



September 23, 2019

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

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

Closure Report

Windward West CTB

RP#: 1RP-5620

DOR: July 6, 2019

GPS: 32.1074 -103.9448

**Unit Letter M, Section 29, Township 24 South, Range 32 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 on a flowline associated with the Windward West CTB. The release was located in Unit Letter M, Section 29, Township 24 South and Range 32 East in Lea County, New Mexico. More specifically the latitude and longitude for the release are 32.18340 North and -103.70350 West.

BACKGROUND

The release was discovered on July 6, 2019 and a C-141 initial report was submitted to the New Mexico Oil Conservation Division (NMOCD) and the Bureau of Land Management (BLM). The failure of a flowline resulted in the release of approximately twenty-four (24) barrels (bbls) of produced water into the pasture.

GROUNDWATER AND REGULATORY FRAMEWORK

According to the United States Geological Survey (USGS) the nearest active water well (321005103402301) indicates that groundwater in the project vicinity is approximately two-hundred and ninety (290) feet below ground surface (BGS). The water well information is shown in Appendix B.

A risk based evaluation and site determinations were performed in accordance to the New Mexico Oil Conservation Division (NMOCD) Rule (Title 19 Chapter 15 Part 29) for releases on oil and gas development and production in New Mexico (effective August 14, 2018). According to the site characterization evaluation, 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 Located	>100 feet

Delineation and Closure Criteria:

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

REMEDIAL ACTIONS

- The impacted area was excavated to a depth of four (4) feet BGS.
- All of the excavated material was hauled to an NMOCD approved solid waste disposal facility.
- Confirmation soil samples were taken from the bottom and sidewalls of the excavation per NMAC 19.15.29.
- A 20-mil poly liner was installed in the bottom of the four (4) foot excavation in order to encapsulate the remaining chloride impacts at depth.
- The site was backfilled with clean “like” material and contoured to match the surrounding location.

SITE RECLAMATION AND RESTORATION

Per NMED 19.15.29.13 reclamation of the pasture area has been performed by removing the impacted soil containing chloride concentrations greater than 600 mg/kg within the first four (4) feet BGS. Approximately one-thousand five-hundred and seventy-nine (1579) cubic yards of material was removed and hauled to an NMOCD approved solid waste disposal facility. Once excavated, soil samples were collected from the sidewalls and bottom of the excavation to confirm the removal of impacted soil greater than Table 1 criteria. A 20-mil poly liner was installed at the bottom of the excavation in order to encapsulate the chloride impacts at depth. The backfill material was non-contaminated with concentrations below 600 mg/kg of chlorides. The surface was left in a rough condition to approximate natural surface deviations. The site will be mechanically seeded with the BLM #2 seed mixture.

CLOSURE REQUEST

COG Operating, LLC respectfully requests that the New Mexico Oil Conservation Division and the Bureau of Land Management grant closure approval for the Windward West CTB incident that occurred on July 6, 2019.

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

Sincerely,

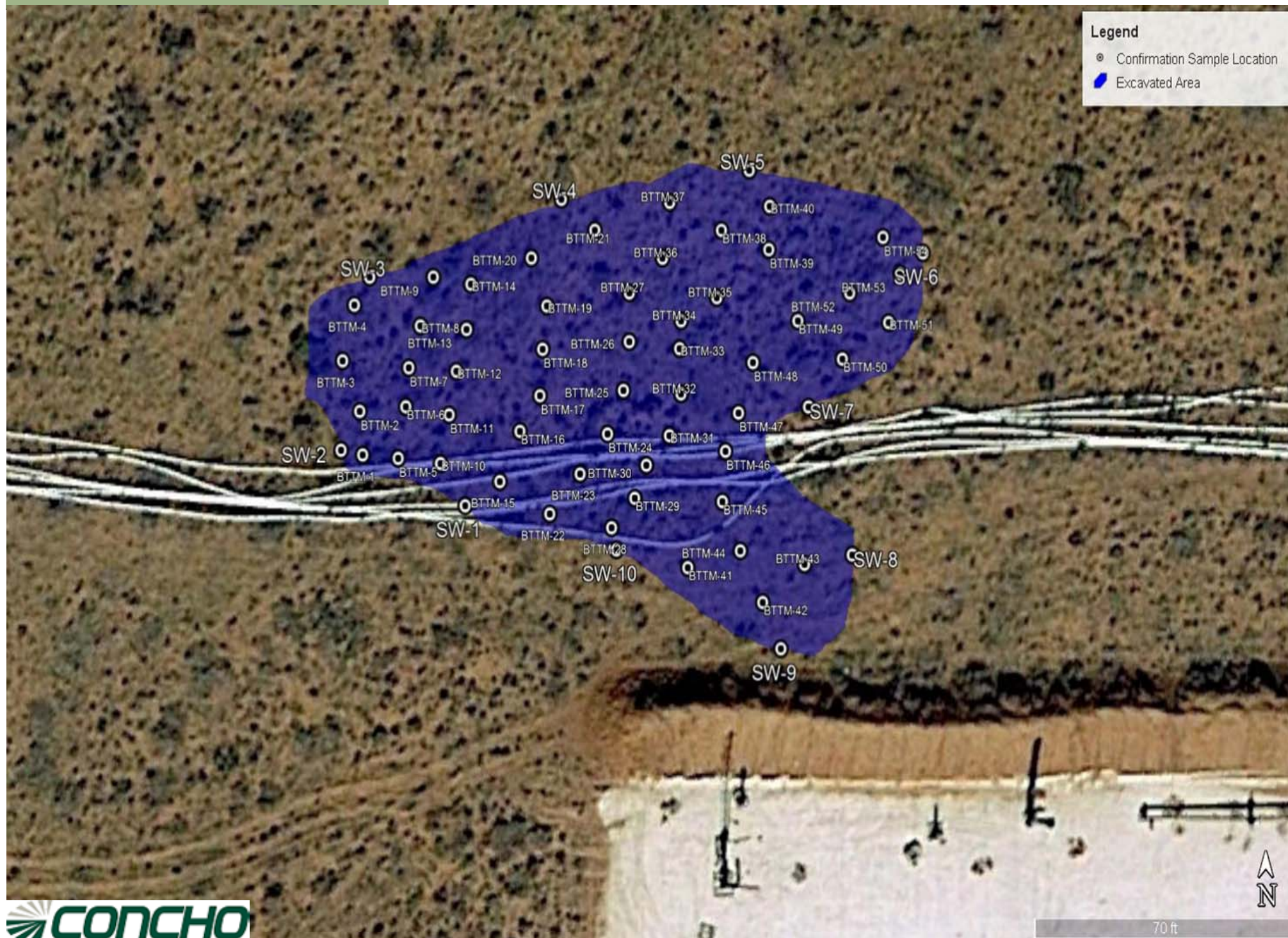


Sheldon L. Hitchcock
HSE Coordinator
slhitchcock@concho.com

FIGURES

July 6, 2019

Windward West CTB



TABLES

Table 1
COG Operating LLC.
Windward West CTB
Lea County, New Mexico

Sample ID	Sample Depth (ft)	Sample Date	Soil Status		TPH (mg/kg)						Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	
			In-Situ	Removed	GRO	DRO	MRO	Total	GRO	DRO				Total
NMOCD RRAL Limits (mg/kg)					-	-	-	2,500	-	-	1,000	10	50	20,000
B-1	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	72.0
B-2	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	64.3
B-3	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	79.4
B-4	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	70.4
B-5	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	71.6
B-6	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	74.2
B-7	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	69.0
B-8	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	43.6
B-9	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	54.7
B-10	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	57.5
B-11	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	41.1
B-12	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	42.8
B-13	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	47.2
B-14	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	58.9
B-15	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	58.6
B-16	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	59.9
B-17	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	59.4
B-18	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	492.0
B-19	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	428.0
B-20	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	467.0
B-21	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	944
B-22	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	587
B-23	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	568
B-24	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	860
B-25	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	786
B-26	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	701
B-27	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	702
B-28	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	590
B-29	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	434.0
B-30	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	426.0
B-31	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	1560
B-32	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	1350
B-33	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	1690
B-34	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	1120
B-35	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	1090
B-36	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	1320
B-37	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	1420
B-38	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	900
B-39	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	715
B-40	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	603
B-41	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	102.0
B-42	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	123.0
B-43	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	98.7

Table 1
COG Operating LLC.
Windward West CTB
Lea County, New Mexico

Sample ID	Sample Depth (ft)	Sample Date	Soil Status		TPH (mg/kg)							Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total	GRO	DRO	Total			
B-44	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	118.0
B-45	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	105.0
B-46	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	113.0
B-47	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	109.0
B-48	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	103.0
B-49	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	76.2
B-50	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	92.3
B-51	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	65.1
B-52	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	117.0
B-53	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	102.0
B-54	4	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	95.4
SW-1	N/A	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	19.7
SW-2	N/A	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	21.4
SW-3	N/A	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	12.9
SW-4	N/A	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	<10.0
SW-5	N/A	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	10.0
SW-6	N/A	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	91.1
SW-7	N/A	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	21.7
SW-8	N/A	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	17.6
SW-9	N/A	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	27.6
SW-10	N/A	8/22/2019	X		<25.1	<25.1	<25.1	0.0	<25.1	<25.1	0.0	<0.001	<0.001	31.3

(#) 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)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ 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? ☐ Yes ☐ 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

☐ The source of the release has been stopped.	
☐ The impacted area has been secured to protect human health and the environment.	
☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
☐ 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>Sheldon Nitan</u>	Date: _____
email: _____	Telephone: _____
<u>OCD Only</u>	
Received by: _____	Date: _____

Incident ID	
District RP	
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?	_____ (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☐ 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)?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☐ 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?	☐ Yes ☐ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☐ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☐ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☐ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☐ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☐ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ☐ 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: <i>Each of the following items must be included in the report.</i> ☐ 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.

