



February 8, 2019

Mike Bratcher
Oil Conservation Division, District 2
811 S First St.
Artesia, NM 88210

Deborah McKinney
Bureau of Land Management
620 E. Green St.
Carlsbad, NM 88220

**Re: COG Operating, LLC
Deferment Request
Burch Keely Unit Satellite G (11/12/18)
RP#: 2RP-5052
GPS: 32.80903, -104.01178
Unit Letter F, Section 30, Township 17 South, Range 30 East
Eddy County, New Mexico**

Mr. Bratcher/Ms. McKinney,

COG Operating, LLC (COG) is pleased to submit the following deferment report in response to a release that occurred at the Burch Keely Unit Satellite G located in Unit Letter F, Section 30, Township 17 South and Range 30 East in Eddy County, New Mexico.

BACKGROUND

The release was discovered on November 12, 2018 and a C-141 initial report was submitted and approved by the New Mexico Oil Conservation Division (NMOCD). The initial C-141 is shown in Appendix A. The release occurred from a leaking fiberglass containment that captured leaking fluids from under the skid mount unit. The release was contained on location and a vacuum truck was used to remove all freestanding fluids. Approximately 2.5 barrels of oil and 2.5 barrels of produced water were released and recovered 0.5 barrels of oil and 0.5 barrels of produced water. The impacted area under the skid unit measured approximately 6.0' x 12.0'. A shallow scrape was performed under the skid unit but additional removal could not be performed due to access issues under the skid.

GROUNDWATER AND REGULATORY FRAMEWORK

According to the New Mexico Office of the State Engineer (NMOSE), reported a water well in Section 20 with groundwater depth of 80 feet below surface. The Chevron trend map show a depth to water >100 feet. The water well information is shown in Appendix B.

A risk based evaluation and site determinations were performed in accordance to the New Mexico Oil Conservation Division (NMOCD) Rule (Title 19 Chapter 15 Part 29) for releases on oil and gas development and production in New Mexico (effective August 14, 2018). According to the site characterization evaluation, no other receptors (water wells, playas, karst, water course, lake beds or ordinance boundaries) were located within each specific boundaries or distance from the site. The groundwater data and the site characterization evaluation data is summarized in Appendix B. The delineation and closure criteria are listed below:

General Site Characterization and Groundwater:

Site Characterization	Average Groundwater Depth (ft.)
None Encountered	50-100 feet

Delineation and Closure Criteria:

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

PROPOSED DEFERMENT

Referring to Table 1, the benzene, total BTEX and chloride concentrations are below the closure criteria or Remedial Action Levels (RAL). However, the TPH did exceed and showed a shallow impact to the soil, but declined below the RAL at 1-1.5' below the excavation bottom. The skid mount unit cannot be moved from the area to properly perform the remediation. The impacted area under the skid measured approximately 6.0' x 12.0'. Due to the access issues, COG propose to defer the remaining impact under the skid. To aid the hydrocarbon degradation, a Micro-Blaze product will be applied to the area.

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

Sincerely,
Concho Operating, LLC



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

CC:

