00		687484-003
Confirmation A West Sidewall	S	02.04.2021 00:00		687484-004
Confirmation A Bottomhole-1 2'	S	02.04.2021 00:00		687484-005
Confirmation A Bottomhole-2 2'	S	02.04.2021 00:00		687484-006



CASE NARRATIVE

Client Name: *COG Operating LLC*

Project Name: *Ben Lilly 2 State Com 4H Battery (10/25/20)*

Project ID: *COG - High Brass*
Work Order Number(s): *687484*

Report Date: *02.08.2021*
Date Received: *02.05.2021*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3150338 TPH By SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits Data confirmed by re-analysis. Samples affected are:
7721029-1-BKS, 7721029-1-BSD.



Certificate of Analytical Results 687484

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation A North Sidewall**

Matrix: Soil

Date Received: 02.05.2021 11:55

Lab Sample Id: 687484-001

Date Collected: 02.04.2021 00:00

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 02.07.2021 10:00

% Moisture:

Seq Number: 3150338

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	02.07.2021 23:00	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	02.07.2021 23:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.07.2021 23:00	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.07.2021 23:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	87	%	70-130	02.07.2021 23:00		
o-Terphenyl	84-15-1	94	%	70-130	02.07.2021 23:00		



Certificate of Analytical Results 687484

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation A South Sidewall**

Matrix: Soil

Date Received: 02.05.2021 11:55

Lab Sample Id: 687484-002

Date Collected: 02.04.2021 00:00

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 02.07.2021 10:00

% Moisture:

Seq Number: 3150338

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	02.08.2021 00:04	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	02.08.2021 00:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.08.2021 00:04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.08.2021 00:04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	88	%	70-130	02.08.2021 00:04		
o-Terphenyl	84-15-1	97	%	70-130	02.08.2021 00:04		



Certificate of Analytical Results 687484

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation A East Sidewall**

Matrix: Soil

Date Received: 02.05.2021 11:55

Lab Sample Id: 687484-003

Date Collected: 02.04.2021 00:00

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 02.07.2021 10:00

% Moisture:

Seq Number: 3150338

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	02.08.2021 00:25	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	02.08.2021 00:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.08.2021 00:25	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.08.2021 00:25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	89	%	70-130	02.08.2021 00:25		
o-Terphenyl	84-15-1	98	%	70-130	02.08.2021 00:25		



Certificate of Analytical Results 687484

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation A West Sidewall**

Matrix: Soil

Date Received: 02.05.2021 11:55

Lab Sample Id: 687484-004

Date Collected: 02.04.2021 00:00

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 02.07.2021 10:00

% Moisture:

Seq Number: 3150338

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	02.08.2021 00:46	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	02.08.2021 00:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.08.2021 00:46	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.08.2021 00:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	89	%	70-130	02.08.2021 00:46		
o-Terphenyl	84-15-1	99	%	70-130	02.08.2021 00:46		



Certificate of Analytical Results 687484

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation A Bottomhole-1 2'**

Matrix: Soil

Date Received: 02.05.2021 11:55

Lab Sample Id: 687484-005

Date Collected: 02.04.2021 00:00

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 02.07.2021 10:00

% Moisture:

Seq Number: 3150338

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	02.08.2021 01:07	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	02.08.2021 01:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.08.2021 01:07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.08.2021 01:07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	88	%	70-130	02.08.2021 01:07		
o-Terphenyl	84-15-1	97	%	70-130	02.08.2021 01:07		



Certificate of Analytical Results 687484

COG Operating LLC, Artesia, NM

Ben Lilly 2 State Com 4H Battery (10/25/20)

Sample Id: **Confirmation A Bottomhole-2 2'**

Matrix: Soil

Date Received: 02.05.2021 11:55

Lab Sample Id: 687484-006

Date Collected: 02.04.2021 00:00

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 02.07.2021 10:00

% Moisture:

Basis: Wet Weight

Seq Number: 3150338

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	02.08.2021 01:28	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	02.08.2021 01:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.08.2021 01:28	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.08.2021 01:28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	89	%	70-130	02.08.2021 01:28		
o-Terphenyl	84-15-1	98	%	70-130	02.08.2021 01:28		



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



COG Operating LLC
Ben Lilly 2 State Com 4H Battery (10/25/20)

Analytical Method: TPH By SW8015 Mod

Seq Number: 3150338

MB Sample Id: 7721029-1-BLK

Matrix: Solid

LCS Sample Id: 7721029-1-BKS

Prep Method: SW8015P

Date Prep: 02.07.2021

LCSD Sample Id: 7721029-1-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	<50.0	1000	1080	108	1060	106	70-130	2	20	mg/kg	02.07.2021 22:17	
Diesel Range Organics	<50.0	1000	1150	115	1140	114	70-130	1	20	mg/kg	02.07.2021 22:17	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1-Chlorooctane	96		126		126		70-130			%	02.07.2021 22:17	
o-Terphenyl	111		134	**	150	**	70-130			%	02.07.2021 22:17	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3150338

Matrix: Solid

MB Sample Id: 7721029-1-BLK

Prep Method: SW8015P

Date Prep: 02.07.2021

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.07.2021 21:56	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3150338

Matrix: Soil

Parent Sample Id: 687484-001

MS Sample Id: 687484-001 S

Prep Method: SW8015P

Date Prep: 02.07.2021

MSD Sample Id: 687484-001 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	<49.9	998	1060	106	943	95	70-130	12	20	mg/kg	02.07.2021 23:22	
Diesel Range Organics	<49.9	998	1060	106	1000	100	70-130	6	20	mg/kg	02.07.2021 23:22	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits			Units	Analysis Date	
1-Chlorooctane			105		100		70-130			%	02.07.2021 23:22	
o-Terphenyl			108		106		70-130			%	02.07.2021 23:22	

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

ORIGINAL COPY

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 02.05.2021 11.55.00 AM

Work Order #: 687484

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	-1.4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 02.05.2021

Checklist reviewed by:



Jessica Kramer

Date: 02.08.2021

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 26812

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 26812
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	None	7/30/2021