Incident ID	
District RP	
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: _____ Title: _____

Signature: Sheldon Nitan 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.

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: Sheldon Nitan 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

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: _____ Title: _____

Signature: Sheldon Hittman 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

Legend

OSE PODs

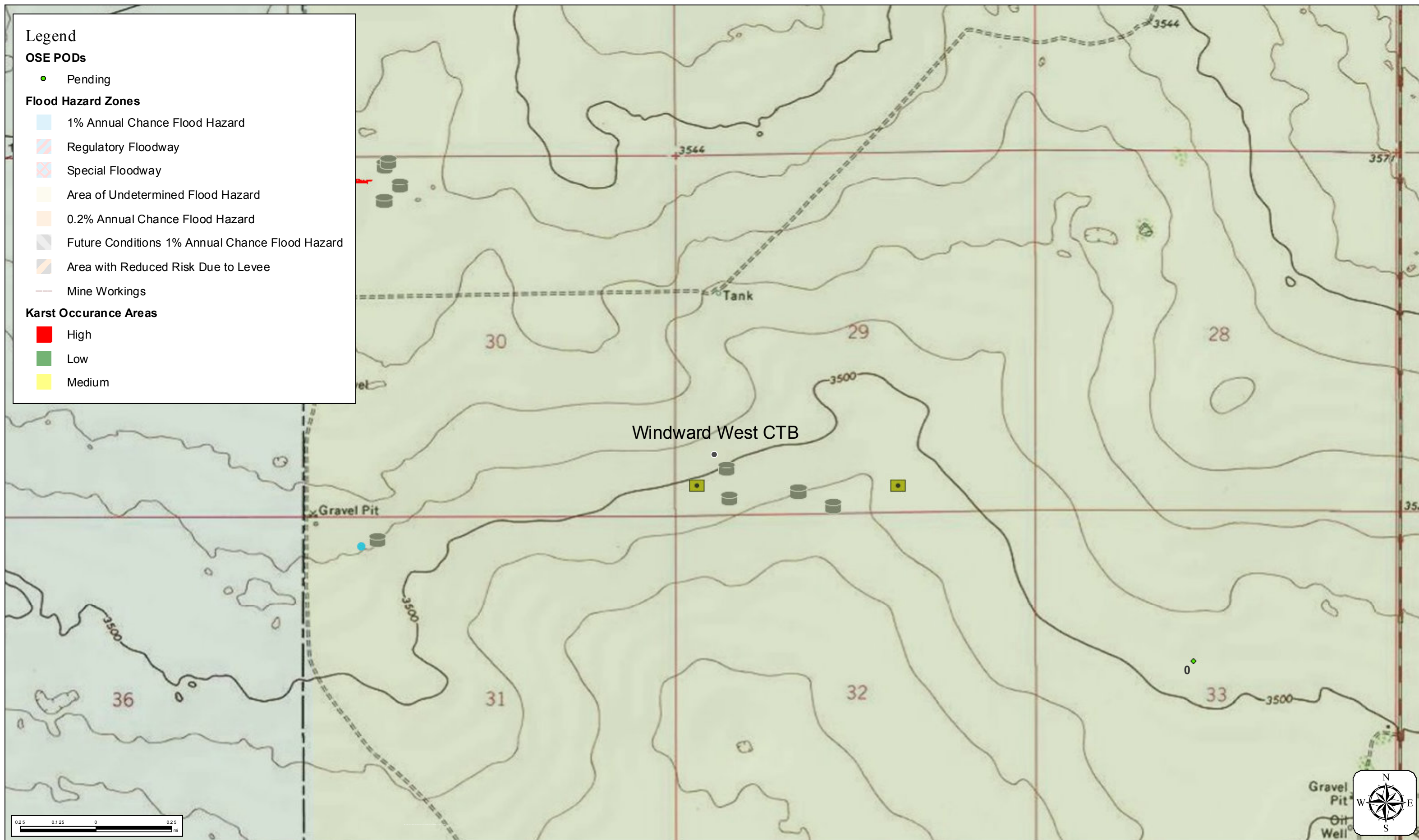
- Pending

Flood Hazard Zones

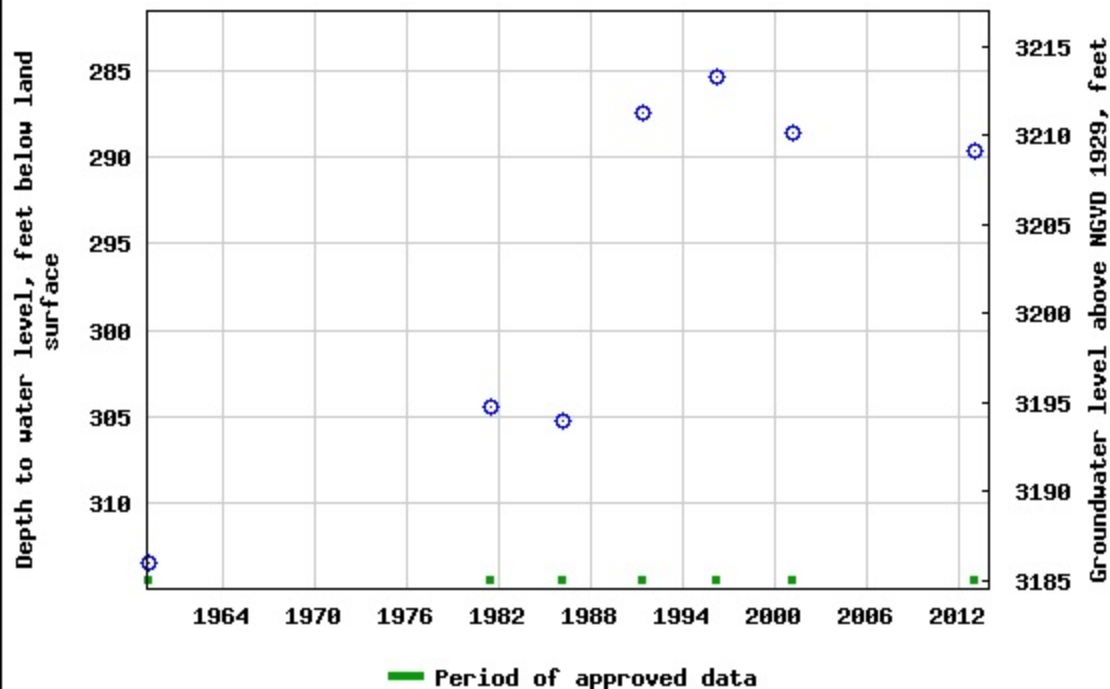
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Mine Workings