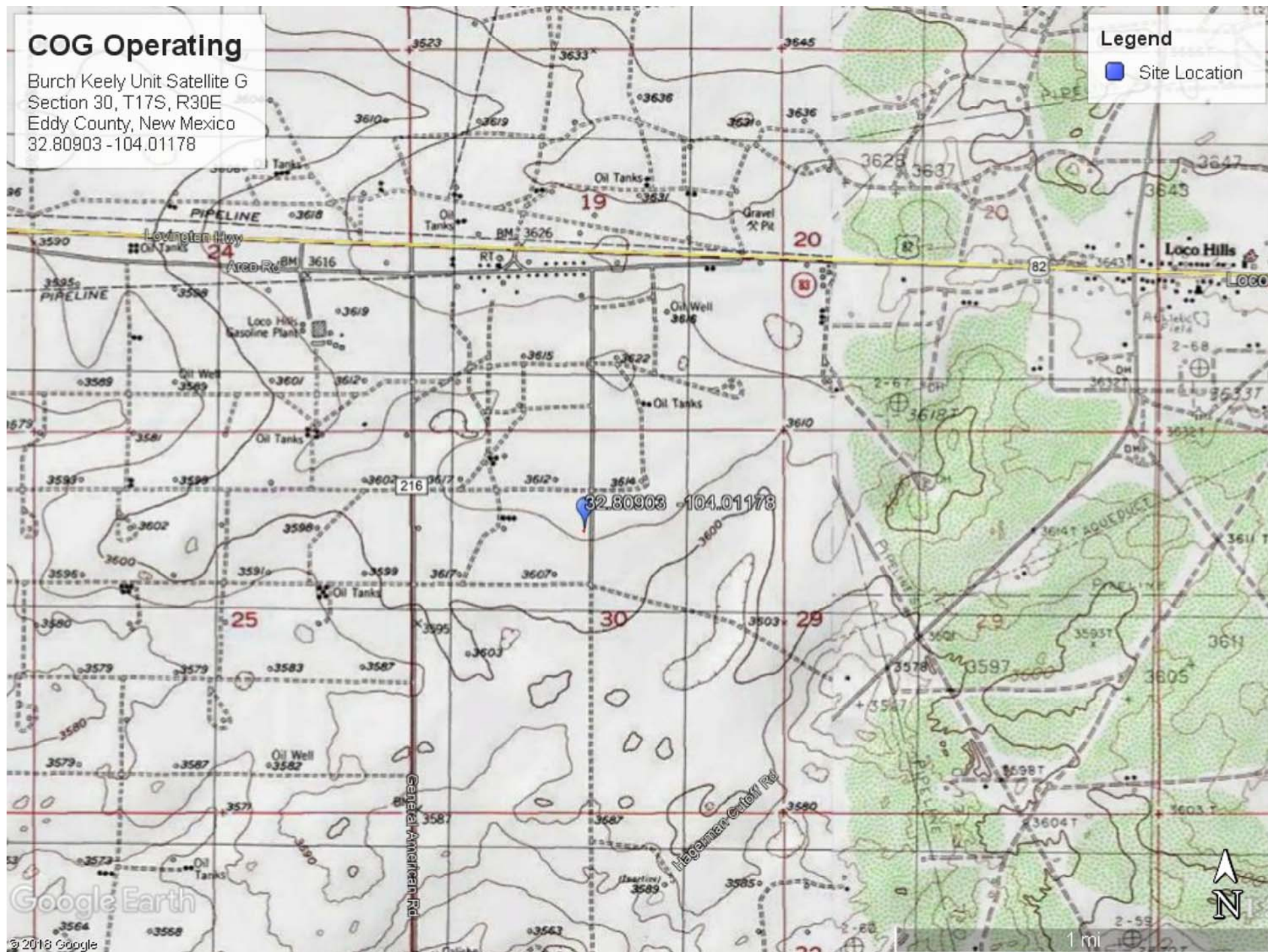
Figures

COG Operating

Burch Keely Unit Satellite G
Section 30, T17S, R30E
Eddy County, New Mexico
32.80903 -104.01178

Legend

Site Location



COG Operating

Burch Keely Unit Satellite G
Section 30, T17S, R30E
Eddy County, New Mexico
32.80903 -104.01178

Legend

- Sample Location
- Skid Unit
- Spill Area

AH-1

Google Earth

100 ft

N

COG Operating

Burch Keely Unit Satellite G
Section 30, T17S, R30E
Eddy County, New Mexico
32.80903 -104.01178

Legend

- Sample Location
- Skid Unit
- Spill Area



AH-1

Google Earth



40 ft

Tables

Table 1
COG Operating LLC.
Burch Keely Satellite G
Eddy County, New Mexico

Sample ID	Sample Date	Soil Status		TPH (mg/kg)							Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
		In-Situ	Removed	GRO	DRO	MRO	Total	GRO	DRO	Total			
Average Depth to Groundwater (ft) >50 -100'													
NMOCD Remedial Action Levels (mg/kg)				-	-	-	2,500	-	-	1,000	10	50	10,000
AH-1 0-1'	11/27/2018	X		62.4	3610	67.1	3740	62.4	3610	3,672.4	<0.00200	0.0187	516
AH-1 1-1.5'	11/27/2018	X		<15.0	208	29.7	238	<15.0	208	208	<0.00199	<0.00199	469
AH-1 2-2.5'	11/27/2018	X		<15.0	940	83.5	1020	<15.0	940	904	<0.00200	<0.00200	403
AH-1 3-3.5'	11/27/2018	X		-	-	-	-	-	-	-	-	-	18.4
AH-1 4-4.5'	11/27/2018	X		-	-	-	-	-	-	-	-	-	623
AH-1 5-5.5'	11/27/2018	X		-	-	-	-	-	-	-	-	-	1260

 Proposed Deferment
 (-) Not Analyzed

Appendix A

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

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

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

Unit Letter	Section	Township	Range	County

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

Nature and Volume of Release

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

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

Cause of Release

Incident ID	
District RP	
Facility ID	
Application ID	

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

Initial Response

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

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

Incident ID	
District RP	2RP 5052
Facility ID	
Application ID	

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?	50-100 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
515	
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

<p>Characterization Report Checklist: <i>Each of the following items must be included in the report.</i></p> <ul style="list-style-type: none"><input checked="" type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.<input type="checkbox"/> Field data<input checked="" type="checkbox"/> Data table of soil contaminant concentration data<input checked="" type="checkbox"/> Depth to water determination<input checked="" type="checkbox"/> Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release<input type="checkbox"/> Boring or excavation logs<input type="checkbox"/> Photographs including date and GIS information<input checked="" type="checkbox"/> Topographic/Aerial maps<input checked="" type="checkbox"/> Laboratory data including chain of custody
--

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP 5052
Facility ID	
Application ID	

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

Printed Name: Ike TavarézTitle: Senior HSE SupervisorSignature: Date: 2/8/19email: itavarez@concho.comTelephone: 432-683-7443**OCD Only**

Received by: _____

Date: _____

Incident ID	
District RP	2RP 5052
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.

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

Printed Name: Ike Tavarez Title: Senior HSE Supervisor

Signature:  Date: 2/8/19

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

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Appendix B



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	DepthWell	DepthWater	Water Column	
RA 11914 POD1		RA	ED	2	4	2	20	17S	30E	594801	3632002	<input type="text"/>	85	80	5

Average Depth to Water: **80 feet**

Minimum Depth: **80 feet**

Maximum Depth: **80 feet**

Record Count: 1

PLSS Search:

Township: 17S **Range:** 30E

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

2/7/19 5:49 PM

WATER COLUMN/ AVERAGE DEPTH TO
WATER



USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category: Geographic Area:

Click to hideNews Bulletins

- [Please see news on new formats](#)
- [Full News](#)

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =
• 324746104025001

Minimum number of levels = 1

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

USGS 324746104025001 17S.29E.35.121443

Available data for this site

Eddy County, New Mexico

Hydrologic Unit Code --

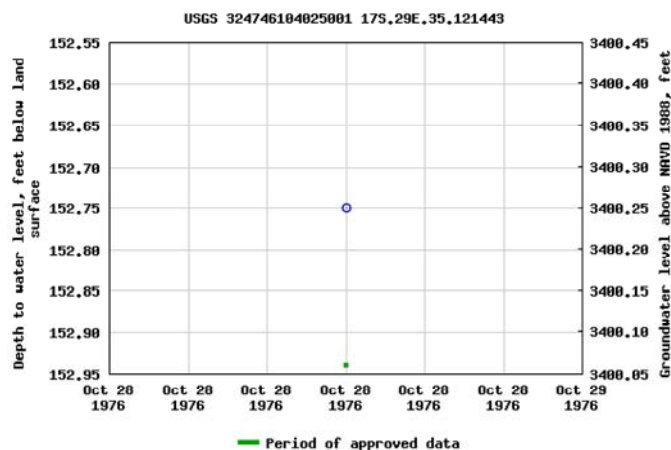
Latitude 32°47'46", Longitude 104°02'50" NAD27

Land-surface elevation 3,553 feet above NAVD88

This well is completed in the San Andres Limestone (313SADR) local aquifer.