Karst Occurance Areas

- High
- Low
- Medium



USGS 321005103402301 24S.32E.33.42241



APPENDIX C



Certificate of Analysis Summary 635008

COG Operating LLC, Artesia, NM

Project Name: Winward West CTB 7/6/2019

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea, NM

Date Received in Lab: Fri Aug-23-19 12:40 pm

Report Date: 26-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	635008-001	635008-002	635008-003	635008-004	635008-005	635008-006
	Field Id:	B-1	B-2	B-3	B-4	B-5	B-6
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-22-19 08:00	Aug-22-19 08:02	Aug-22-19 08:04	Aug-22-19 08:06	Aug-22-19 08:08	Aug-22-19 08:10
BTEX by EPA 8021B	Extracted:	Aug-24-19 10:08	Aug-24-19 10:08	Aug-24-19 10:08	Aug-24-19 10:08	Aug-24-19 10:08	Aug-24-19 10:08
	Analyzed:	Aug-25-19 01:07	Aug-25-19 01:27	Aug-25-19 01:46	Aug-25-19 02:06	Aug-25-19 02:25	Aug-25-19 03:25
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00100 0.00100	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	<0.000990 0.000990	<0.00101 0.00101
Toluene		<0.00100 0.00100	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	<0.000990 0.000990	<0.00101 0.00101
Ethylbenzene		<0.00100 0.00100	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	<0.000990 0.000990	<0.00101 0.00101
m,p-Xylenes		<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202
o-Xylene		<0.00100 0.00100	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	<0.000990 0.000990	<0.00101 0.00101
Total Xylenes		<0.00100 0.00100	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	<0.000990 0.000990	<0.00101 0.00101
Total BTEX		<0.00100 0.00100	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	<0.000990 0.000990	<0.00101 0.00101
Chloride by EPA 300	Extracted:	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08
	Analyzed:	Aug-23-19 20:06	Aug-23-19 20:12	Aug-23-19 20:17	Aug-23-19 20:23	Aug-23-19 20:40	Aug-23-19 20:46
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		72.0 9.88	64.3 10.0	79.4 9.88	70.4 9.92	71.6 10.0	74.2 9.88
TPH By SW8015 Mod	Extracted:	Aug-23-19 19:00	Aug-23-19 19:00	Aug-23-19 19:00	Aug-23-19 19:00	Aug-23-19 19:00	Aug-23-19 19:00
	Analyzed:	Aug-24-19 02:14	Aug-24-19 02:34	Aug-24-19 02:55	Aug-24-19 03:15	Aug-24-19 03:35	Aug-24-19 03:55
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons		<25.1 25.1	<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0
Diesel Range Organics		<25.1 25.1	<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<25.1 25.1	<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0
Total TPH		<25.1 25.1	<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 635008

COG Operating LLC, Artesia, NM

Project Name: Winward West CTB 7/6/2019

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea, NM

Date Received in Lab: Fri Aug-23-19 12:40 pm

Report Date: 26-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	635008-007	635008-008	635008-009	635008-010	635008-011	635008-012
	Field Id:	B-7	B-8	B-9	B-10	B-11	B-12
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-22-19 08:12	Aug-22-19 08:14	Aug-22-19 08:16	Aug-22-19 08:18	Aug-22-19 08:18	Aug-22-19 08:20
BTEX by EPA 8021B	Extracted:	Aug-24-19 10:08	Aug-24-19 10:08	Aug-24-19 10:08	Aug-24-19 10:08	Aug-24-19 10:08	Aug-24-19 10:08
	Analyzed:	Aug-25-19 03:44	Aug-25-19 04:04	Aug-25-19 04:24	Aug-25-19 09:44	Aug-25-19 10:04	Aug-25-19 10:24
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.000996 0.000996	<0.00101 0.00101	<0.00100 0.00100
Toluene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.000996 0.000996	<0.00101 0.00101	<0.00100 0.00100
Ethylbenzene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.000996 0.000996	<0.00101 0.00101	<0.00100 0.00100
m,p-Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200
o-Xylene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.000996 0.000996	<0.00101 0.00101	<0.00100 0.00100
Total Xylenes		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.000996 0.000996	<0.00101 0.00101	<0.00100 0.00100
Total BTEX		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.000996 0.000996	<0.00101 0.00101	<0.00100 0.00100
Chloride by EPA 300	Extracted:	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 15:08	Aug-23-19 15:08	Aug-23-19 15:08
	Analyzed:	Aug-23-19 20:52	Aug-23-19 20:58	Aug-23-19 21:03	Aug-23-19 21:44	Aug-23-19 22:01	Aug-23-19 22:07
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		69.0 9.88	43.6 9.86	54.7 9.86	57.5 9.90	41.1 9.92	42.8 9.90
TPH By SW8015 Mod	Extracted:	Aug-23-19 19:00	Aug-24-19 12:00	Aug-24-19 12:00	Aug-24-19 12:00	Aug-24-19 12:00	Aug-24-19 12:00
	Analyzed:	Aug-24-19 04:16	Aug-24-19 18:27	Aug-24-19 19:27	Aug-24-19 19:47	Aug-24-19 20:07	Aug-24-19 20:27
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons		<25.1 25.1	<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0
Diesel Range Organics		<25.1 25.1	<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<25.1 25.1	<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0
Total TPH		<25.1 25.1	<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 635008

COG Operating LLC, Artesia, NM

Project Name: Winward West CTB 7/6/2019

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea, NM

Date Received in Lab: Fri Aug-23-19 12:40 pm

Report Date: 26-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	635008-013	635008-014	635008-015	635008-016	635008-017	635008-018
	Field Id:	B-13	B-14	B-15	B-16	B-17	B-18
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-22-19 08:22	Aug-22-19 08:24	Aug-22-19 08:26	Aug-22-19 08:28	Aug-22-19 08:30	Aug-22-19 08:32
BTEX by EPA 8021B	Extracted:	Aug-24-19 10:08	Aug-24-19 10:08	Aug-24-19 10:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08
	Analyzed:	Aug-25-19 10:43	Aug-25-19 11:03	Aug-25-19 11:23	Aug-25-19 14:50	Aug-25-19 15:10	Aug-25-19 15:30
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		RL	RL	RL	RL	RL	RL
Benzene		<0.00100 0.00100	<0.00100 0.00100	<0.000994 0.000994	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100
Toluene		<0.00100 0.00100	<0.00100 0.00100	<0.000994 0.000994	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100
Ethylbenzene		<0.00100 0.00100	<0.00100 0.00100	<0.000994 0.000994	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100
m,p-Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00201 0.00201
o-Xylene		<0.00100 0.00100	<0.00100 0.00100	<0.000994 0.000994	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100
Total Xylenes		<0.00100 0.00100	<0.00100 0.00100	<0.000994 0.000994	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100
Total BTEX		<0.00100 0.00100	<0.00100 0.00100	<0.000994 0.000994	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100
Chloride by EPA 300	Extracted:	Aug-23-19 15:08	Aug-23-19 15:08	Aug-23-19 15:08	Aug-23-19 15:08	Aug-23-19 15:08	Aug-23-19 15:08
	Analyzed:	Aug-23-19 22:13	Aug-23-19 22:19	Aug-23-19 22:25	Aug-23-19 22:44	Aug-23-19 22:50	Aug-23-19 22:56
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		RL	RL	RL	RL	RL	RL
Chloride		47.2 9.84	58.9 9.88	58.6 9.86	59.9 10.0	59.4 10.0	492 10.0
TPH By SW8015 Mod	Extracted:	Aug-24-19 12:00	Aug-24-19 12:00	Aug-24-19 12:00	Aug-24-19 12:00	Aug-24-19 12:00	Aug-24-19 12:00
	Analyzed:	Aug-24-19 20:47	Aug-24-19 21:07	Aug-24-19 21:27	Aug-24-19 21:47	Aug-24-19 22:07	Aug-24-19 22:47
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		RL	RL	RL	RL	RL	RL
Gasoline Range Hydrocarbons		<25.0 25.0	<25.1 25.1	<25.0 25.0	<25.1 25.1	<24.9 24.9	<25.1 25.1
Diesel Range Organics		<25.0 25.0	<25.1 25.1	<25.0 25.0	<25.1 25.1	<24.9 24.9	<25.1 25.1
Motor Oil Range Hydrocarbons (MRO)		<25.0 25.0	<25.1 25.1	<25.0 25.0	<25.1 25.1	<24.9 24.9	<25.1 25.1
Total TPH		<25.0 25.0	<25.1 25.1	<25.0 25.0	<25.1 25.1	<24.9 24.9	<25.1 25.1

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 635008

COG Operating LLC, Artesia, NM

Project Name: Winward West CTB 7/6/2019

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea, NM

Date Received in Lab: Fri Aug-23-19 12:40 pm

Report Date: 26-AUG-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	635008-019	635008-020	635008-021	635008-022	635008-023	635008-024
	<i>Field Id:</i>	B-19	B-20	B-21	B-22	B-23	B-24
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-22-19 08:34	Aug-22-19 08:36	Aug-22-19 08:38	Aug-22-19 08:40	Aug-22-19 08:42	Aug-22-19 08:44
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08
	<i>Analyzed:</i>	Aug-25-19 15:57	Aug-25-19 16:17	Aug-25-19 16:37	Aug-25-19 16:56	Aug-25-19 17:17	Aug-25-19 17:36
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.000992 0.000992	<0.000996 0.000996	<0.000992 0.000992	<0.000996 0.000996	<0.000994 0.000994	<0.000982 0.000982
Toluene		<0.000992 0.000992	<0.000996 0.000996	<0.000992 0.000992	<0.000996 0.000996	<0.000994 0.000994	<0.000982 0.000982
Ethylbenzene		<0.000992 0.000992	<0.000996 0.000996	<0.000992 0.000992	<0.000996 0.000996	<0.000994 0.000994	<0.000982 0.000982
m,p-Xylenes		<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00196 0.00196
o-Xylene		<0.000992 0.000992	<0.000996 0.000996	<0.000992 0.000992	<0.000996 0.000996	<0.000994 0.000994	<0.000982 0.000982
Total Xylenes		<0.000992 0.000992	<0.000996 0.000996	<0.000992 0.000992	<0.000996 0.000996	<0.000994 0.000994	<0.000982 0.000982
Total BTEX		<0.000992 0.000992	<0.000996 0.000996	<0.000992 0.000992	<0.000996 0.000996	<0.000994 0.000994	<0.000982 0.000982
Chloride by EPA 300	<i>Extracted:</i>	Aug-23-19 15:08	Aug-23-19 15:08	Aug-23-19 15:08	Aug-23-19 15:08	Aug-23-19 15:08	Aug-23-19 15:08
	<i>Analyzed:</i>	Aug-23-19 23:02	Aug-23-19 23:09	Aug-23-19 23:27	Aug-23-19 23:33	Aug-23-19 23:52	Aug-23-19 23:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		428 9.98	467 9.96	944 19.9	587 10.0	568 9.94	860 19.6
TPH By SW8015 Mod	<i>Extracted:</i>	Aug-24-19 12:00	Aug-24-19 12:00	Aug-24-19 12:00	Aug-24-19 12:00	Aug-24-19 12:00	Aug-24-19 12:00
	<i>Analyzed:</i>	Aug-24-19 23:07	Aug-24-19 23:27	Aug-24-19 23:47	Aug-25-19 00:07	Aug-25-19 00:27	Aug-25-19 00:47
	<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		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.0 25.0
Diesel Range Organics		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.0 25.0
Total TPH		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.0 25.0

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 635008

COG Operating LLC, Artesia, NM

Project Name: Winward West CTB 7/6/2019

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea, NM

Date Received in Lab: Fri Aug-23-19 12:40 pm

Report Date: 26-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	635008-025	635008-026	635008-027	635008-028	635008-029	635008-030
	Field Id:	B-25	B-26	B-27	B-28	B-29	B-30
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-22-19 08:46	Aug-22-19 08:48	Aug-22-19 08:50	Aug-22-19 08:52	Aug-22-19 08:54	Aug-22-19 08:56
BTEX by EPA 8021B	Extracted:	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08
	Analyzed:	Aug-25-19 17:56	Aug-25-19 18:56	Aug-25-19 19:16	Aug-25-19 19:37	Aug-25-19 19:57	Aug-25-19 20:17
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.000996 0.000996	<0.000996 0.000996	<0.000994 0.000994	<0.000992 0.000992	<0.000996 0.000996	<0.000998 0.000998
Toluene		<0.000996 0.000996	<0.000996 0.000996	<0.000994 0.000994	<0.000992 0.000992	<0.000996 0.000996	<0.000998 0.000998
Ethylbenzene		<0.000996 0.000996	<0.000996 0.000996	<0.000994 0.000994	<0.000992 0.000992	<0.000996 0.000996	<0.000998 0.000998
m,p-Xylenes		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200
o-Xylene		<0.000996 0.000996	<0.000996 0.000996	<0.000994 0.000994	<0.000992 0.000992	<0.000996 0.000996	<0.000998 0.000998
Total Xylenes		<0.000996 0.000996	<0.000996 0.000996	<0.000994 0.000994	<0.000992 0.000992	<0.000996 0.000996	<0.000998 0.000998
Total BTEX		<0.000996 0.000996	<0.000996 0.000996	<0.000994 0.000994	<0.000992 0.000992	<0.000996 0.000996	<0.000998 0.000998
Chloride by EPA 300	Extracted:	Aug-23-19 15:08	Aug-23-19 15:08	Aug-23-19 15:08	Aug-23-19 15:08	Aug-23-19 16:08	Aug-23-19 16:08
	Analyzed:	Aug-24-19 00:05	Aug-24-19 00:11	Aug-24-19 00:17	Aug-24-19 00:23	Aug-24-19 13:23	Aug-24-19 13:40
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		786 20.0	701 9.90	702 9.86	590 9.94	434 9.82	426 10.0
TPH By SW8015 Mod	Extracted:	Aug-24-19 12:00	Aug-24-19 12:00	Aug-24-19 12:00	Aug-24-19 13:00	Aug-24-19 13:00	Aug-24-19 13:00
	Analyzed:	Aug-25-19 01:07	Aug-25-19 01:27	Aug-25-19 01:47	Aug-25-19 03:28	Aug-25-19 04:27	Aug-25-19 04:48
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.0 25.0	<25.1 25.1
Diesel Range Organics		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.0 25.0	<25.1 25.1
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.0 25.0	<25.1 25.1
Total TPH		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.0 25.0	<25.1 25.1

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 635008

COG Operating LLC, Artesia, NM

Project Name: Winward West CTB 7/6/2019

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea, NM

Date Received in Lab: Fri Aug-23-19 12:40 pm

Report Date: 26-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	635008-031	635008-032	635008-033	635008-034	635008-035	635008-036
	Field Id:	B-31	B-32	B-33	B-34	B-35	B-36
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-22-19 08:58	Aug-22-19 09:00	Aug-22-19 09:02	Aug-22-19 09:04	Aug-22-19 09:06	Aug-22-19 09:08
BTEX by EPA 8021B	Extracted:	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08
	Analyzed:	Aug-25-19 20:37	Aug-25-19 20:57	Aug-25-19 21:17	Aug-25-19 21:37	Aug-25-19 21:57	Aug-26-19 00:35
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.000992 0.000992	<0.000990 0.000990	<0.000988 0.000988	<0.000992 0.000992	<0.00100 0.00100	<0.000986 0.000986
Toluene		<0.000992 0.000992	<0.000990 0.000990	<0.000988 0.000988	<0.000992 0.000992	<0.00100 0.00100	<0.000986 0.000986
Ethylbenzene		<0.000992 0.000992	<0.000990 0.000990	<0.000988 0.000988	<0.000992 0.000992	<0.00100 0.00100	<0.000986 0.000986
m,p-Xylenes		<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00197 0.00197
o-Xylene		<0.000992 0.000992	<0.000990 0.000990	<0.000988 0.000988	<0.000992 0.000992	<0.00100 0.00100	<0.000986 0.000986
Total Xylenes		<0.000992 0.000992	<0.000990 0.000990	<0.000988 0.000988	<0.000992 0.000992	<0.00100 0.00100	<0.000986 0.000986
Total BTEX		<0.000992 0.000992	<0.000990 0.000990	<0.000988 0.000988	<0.000992 0.000992	<0.00100 0.00100	<0.000986 0.000986
Chloride by EPA 300	Extracted:	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08
	Analyzed:	Aug-24-19 13:46	Aug-24-19 13:52	Aug-24-19 13:58	Aug-24-19 14:03	Aug-24-19 14:21	Aug-24-19 14:26
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1560 49.1	1350 49.4	1690 49.5	1120 49.7	1090 49.9	1320 50.0
TPH By SW8015 Mod	Extracted:	Aug-24-19 13:00	Aug-24-19 13:00	Aug-24-19 13:00	Aug-24-19 13:00	Aug-24-19 13:00	Aug-24-19 13:00
	Analyzed:	Aug-25-19 05:08	Aug-25-19 05:28	Aug-25-19 05:48	Aug-25-19 06:08	Aug-25-19 06:28	Aug-25-19 06:48
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.1 25.1	<25.0 25.0	<24.9 24.9
Diesel Range Organics		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.1 25.1	<25.0 25.0	<24.9 24.9
Motor Oil Range Hydrocarbons (MRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.1 25.1	<25.0 25.0	<24.9 24.9
Total TPH		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.1 25.1	<25.0 25.0	<24.9 24.9