Output formats

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



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

[Download a presentation-quality graph](#)

[Questions about sites/data?](#)

[Feedback on this web site](#)

[Automated retrievals](#)

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[Subscribe for system changes](#)

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Accessibility Plug-Ins FOIA Privacy Policies and Notices

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

Title: Groundwater for USA: Water Levels

URL: [https://nwis.waterdata.usgs.gov/usa/nwis/gwlevels?](https://nwis.waterdata.usgs.gov/usa/nwis/gwlevels?site_no=324746104025001)



National Water Information System: Mapper

The screenshot displays the ArcGIS Online web application interface. On the left, the 'Contents' pane shows the 'Groundwater Sites' layer selected. Under this layer, there are two sections: 'Active Sites' and 'Inactive Sites'. Each section has a list of filters: 'Any data', 'Instantaneous data', 'Daily data', 'Water-quality data', 'Measurements', and 'Annual Report'. The 'Map' tab is active, showing a topographic map of the Lovington, NM area. A red pin marks a specific groundwater site. The map includes labels for 'Lovington Hwy 82', 'Standard Rd', 'General American Rd', and 'Hageman Culvert Rd'. A scale bar at the bottom left indicates a distance of 0.6 miles. The bottom of the interface shows the 'Site Information' panel, which is currently empty.

Arco Rd

Burch Keely Satellite G

Section 30, T17S, R30E
Eddy County, New Mexico
32.80903 -104.01178

Legend

-  Site Location
-  High
-  Low
-  Medium

216

General American Rd



32.80903, -104.01178

Google Earth

© 2018 Google

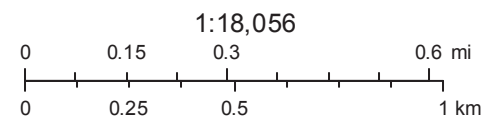


2000 ft

New Mexico NFHL Data



February 8, 2019



FEMA
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

nmflood.org is made possible through a collaboration with NMDHSEM, EDAC, and FEMA
This is a non-regulatory product for informational use only. Please consult your local floodplain administrator for further information.

Appendix C



Certificate of Analysis Summary 607203

COG Operating LLC, Artesia, NM

Project Name: Burch Keely Satellite G Battery (11-12-18)



Project Id:

Contact: Ike Tavarez

Project Location: Eddy Co. NM

Date Received in Lab: Mon Dec-03-18 11:53 am

Report Date: 06-DEC-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	607203-001	607203-002	607203-003	607203-004	607203-005	607203-006
	<i>Field Id:</i>	AH-1 0-1'	AH-1 1-1-5'	AH-1 2-2.5'	AH-1 3-3.5'	AH-1 4-4.5'	AH-1 5-5.5'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Nov-27-18 00:00	Nov-27-18 00:00	Nov-27-18 00:00	Nov-27-18 00:00	Nov-27-18 00:00	Nov-27-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-05-18 10:30	Dec-05-18 10:30	Dec-05-18 10:30			
	<i>Analyzed:</i>	Dec-06-18 03:30	Dec-06-18 03:49	Dec-06-18 04:08			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200			
Toluene		0.00390 0.00200	<0.00199 0.00199	<0.00200 0.00200			
Ethylbenzene		0.00362 0.00200	<0.00199 0.00199	<0.00200 0.00200			
m,p-Xylenes		0.00717 0.00400	<0.00398 0.00398	<0.00400 0.00400			
o-Xylene		0.00396 0.00200	<0.00199 0.00199	<0.00200 0.00200			
Total Xylenes		0.0111 0.00200	<0.00199 0.00199	<0.00200 0.00200			
Total BTEX		0.0187 0.00200	<0.00199 0.00199	<0.00200 0.00200			
Chloride by EPA 300	<i>Extracted:</i>	Dec-03-18 17:00	Dec-03-18 17:00	Dec-03-18 17:00	Dec-03-18 17:00	Dec-03-18 17:00	Dec-03-18 17:00
	<i>Analyzed:</i>	Dec-04-18 04:24	Dec-04-18 04:30	Dec-04-18 04:36	Dec-04-18 05:01	Dec-04-18 05:07	Dec-04-18 08:29
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		516 5.00	469 4.95	403 5.00	18.4 4.96	623 4.96	1260 25.0
TPH By SW8015 Mod	<i>Extracted:</i>	Dec-03-18 14:00	Dec-03-18 14:00	Dec-03-18 14:00			
	<i>Analyzed:</i>	Dec-04-18 07:38	Dec-04-18 07:57	Dec-04-18 08:16			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons		62.4 15.0	<15.0 15.0	<15.0 15.0			
Diesel Range Organics		3610 15.0	208 15.0	940 15.0			
Motor Oil Range Hydrocarbons (MRO)		67.1 15.0	29.7 15.0	83.5 15.0			
Total TPH		3740 15.0	238 15.0	1020 15.0			

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

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

Jessica Kramer

Jessica Kramer
Project Assistant

Analytical Report 607203

for COG Operating LLC

Project Manager: Ike Tavaréz

Burch Keely Satellite G Battery (11-12-18)

06-DEC-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



06-DEC-18

Project Manager: **Ike Tavaréz**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: XENCO Report No(s): **607203**

Burch Keely Satellite G Battery (11-12-18)

Project Address: Eddy 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 XENCO Report Number(s) 607203. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 607203 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 607203



COG Operating LLC, Artesia, NM

Burch Keely Satellite G Battery (11-12-18)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-1 0-1'	S	11-27-18 00:00		607203-001
AH-1 1-1.5'	S	11-27-18 00:00		607203-002
AH-1 2-2.5'	S	11-27-18 00:00		607203-003
AH-1 3-3.5'	S	11-27-18 00:00		607203-004
AH-1 4-4.5'	S	11-27-18 00:00		607203-005
AH-1 5-5.5'	S	11-27-18 00:00		607203-006



CASE NARRATIVE

Client Name: *COG Operating LLC*

Project Name: *Burch Keely Satellite G Battery (11-12-18)*

Project ID:

Work Order Number(s): *607203*

Report Date: *06-DEC-18*

Date Received: *12/03/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3071838 BTEX by EPA 8021B

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



Certificate of Analytical Results 607203



COG Operating LLC, Artesia, NM Burch Keely Satellite G Battery (11-12-18)

Sample Id: **AH-1 0-1'**
Lab Sample Id: 607203-001

Matrix: Soil
Date Collected: 11.27.18 00.00

Date Received: 12.03.18 11.53

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3071575

Prep Method: E300P

% Moisture:

Date Prep: 12.03.18 17.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	516	5.00	mg/kg	12.04.18 04.24		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3071595

Prep Method: TX1005P

% Moisture:

Date Prep: 12.03.18 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	62.4	15.0	mg/kg	12.04.18 07.38		1
Diesel Range Organics	C10C28DRO	3610	15.0	mg/kg	12.04.18 07.38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	67.1	15.0	mg/kg	12.04.18 07.38		1
Total TPH	PHC635	3740	15.0	mg/kg	12.04.18 07.38		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	95	%	70-135	12.04.18 07.38		
o-Terphenyl	84-15-1	110	%	70-135	12.04.18 07.38		



Certificate of Analytical Results 607203



COG Operating LLC, Artesia, NM Burch Keely Satellite G Battery (11-12-18)