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 635008

COG Operating LLC, Artesia, NM

Project Name: Winward West CTB 7/6/2019

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea, NM

Date Received in Lab: Fri Aug-23-19 12:40 pm

Report Date: 26-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	635008-037	635008-038	635008-039	635008-040	635008-041	635008-042
	Field Id:	B-37	B-38	B-39	B-40	B-41	B-42
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-22-19 09:10	Aug-22-19 09:12	Aug-22-19 09:14	Aug-22-19 09:16	Aug-22-19 09:18	Aug-22-19 09:20
BTEX by EPA 8021B	Extracted:	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08
	Analyzed:	Aug-26-19 00:55	Aug-26-19 01:15	Aug-26-19 01:35	Aug-26-19 01:54	Aug-26-19 02:14	Aug-26-19 02:33
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.000996 0.000996	<0.000992 0.000992	<0.000996 0.000996	<0.000998 0.000998	<0.000998 0.000998	<0.000996 0.000996
Toluene		<0.000996 0.000996	<0.000992 0.000992	<0.000996 0.000996	<0.000998 0.000998	<0.000998 0.000998	<0.000996 0.000996
Ethylbenzene		<0.000996 0.000996	<0.000992 0.000992	<0.000996 0.000996	<0.000998 0.000998	<0.000998 0.000998	<0.000996 0.000996
m,p-Xylenes		<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
o-Xylene		<0.000996 0.000996	<0.000992 0.000992	<0.000996 0.000996	<0.000998 0.000998	<0.000998 0.000998	<0.000996 0.000996
Total Xylenes		<0.000996 0.000996	<0.000992 0.000992	<0.000996 0.000996	<0.000998 0.000998	<0.000998 0.000998	<0.000996 0.000996
Total BTEX		<0.000996 0.000996	<0.000992 0.000992	<0.000996 0.000996	<0.000998 0.000998	<0.000998 0.000998	<0.000996 0.000996
Chloride by EPA 300	Extracted:	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08
	Analyzed:	Aug-24-19 14:32	Aug-24-19 14:38	Aug-24-19 14:44	Aug-24-19 14:49	Aug-24-19 15:18	Aug-24-19 15:24
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1420 49.4	900 49.4	715 49.2	603 9.90	102 9.88	123 9.84
TPH By SW8015 Mod	Extracted:	Aug-24-19 13:00	Aug-24-19 13:00	Aug-24-19 13:00	Aug-24-19 13:00	Aug-24-19 13:00	Aug-24-19 13:00
	Analyzed:	Aug-25-19 07:08	Aug-25-19 07:49	Aug-25-19 08:09	Aug-25-19 08:29	Aug-25-19 08:49	Aug-25-19 09:09
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.0 25.0
Diesel Range Organics		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.0 25.0
Total TPH		<24.9 24.9	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0	<25.0 25.0

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 635008

COG Operating LLC, Artesia, NM

Project Name: Winward West CTB 7/6/2019

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea, NM

Date Received in Lab: Fri Aug-23-19 12:40 pm

Report Date: 26-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	635008-043	635008-044	635008-045	635008-046	635008-047	635008-048
	Field Id:	B-43	B-44	B-45	B-46	B-47	B-48
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-22-19 09:22	Aug-22-19 09:24	Aug-22-19 09:26	Aug-22-19 09:28	Aug-22-19 09:30	Aug-22-19 09:32
BTEX by EPA 8021B	Extracted:	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08
	Analyzed:	Aug-26-19 02:53	Aug-26-19 03:12	Aug-26-19 03:32	Aug-26-19 04:31	Aug-26-19 04:51	Aug-26-19 05:11
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.000986 0.000986	<0.000992 0.000992	<0.00100 0.00100	<0.000988 0.000988	<0.00100 0.00100	<0.00100 0.00100
Toluene		<0.000986 0.000986	<0.000992 0.000992	<0.00100 0.00100	<0.000988 0.000988	<0.00100 0.00100	<0.00100 0.00100
Ethylbenzene		<0.000986 0.000986	<0.000992 0.000992	<0.00100 0.00100	<0.000988 0.000988	<0.00100 0.00100	<0.00100 0.00100
m,p-Xylenes		<0.00197 0.00197	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
o-Xylene		<0.000986 0.000986	<0.000992 0.000992	<0.00100 0.00100	<0.000988 0.000988	<0.00100 0.00100	<0.00100 0.00100
Total Xylenes		<0.000986 0.000986	<0.000992 0.000992	<0.00100 0.00100	<0.000988 0.000988	<0.00100 0.00100	<0.00100 0.00100
Total BTEX		<0.000986 0.000986	<0.000992 0.000992	<0.00100 0.00100	<0.000988 0.000988	<0.00100 0.00100	<0.00100 0.00100
Chloride by EPA 300	Extracted:	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08
	Analyzed:	Aug-24-19 15:30	Aug-24-19 15:36	Aug-24-19 15:41	Aug-24-19 15:47	Aug-24-19 15:53	Aug-24-19 16:27
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		98.7 9.98	118 10.0	105 10.0	113 9.96	109 9.98	103 9.96
TPH By SW8015 Mod	Extracted:	Aug-24-19 13:00	Aug-24-19 13:00	Aug-24-19 13:00	Aug-24-19 13:00	Aug-24-19 13:00	Aug-24-19 14:08
	Analyzed:	Aug-25-19 09:29	Aug-25-19 09:50	Aug-25-19 10:10	Aug-25-19 10:30	Aug-25-19 10:51	Aug-25-19 12:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons		<25.1 25.1	<25.1 25.1	<24.9 24.9	<25.1 25.1	<25.1 25.1	<24.9 24.9
Diesel Range Organics		<25.1 25.1	<25.1 25.1	<24.9 24.9	<25.1 25.1	<25.1 25.1	<24.9 24.9
Motor Oil Range Hydrocarbons (MRO)		<25.1 25.1	<25.1 25.1	<24.9 24.9	<25.1 25.1	<25.1 25.1	<24.9 24.9
Total TPH		<25.1 25.1	<25.1 25.1	<24.9 24.9	<25.1 25.1	<25.1 25.1	<24.9 24.9

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 635008

COG Operating LLC, Artesia, NM

Project Name: Winward West CTB 7/6/2019

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea, NM

Date Received in Lab: Fri Aug-23-19 12:40 pm

Report Date: 26-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	635008-049	635008-050	635008-051	635008-052	635008-053	635008-054
	Field Id:	B-49	B-50	B-51	B-52	B-53	B-54
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-22-19 09:34	Aug-22-19 09:36	Aug-22-19 09:36	Aug-22-19 09:38	Aug-22-19 09:40	Aug-22-19 09:42
BTEX by EPA 8021B	Extracted:	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08	Aug-24-19 16:08
	Analyzed:	Aug-26-19 05:30	Aug-26-19 05:50	Aug-26-19 06:10	Aug-26-19 06:30	Aug-26-19 06:50	Aug-26-19 07:09
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.000994 0.000994	<0.000984 0.000984	<0.000996 0.000996	<0.000992 0.000992	<0.000994 0.000994	<0.000992 0.000992
Toluene		<0.000994 0.000994	<0.000984 0.000984	<0.000996 0.000996	<0.000992 0.000992	<0.000994 0.000994	<0.000992 0.000992
Ethylbenzene		<0.000994 0.000994	<0.000984 0.000984	<0.000996 0.000996	<0.000992 0.000992	<0.000994 0.000994	<0.000992 0.000992
m,p-Xylenes		<0.00199 0.00199	<0.00197 0.00197	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00198 0.00198
o-Xylene		<0.000994 0.000994	<0.000984 0.000984	<0.000996 0.000996	<0.000992 0.000992	<0.000994 0.000994	<0.000992 0.000992
Total Xylenes		<0.000994 0.000994	<0.000984 0.000984	<0.000996 0.000996	<0.000992 0.000992	<0.000994 0.000994	<0.000992 0.000992
Total BTEX		<0.000994 0.000994	<0.000984 0.000984	<0.000996 0.000996	<0.000992 0.000992	<0.000994 0.000994	<0.000992 0.000992
Chloride by EPA 300	Extracted:	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08	Aug-23-19 16:08
	Analyzed:	Aug-24-19 16:45	Aug-24-19 16:50	Aug-24-19 16:56	Aug-24-19 17:02	Aug-24-19 17:08	Aug-24-19 17:13
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		76.2 9.88	92.3 10.0	65.1 10.0	117 9.98	102 9.96	95.4 10.0
TPH By SW8015 Mod	Extracted:	Aug-24-19 14:08	Aug-24-19 14:08	Aug-24-19 14:08	Aug-24-19 14:08	Aug-24-19 14:08	Aug-24-19 14:08
	Analyzed:	Aug-25-19 13:31	Aug-25-19 13:51	Aug-25-19 14:11	Aug-25-19 14:31	Aug-25-19 14:51	Aug-25-19 15:11
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons		<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0	<24.9 24.9
Diesel Range Organics		<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0	<24.9 24.9
Motor Oil Range Hydrocarbons (MRO)		<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0	<24.9 24.9
Total TPH		<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.1 25.1	<25.0 25.0	<24.9 24.9

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Jessica Kramer
Project Assistant

Analytical Report 635008

for COG Operating LLC

Project Manager: Sheldon Hitchcock

Winward West CTB 7/6/2019

26-AUG-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
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-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)



26-AUG-19

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

Reference: XENCO Report No(s): **635008**
Winward West CTB 7/6/2019
Project Address: Lea, NM

Sheldon Hitchcock:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 635008. 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. 635008 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,

A handwritten signature in black ink that reads 'Jessica Kramer'. The signature is written in a cursive, flowing style.

Jessica Kramer
Project Assistant

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

Certified and approved by numerous States and Agencies.

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



Sample Cross Reference 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
B-1	S	08-22-19 08:00		635008-001
B-2	S	08-22-19 08:02		635008-002
B-3	S	08-22-19 08:04		635008-003
B-4	S	08-22-19 08:06		635008-004
B-5	S	08-22-19 08:08		635008-005
B-6	S	08-22-19 08:10		635008-006
B-7	S	08-22-19 08:12		635008-007
B-8	S	08-22-19 08:14		635008-008
B-9	S	08-22-19 08:16		635008-009
B-10	S	08-22-19 08:18		635008-010
B-11	S	08-22-19 08:18		635008-011
B-12	S	08-22-19 08:20		635008-012
B-13	S	08-22-19 08:22		635008-013
B-14	S	08-22-19 08:24		635008-014
B-15	S	08-22-19 08:26		635008-015
B-16	S	08-22-19 08:28		635008-016
B-17	S	08-22-19 08:30		635008-017
B-18	S	08-22-19 08:32		635008-018
B-19	S	08-22-19 08:34		635008-019
B-20	S	08-22-19 08:36		635008-020
B-21	S	08-22-19 08:38		635008-021
B-22	S	08-22-19 08:40		635008-022
B-23	S	08-22-19 08:42		635008-023
B-24	S	08-22-19 08:44		635008-024
B-25	S	08-22-19 08:46		635008-025
B-26	S	08-22-19 08:48		635008-026
B-27	S	08-22-19 08:50		635008-027
B-28	S	08-22-19 08:52		635008-028
B-29	S	08-22-19 08:54		635008-029
B-30	S	08-22-19 08:56		635008-030
B-31	S	08-22-19 08:58		635008-031
B-32	S	08-22-19 09:00		635008-032
B-33	S	08-22-19 09:02		635008-033
B-34	S	08-22-19 09:04		635008-034
B-35	S	08-22-19 09:06		635008-035
B-36	S	08-22-19 09:08		635008-036
B-37	S	08-22-19 09:10		635008-037
B-38	S	08-22-19 09:12		635008-038
B-39	S	08-22-19 09:14		635008-039
B-40	S	08-22-19 09:16		635008-040
B-41	S	08-22-19 09:18		635008-041
B-42	S	08-22-19 09:20		635008-042
B-43	S	08-22-19 09:22		635008-043



Sample Cross Reference 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

B-44	S	08-22-19 09:24	635008-044
B-45	S	08-22-19 09:26	635008-045
B-46	S	08-22-19 09:28	635008-046
B-47	S	08-22-19 09:30	635008-047
B-48	S	08-22-19 09:32	635008-048
B-49	S	08-22-19 09:34	635008-049
B-50	S	08-22-19 09:36	635008-050
B-51	S	08-22-19 09:36	635008-051
B-52	S	08-22-19 09:38	635008-052
B-53	S	08-22-19 09:40	635008-053
B-54	S	08-22-19 09:42	635008-054



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Winward West CTB 7/6/2019

Project ID:
Work Order Number(s): 635008

Report Date: 26-AUG-19
Date Received: 08/23/2019

Sample receipt non conformance and comments:

None

Sample receipt non conformance and comments per sample:

None

Analytical non conformance and comments:

Batch: LBA-3099532 BTEX by EPA 8021B

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

Batch: LBA-3099598 BTEX by EPA 8021B

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

Batch: LBA-3099601 BTEX by EPA 8021B

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

Lab Sample ID 635008-036 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).

Benzene, Toluene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Ethylbenzene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 635008-036, -037, -038, -039, -040, -041, -042, -043, -044, -045, -046, -047, -048, -049, -050, -051, -052, -053, -054.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Ethylbenzene, Toluene, m,p-Xylenes Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.

Samples in the analytical batch are: 635008-036, -037, -038, -039, -040, -041, -042, -043, -044, -045, -046, -047, -048, -049, -050, -051, -052, -053, -054

Batch: LBA-3099678 TPH By SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7685008-1-BSD.



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-1**
Lab Sample Id: 635008-001

Matrix: Soil
Date Collected: 08.22.19 08.00

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	72.0	9.88	mg/kg	08.23.19 20.06		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Date Prep: 08.23.19 19.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 02.14	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 02.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 02.14	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 02.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	100	%	70-135	08.24.19 02.14		
o-Terphenyl	84-15-1	88	%	70-135	08.24.19 02.14		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-1**
Lab Sample Id: 635008-001

Matrix: Soil
Date Collected: 08.22.19 08.00

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.25.19 01.07	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.25.19 01.07	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.25.19 01.07	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	08.25.19 01.07	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.25.19 01.07	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.25.19 01.07	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.25.19 01.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	80-120	08.25.19 01.07		
4-Bromofluorobenzene	460-00-4	114	%	80-120	08.25.19 01.07		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: B-2
Lab Sample Id: 635008-002

Matrix: Soil
Date Collected: 08.22.19 08.02

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 14.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	64.3	10.0	mg/kg	08.23.19 20.12		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 19.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.24.19 02.34	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.24.19 02.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.24.19 02.34	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.24.19 02.34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	109	%	70-135	08.24.19 02.34		
o-Terphenyl	84-15-1	98	%	70-135	08.24.19 02.34		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: B-2
Lab Sample Id: 635008-002

Matrix: Soil
Date Collected: 08.22.19 08.02

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.25.19 01.27	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.25.19 01.27	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.25.19 01.27	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.25.19 01.27	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.25.19 01.27	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.25.19 01.27	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.25.19 01.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	80-120	08.25.19 01.27		
1,4-Difluorobenzene	540-36-3	120	%	80-120	08.25.19 01.27		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-3**
Lab Sample Id: 635008-003

Matrix: Soil
Date Collected: 08.22.19 08.04

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	79.4	9.88	mg/kg	08.23.19 20.17		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Date Prep: 08.23.19 19.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 02.55	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 02.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 02.55	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 02.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	08.24.19 02.55	
o-Terphenyl	84-15-1	89	%	70-135	08.24.19 02.55	



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-3**
Lab Sample Id: 635008-003

Matrix: Soil
Date Collected: 08.22.19 08.04

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.25.19 01.46	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.25.19 01.46	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.25.19 01.46	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.25.19 01.46	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.25.19 01.46	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.25.19 01.46	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.25.19 01.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	80-120	08.25.19 01.46		
1,4-Difluorobenzene	540-36-3	91	%	80-120	08.25.19 01.46		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-4**
Lab Sample Id: 635008-004

Matrix: Soil
Date Collected: 08.22.19 08.06

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	70.4	9.92	mg/kg	08.23.19 20.23		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Date Prep: 08.23.19 19.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 03.15	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 03.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 03.15	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 03.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	08.24.19 03.15	
o-Terphenyl	84-15-1	90	%	70-135	08.24.19 03.15	



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-4**
Lab Sample Id: 635008-004

Matrix: Soil
Date Collected: 08.22.19 08.06

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.25.19 02.06	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.25.19 02.06	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.25.19 02.06	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.25.19 02.06	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.25.19 02.06	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.25.19 02.06	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.25.19 02.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	80-120	08.25.19 02.06		
4-Bromofluorobenzene	460-00-4	98	%	80-120	08.25.19 02.06		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: B-5
Lab Sample Id: 635008-005

Matrix: Soil
Date Collected: 08.22.19 08.08

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 14.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	71.6	10.0	mg/kg	08.23.19 20.40		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 19.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 03.35	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 03.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 03.35	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 03.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	101	%	70-135	08.24.19 03.35		
o-Terphenyl	84-15-1	86	%	70-135	08.24.19 03.35		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-5**
Lab Sample Id: 635008-005