Sample Id: **AH-1 0-1'**
Lab Sample Id: 607203-001

Matrix: Soil
Date Collected: 11.27.18 00.00

Date Received: 12.03.18 11.53

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.05.18 10.30

Basis: Wet Weight

Seq Number: 3071838

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.06.18 03.30	U	1
Toluene	108-88-3	0.00390	0.00200	mg/kg	12.06.18 03.30		1
Ethylbenzene	100-41-4	0.00362	0.00200	mg/kg	12.06.18 03.30		1
m,p-Xylenes	179601-23-1	0.00717	0.00400	mg/kg	12.06.18 03.30		1
o-Xylene	95-47-6	0.00396	0.00200	mg/kg	12.06.18 03.30		1
Total Xylenes	1330-20-7	0.0111	0.00200	mg/kg	12.06.18 03.30		1
Total BTEX		0.0187	0.00200	mg/kg	12.06.18 03.30		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107		%	70-130	12.06.18 03.30	
4-Bromofluorobenzene	460-00-4	98		%	70-130	12.06.18 03.30	



Certificate of Analytical Results 607203



COG Operating LLC, Artesia, NM Burch Keely Satellite G Battery (11-12-18)

Sample Id: **AH-1 1-1-5'**

Matrix: Soil

Date Received: 12.03.18 11.53

Lab Sample Id: 607203-002

Date Collected: 11.27.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 12.03.18 17.00

Basis: Wet Weight

Seq Number: 3071575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	469	4.95	mg/kg	12.04.18 04.30		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 12.03.18 14.00

Basis: Wet Weight

Seq Number: 3071595

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	12.04.18 07.57	U	1
Diesel Range Organics	C10C28DRO	208	15.0	mg/kg	12.04.18 07.57		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	29.7	15.0	mg/kg	12.04.18 07.57		1
Total TPH	PHC635	238	15.0	mg/kg	12.04.18 07.57		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	82	%	70-135	12.04.18 07.57		
o-Terphenyl	84-15-1	85	%	70-135	12.04.18 07.57		



Certificate of Analytical Results 607203



COG Operating LLC, Artesia, NM Burch Keely Satellite G Battery (11-12-18)

Sample Id: **AH-1 1-1-5'**

Matrix: Soil

Date Received: 12.03.18 11.53

Lab Sample Id: 607203-002

Date Collected: 11.27.18 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.05.18 10.30

Basis: Wet Weight

Seq Number: 3071838

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.06.18 03.49	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.06.18 03.49	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.06.18 03.49	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.06.18 03.49	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.06.18 03.49	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.06.18 03.49	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.06.18 03.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	12.06.18 03.49		
1,4-Difluorobenzene	540-36-3	114	%	70-130	12.06.18 03.49		



Certificate of Analytical Results 607203



COG Operating LLC, Artesia, NM Burch Keely Satellite G Battery (11-12-18)

Sample Id: **AH-1 2-2.5'** Matrix: Soil Date Received: 12.03.18 11.53
Lab Sample Id: 607203-003 Date Collected: 11.27.18 00.00
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: CHE % Moisture:
Analyst: CHE Date Prep: 12.03.18 17.00 Basis: Wet Weight
Seq Number: 3071575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	403	5.00	mg/kg	12.04.18 04.36		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 12.03.18 14.00 Basis: Wet Weight
Seq Number: 3071595

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	12.04.18 08.16	U	1
Diesel Range Organics	C10C28DRO	940	15.0	mg/kg	12.04.18 08.16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	83.5	15.0	mg/kg	12.04.18 08.16		1
Total TPH	PHC635	1020	15.0	mg/kg	12.04.18 08.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	12.04.18 08.16	
o-Terphenyl	84-15-1	92	%	70-135	12.04.18 08.16	



Certificate of Analytical Results 607203



COG Operating LLC, Artesia, NM Burch Keely Satellite G Battery (11-12-18)

Sample Id: **AH-1 2-2.5'**

Matrix: Soil

Date Received: 12.03.18 11.53

Lab Sample Id: 607203-003

Date Collected: 11.27.18 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 12.05.18 10.30