Matrix: Soil
Date Collected: 08.22.19 08.08

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	08.25.19 02.25	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	08.25.19 02.25	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	08.25.19 02.25	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.25.19 02.25	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	08.25.19 02.25	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	08.25.19 02.25	U	1
Total BTEX		<0.000990	0.000990	mg/kg	08.25.19 02.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	80-120	08.25.19 02.25		
1,4-Difluorobenzene	540-36-3	105	%	80-120	08.25.19 02.25		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-6**
Lab Sample Id: 635008-006

Matrix: Soil
Date Collected: 08.22.19 08.10

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	74.2	9.88	mg/kg	08.23.19 20.46		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Date Prep: 08.23.19 19.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.24.19 03.55	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.24.19 03.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.24.19 03.55	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.24.19 03.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	102	%	70-135	08.24.19 03.55		
o-Terphenyl	84-15-1	88	%	70-135	08.24.19 03.55		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-6**
Lab Sample Id: 635008-006

Matrix: Soil
Date Collected: 08.22.19 08.10

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.25.19 03.25	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.25.19 03.25	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.25.19 03.25	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.25.19 03.25	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.25.19 03.25	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.25.19 03.25	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.25.19 03.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	80-120	08.25.19 03.25		
1,4-Difluorobenzene	540-36-3	105	%	80-120	08.25.19 03.25		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-7**
Lab Sample Id: 635008-007

Matrix: Soil
Date Collected: 08.22.19 08.12

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	69.0	9.88	mg/kg	08.23.19 20.52		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Date Prep: 08.23.19 19.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 04.16	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 04.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 04.16	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 04.16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	08.24.19 04.16		
o-Terphenyl	84-15-1	92	%	70-135	08.24.19 04.16		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-7**
Lab Sample Id: 635008-007

Matrix: Soil
Date Collected: 08.22.19 08.12

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.25.19 03.44	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.25.19 03.44	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.25.19 03.44	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.25.19 03.44	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.25.19 03.44	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.25.19 03.44	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.25.19 03.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	80-120	08.25.19 03.44		
1,4-Difluorobenzene	540-36-3	111	%	80-120	08.25.19 03.44		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-8**
Lab Sample Id: 635008-008

Matrix: Soil
Date Collected: 08.22.19 08.14

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	43.6	9.86	mg/kg	08.23.19 20.58		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.24.19 18.27	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.24.19 18.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.24.19 18.27	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.24.19 18.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	101	%	70-135	08.24.19 18.27		
o-Terphenyl	84-15-1	85	%	70-135	08.24.19 18.27		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-8**
Lab Sample Id: 635008-008

Matrix: Soil
Date Collected: 08.22.19 08.14

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.25.19 04.04	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.25.19 04.04	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.25.19 04.04	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.25.19 04.04	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.25.19 04.04	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.25.19 04.04	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.25.19 04.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	80-120	08.25.19 04.04		
4-Bromofluorobenzene	460-00-4	119	%	80-120	08.25.19 04.04		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-9**
Lab Sample Id: 635008-009

Matrix: Soil
Date Collected: 08.22.19 08.16

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	54.7	9.86	mg/kg	08.23.19 21.03		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 19.27	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 19.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 19.27	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 19.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-135	08.24.19 19.27		
o-Terphenyl	84-15-1	91	%	70-135	08.24.19 19.27		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-9**
Lab Sample Id: 635008-009

Matrix: Soil
Date Collected: 08.22.19 08.16

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.25.19 04.24	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.25.19 04.24	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.25.19 04.24	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	08.25.19 04.24	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.25.19 04.24	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.25.19 04.24	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.25.19 04.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	80-120	08.25.19 04.24		
1,4-Difluorobenzene	540-36-3	103	%	80-120	08.25.19 04.24		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-10**
Lab Sample Id: 635008-010

Matrix: Soil
Date Collected: 08.22.19 08.18

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 15.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	57.5	9.90	mg/kg	08.23.19 21.44		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 19.47	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 19.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 19.47	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 19.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	08.24.19 19.47	
o-Terphenyl	84-15-1	91	%	70-135	08.24.19 19.47	



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-10**
Lab Sample Id: 635008-010

Matrix: Soil
Date Collected: 08.22.19 08.18

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	08.25.19 09.44	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	08.25.19 09.44	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	08.25.19 09.44	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.25.19 09.44	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	08.25.19 09.44	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	08.25.19 09.44	U	1
Total BTEX		<0.000996	0.000996	mg/kg	08.25.19 09.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	80-120	08.25.19 09.44		
1,4-Difluorobenzene	540-36-3	111	%	80-120	08.25.19 09.44		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-11**
Lab Sample Id: 635008-011

Matrix: Soil
Date Collected: 08.22.19 08.18

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 15.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	41.1	9.92	mg/kg	08.23.19 22.01		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 12.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 20.07	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 20.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 20.07	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 20.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-135	08.24.19 20.07		
o-Terphenyl	84-15-1	92	%	70-135	08.24.19 20.07		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-11**
Lab Sample Id: 635008-011

Matrix: Soil
Date Collected: 08.22.19 08.18

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.25.19 10.04	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.25.19 10.04	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.25.19 10.04	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.25.19 10.04	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.25.19 10.04	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.25.19 10.04	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.25.19 10.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	80-120	08.25.19 10.04		
4-Bromofluorobenzene	460-00-4	115	%	80-120	08.25.19 10.04		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-12**
Lab Sample Id: 635008-012

Matrix: Soil
Date Collected: 08.22.19 08.20

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 15.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.8	9.90	mg/kg	08.23.19 22.07		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 12.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.24.19 20.27	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.24.19 20.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.24.19 20.27	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.24.19 20.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	102	%	70-135	08.24.19 20.27		
o-Terphenyl	84-15-1	86	%	70-135	08.24.19 20.27		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-12**
Lab Sample Id: 635008-012

Matrix: Soil
Date Collected: 08.22.19 08.20

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.25.19 10.24	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.25.19 10.24	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.25.19 10.24	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.25.19 10.24	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.25.19 10.24	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.25.19 10.24	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.25.19 10.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	80-120	08.25.19 10.24		
4-Bromofluorobenzene	460-00-4	103	%	80-120	08.25.19 10.24		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-13**
Lab Sample Id: 635008-013

Matrix: Soil
Date Collected: 08.22.19 08.22

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 15.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	47.2	9.84	mg/kg	08.23.19 22.13		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.24.19 20.47	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.24.19 20.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.24.19 20.47	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.24.19 20.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	08.24.19 20.47	
o-Terphenyl	84-15-1	95	%	70-135	08.24.19 20.47	



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-13**
Lab Sample Id: 635008-013

Matrix: Soil
Date Collected: 08.22.19 08.22

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.25.19 10.43	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.25.19 10.43	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.25.19 10.43	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.25.19 10.43	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.25.19 10.43	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.25.19 10.43	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.25.19 10.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	80-120	08.25.19 10.43		
1,4-Difluorobenzene	540-36-3	97	%	80-120	08.25.19 10.43		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-14**
Lab Sample Id: 635008-014

Matrix: Soil
Date Collected: 08.22.19 08.24

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 15.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	58.9	9.88	mg/kg	08.23.19 22.19		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 21.07	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 21.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 21.07	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 21.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	112	%	70-135	08.24.19 21.07		
o-Terphenyl	84-15-1	94	%	70-135	08.24.19 21.07		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-14**
Lab Sample Id: 635008-014

Matrix: Soil
Date Collected: 08.22.19 08.24

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.25.19 11.03	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.25.19 11.03	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.25.19 11.03	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.25.19 11.03	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.25.19 11.03	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.25.19 11.03	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.25.19 11.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	80-120	08.25.19 11.03		
4-Bromofluorobenzene	460-00-4	109	%	80-120	08.25.19 11.03		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-15**
Lab Sample Id: 635008-015

Matrix: Soil
Date Collected: 08.22.19 08.26

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 15.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	58.6	9.86	mg/kg	08.23.19 22.25		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.24.19 21.27	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.24.19 21.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.24.19 21.27	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.24.19 21.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	08.24.19 21.27	
o-Terphenyl	84-15-1	93	%	70-135	08.24.19 21.27	



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-15**
Lab Sample Id: 635008-015

Matrix: Soil
Date Collected: 08.22.19 08.26

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	08.25.19 11.23	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	08.25.19 11.23	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	08.25.19 11.23	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.25.19 11.23	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	08.25.19 11.23	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	08.25.19 11.23	U	1
Total BTEX		<0.000994	0.000994	mg/kg	08.25.19 11.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	80-120	08.25.19 11.23		
1,4-Difluorobenzene	540-36-3	100	%	80-120	08.25.19 11.23		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-16**
Lab Sample Id: 635008-016