Basis: Wet Weight

Seq Number: 3071838

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.06.18 04.08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.06.18 04.08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.06.18 04.08	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.06.18 04.08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.06.18 04.08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.06.18 04.08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.06.18 04.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.06.18 04.08		
4-Bromofluorobenzene	460-00-4	102	%	70-130	12.06.18 04.08		



Certificate of Analytical Results 607203



COG Operating LLC, Artesia, NM Burch Keely Satellite G Battery (11-12-18)

Sample Id: **AH-1 3-3.5'**

Matrix: Soil

Date Received: 12.03.18 11.53

Lab Sample Id: 607203-004

Date Collected: 11.27.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 12.03.18 17.00

Basis: Wet Weight

Seq Number: 3071575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.4	4.96	mg/kg	12.04.18 05.01		1



Certificate of Analytical Results 607203



COG Operating LLC, Artesia, NM Burch Keely Satellite G Battery (11-12-18)

Sample Id: **AH-1 4-4.5'**

Matrix: Soil

Date Received: 12.03.18 11.53

Lab Sample Id: 607203-005

Date Collected: 11.27.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 12.03.18 17.00

Basis: Wet Weight

Seq Number: 3071575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	623	4.96	mg/kg	12.04.18 05.07		1



Certificate of Analytical Results 607203



COG Operating LLC, Artesia, NM Burch Keely Satellite G Battery (11-12-18)

Sample Id: **AH-1 5-5.5'**

Matrix: Soil

Date Received: 12.03.18 11.53

Lab Sample Id: 607203-006

Date Collected: 11.27.18 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 12.03.18 17.00

Basis: Wet Weight

Seq Number: 3071575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1260	25.0	mg/kg	12.04.18 08.29		5

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

SDL Sample Detection Limit

LOD Limit of Detection

PQL Practical Quantitation Limit

SQL Method Quantitation Limit

LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample

BLK

Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample

BKSD/LCSD

Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate

MS

Matrix Spike

MSD: Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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



QC Summary 607203

COG Operating LLC Burch Keely Satellite G Battery (11-12-18)

Analytical Method: Chloride by EPA 300

Seq Number: 3071575

MB Sample Id: 7667269-1-BLK

Matrix: Solid

LCS Sample Id: 7667269-1-BKS

Prep Method: E300P

Date Prep: 12.03.18

LCSD Sample Id: 7667269-1-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	274	110	269	108	90-110	2	20	mg/kg	12.04.18 03:03	

Analytical Method: Chloride by EPA 300

Seq Number: 3071575

Parent Sample Id: 606951-002

Matrix: Soil

MS Sample Id: 606951-002 S

Prep Method: E300P

Date Prep: 12.03.18

MSD Sample Id: 606951-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	980	248	1250	109	1220	97	90-110	2	20	mg/kg	12.04.18 04:48	

Analytical Method: Chloride by EPA 300

Seq Number: 3071575

Parent Sample Id: 607264-007

Matrix: Soil

MS Sample Id: 607264-007 S

Prep Method: E300P

Date Prep: 12.03.18

MSD Sample Id: 607264-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	169	281	466	106	490	114	90-110	5	20	mg/kg	12.04.18 03:22	X

Analytical Method: TPH By SW8015 Mod

Seq Number: 3071595

MB Sample Id: 7667325-1-BLK

Matrix: Solid

LCS Sample Id: 7667325-1-BKS

Prep Method: TX1005P

Date Prep: 12.03.18

LCSD Sample Id: 7667325-1-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	<8.00	1000	853	85	879	88	70-135	3	20	mg/kg	12.03.18 15:39	
Diesel Range Organics	<8.13	1000	842	84	856	86	70-135	2	20	mg/kg	12.03.18 15:39	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		114		116		70-135	%	12.03.18 15:39
o-Terphenyl	105		93		95		70-135	%	12.03.18 15:39

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

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

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

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



QC Summary 607203

COG Operating LLC

Burch Keely Satellite G Battery (11-12-18)

Analytical Method: TPH By SW8015 Mod

Seq Number: 3071595

Parent Sample Id: 607275-001

Matrix: Soil

MS Sample Id: 607275-001 S

Prep Method: TX1005P

Date Prep: 12.03.18

MSD Sample Id: 607275-001 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	8.03	999	849	84	850	84	70-135	0	20	mg/kg	12.03.18 16:38	
Diesel Range Organics	14.3	999	856	84	858	85	70-135	0	20	mg/kg	12.03.18 16:38	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		101		70-135	%	12.03.18 16:38
o-Terphenyl	91		89		70-135	%	12.03.18 16:38

Analytical Method: BTEX by EPA 8021B

Seq Number: 3071838

MB Sample Id: 7667476-1-BLK

Matrix: Solid

LCS Sample Id: 7667476-1-BKS

Prep Method: SW5030B

Date Prep: 12.05.18

LCSD Sample Id: 7667476-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.0904	90	0.102	101	70-130	12	35	mg/kg	12.06.18 00:22	
Toluene	<0.000456	0.100	0.0957	96	0.109	108	70-130	13	35	mg/kg	12.06.18 00:22	
Ethylbenzene	<0.000565	0.100	0.105	105	0.120	119	70-130	13	35	mg/kg	12.06.18 00:22	
m,p-Xylenes	<0.00101	0.200	0.198	99	0.224	111	70-130	12	35	mg/kg	12.06.18 00:22	
o-Xylene	<0.000344	0.100	0.0966	97	0.108	107	70-130	11	35	mg/kg	12.06.18 00:22	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		95		94		70-130	%	12.06.18 00:22
4-Bromofluorobenzene	82		100		102		70-130	%	12.06.18 00:22

Analytical Method: BTEX by EPA 8021B

Seq Number: 3071838

Parent Sample Id: 606767-001

Matrix: Soil

MS Sample Id: 606767-001 S

Prep Method: SW5030B

Date Prep: 12.05.18

MSD Sample Id: 606767-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0994	0.0644	65	0.0679	68	70-130	5	35	mg/kg	12.06.18 01:00	X
Toluene	<0.000453	0.0994	0.0690	69	0.0737	74	70-130	7	35	mg/kg	12.06.18 01:00	X
Ethylbenzene	<0.000561	0.0994	0.0706	71	0.0761	76	70-130	7	35	mg/kg	12.06.18 01:00	
m,p-Xylenes	0.00111	0.199	0.133	66	0.144	71	70-130	8	35	mg/kg	12.06.18 01:00	X
o-Xylene	0.000360	0.0994	0.0636	64	0.0696	69	70-130	9	35	mg/kg	12.06.18 01:00	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		96		70-130	%	12.06.18 01:00
4-Bromofluorobenzene	105		105		70-130	%	12.06.18 01:00

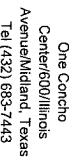
MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

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

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

Page 1 of 1



LAB USE ONLY		REMARKS:	
Sample Temperature 0.4/0.3 12	<input type="checkbox"/> RUSH: Same Day 24 hr <input type="checkbox"/> Rush Charges Authorized <input type="checkbox"/> Special Report Limits or TRRP Report		BTEX 8021B BTEX 8260B TPH TX1005 (Ext to C35) TPH 8015M (GRO - DRO - MRO) PAH 8270C Total Metals Ag As Ba Cd Cr Pb Se Hg TCLP Metals Ag As Ba Cd Cr Pb Se Hg TCLP Volatiles TCLP Semi Volatiles RCI GC/MS Vol. 8260B / 624 GC/MS Semi. Vol. 8270C/625 PCB's 8082 / 608 NORM PLM (Asbestos) Chloride Chloride Sulfate TDS General Water Chemistry (see attached list) Anion/Cation Balance Hold

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

Date/ Time Received: 12/03/2018 11:53:00 AM

Work Order #: 607203

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

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

Brianna Teel

Date: 12/03/2018

Checklist reviewed by:

Jessica Kramer

Jessica Kramer

Date: 12/03/2018