Matrix: Soil
Date Collected: 08.22.19 08.28

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 15.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	59.9	10.0	mg/kg	08.23.19 22.44		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 21.47	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 21.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 21.47	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 21.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-135	08.24.19 21.47		
o-Terphenyl	84-15-1	86	%	70-135	08.24.19 21.47		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-16**
Lab Sample Id: 635008-016

Matrix: Soil
Date Collected: 08.22.19 08.28

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.25.19 14.50	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.25.19 14.50	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.25.19 14.50	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.25.19 14.50	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.25.19 14.50	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.25.19 14.50	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.25.19 14.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	80-120	08.25.19 14.50		
1,4-Difluorobenzene	540-36-3	91	%	80-120	08.25.19 14.50		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-17**
Lab Sample Id: 635008-017

Matrix: Soil
Date Collected: 08.22.19 08.30

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 15.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	59.4	10.0	mg/kg	08.23.19 22.50		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.24.19 22.07	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.24.19 22.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.24.19 22.07	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.24.19 22.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	08.24.19 22.07	
o-Terphenyl	84-15-1	90	%	70-135	08.24.19 22.07	



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-17**
Lab Sample Id: 635008-017

Matrix: Soil
Date Collected: 08.22.19 08.30

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.25.19 15.10	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.25.19 15.10	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.25.19 15.10	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.25.19 15.10	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.25.19 15.10	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.25.19 15.10	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.25.19 15.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	80-120	08.25.19 15.10		
1,4-Difluorobenzene	540-36-3	107	%	80-120	08.25.19 15.10		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-18**
Lab Sample Id: 635008-018

Matrix: Soil
Date Collected: 08.22.19 08.32

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 15.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	492	10.0	mg/kg	08.23.19 22.56		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 22.47	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 22.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 22.47	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 22.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	08.24.19 22.47		
o-Terphenyl	84-15-1	93	%	70-135	08.24.19 22.47		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-18**
Lab Sample Id: 635008-018

Matrix: Soil
Date Collected: 08.22.19 08.32

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.25.19 15.30	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.25.19 15.30	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.25.19 15.30	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	08.25.19 15.30	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.25.19 15.30	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.25.19 15.30	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.25.19 15.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	80-120	08.25.19 15.30		
4-Bromofluorobenzene	460-00-4	107	%	80-120	08.25.19 15.30		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-19**
Lab Sample Id: 635008-019

Matrix: Soil
Date Collected: 08.22.19 08.34

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 15.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	428	9.98	mg/kg	08.23.19 23.02		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.24.19 23.07	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.24.19 23.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.24.19 23.07	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.24.19 23.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	08.24.19 23.07	
o-Terphenyl	84-15-1	94	%	70-135	08.24.19 23.07	



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-19**
Lab Sample Id: 635008-019

Matrix: Soil
Date Collected: 08.22.19 08.34

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	08.25.19 15.57	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	08.25.19 15.57	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	08.25.19 15.57	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.25.19 15.57	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	08.25.19 15.57	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	08.25.19 15.57	U	1
Total BTEX		<0.000992	0.000992	mg/kg	08.25.19 15.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	80-120	08.25.19 15.57		
1,4-Difluorobenzene	540-36-3	105	%	80-120	08.25.19 15.57		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-20**
Lab Sample Id: 635008-020

Matrix: Soil
Date Collected: 08.22.19 08.36

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 15.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	467	9.96	mg/kg	08.23.19 23.09		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 12.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 23.27	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 23.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 23.27	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 23.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	112	%	70-135	08.24.19 23.27		
o-Terphenyl	84-15-1	98	%	70-135	08.24.19 23.27		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-20**
Lab Sample Id: 635008-020

Matrix: Soil
Date Collected: 08.22.19 08.36

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	08.25.19 16.17	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	08.25.19 16.17	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	08.25.19 16.17	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.25.19 16.17	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	08.25.19 16.17	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	08.25.19 16.17	U	1
Total BTEX		<0.000996	0.000996	mg/kg	08.25.19 16.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	88	%	80-120	08.25.19 16.17		
4-Bromofluorobenzene	460-00-4	98	%	80-120	08.25.19 16.17		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-21**
Lab Sample Id: 635008-021

Matrix: Soil
Date Collected: 08.22.19 08.38

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 15.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	944	19.9	mg/kg	08.23.19 23.27		2

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 23.47	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 23.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 23.47	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 23.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-135	08.24.19 23.47		
o-Terphenyl	84-15-1	99	%	70-135	08.24.19 23.47		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-21**
Lab Sample Id: 635008-021

Matrix: Soil
Date Collected: 08.22.19 08.38

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	08.25.19 16.37	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	08.25.19 16.37	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	08.25.19 16.37	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.25.19 16.37	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	08.25.19 16.37	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	08.25.19 16.37	U	1
Total BTEX		<0.000992	0.000992	mg/kg	08.25.19 16.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	80-120	08.25.19 16.37		
1,4-Difluorobenzene	540-36-3	103	%	80-120	08.25.19 16.37		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-22**
Lab Sample Id: 635008-022

Matrix: Soil
Date Collected: 08.22.19 08.40

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 15.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	587	10.0	mg/kg	08.23.19 23.33		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 12.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 00.07	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 00.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 00.07	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 00.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	122	%	70-135	08.25.19 00.07		
o-Terphenyl	84-15-1	102	%	70-135	08.25.19 00.07		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-22**
Lab Sample Id: 635008-022

Matrix: Soil
Date Collected: 08.22.19 08.40

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	08.25.19 16.56	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	08.25.19 16.56	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	08.25.19 16.56	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.25.19 16.56	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	08.25.19 16.56	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	08.25.19 16.56	U	1
Total BTEX		<0.000996	0.000996	mg/kg	08.25.19 16.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	80-120	08.25.19 16.56		
4-Bromofluorobenzene	460-00-4	104	%	80-120	08.25.19 16.56		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-23**
Lab Sample Id: 635008-023

Matrix: Soil
Date Collected: 08.22.19 08.42

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 15.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	568	9.94	mg/kg	08.23.19 23.52		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.25.19 00.27	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.25.19 00.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.25.19 00.27	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.25.19 00.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	114	%	70-135	08.25.19 00.27		
o-Terphenyl	84-15-1	96	%	70-135	08.25.19 00.27		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-23**
Lab Sample Id: 635008-023

Matrix: Soil
Date Collected: 08.22.19 08.42

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	08.25.19 17.17	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	08.25.19 17.17	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	08.25.19 17.17	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.25.19 17.17	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	08.25.19 17.17	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	08.25.19 17.17	U	1
Total BTEX		<0.000994	0.000994	mg/kg	08.25.19 17.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	80-120	08.25.19 17.17		
4-Bromofluorobenzene	460-00-4	106	%	80-120	08.25.19 17.17		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-24**
Lab Sample Id: 635008-024

Matrix: Soil
Date Collected: 08.22.19 08.44

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 15.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	860	19.6	mg/kg	08.23.19 23.58		2

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 12.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.25.19 00.47	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.25.19 00.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.25.19 00.47	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.25.19 00.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	110	%	70-135	08.25.19 00.47		
o-Terphenyl	84-15-1	96	%	70-135	08.25.19 00.47		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-24**
Lab Sample Id: 635008-024

Matrix: Soil
Date Collected: 08.22.19 08.44

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000982	0.000982	mg/kg	08.25.19 17.36	U	1
Toluene	108-88-3	<0.000982	0.000982	mg/kg	08.25.19 17.36	U	1
Ethylbenzene	100-41-4	<0.000982	0.000982	mg/kg	08.25.19 17.36	U	1
m,p-Xylenes	179601-23-1	<0.00196	0.00196	mg/kg	08.25.19 17.36	U	1
o-Xylene	95-47-6	<0.000982	0.000982	mg/kg	08.25.19 17.36	U	1
Total Xylenes	1330-20-7	<0.000982	0.000982	mg/kg	08.25.19 17.36	U	1
Total BTEX		<0.000982	0.000982	mg/kg	08.25.19 17.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	80-120	08.25.19 17.36		
4-Bromofluorobenzene	460-00-4	105	%	80-120	08.25.19 17.36		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-25**
Lab Sample Id: 635008-025

Matrix: Soil
Date Collected: 08.22.19 08.46

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 15.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	786	20.0	mg/kg	08.24.19 00.05		2

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.25.19 01.07	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.25.19 01.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.25.19 01.07	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.25.19 01.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	114	%	70-135	08.25.19 01.07		
o-Terphenyl	84-15-1	98	%	70-135	08.25.19 01.07		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-25**
Lab Sample Id: 635008-025

Matrix: Soil
Date Collected: 08.22.19 08.46

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	08.25.19 17.56	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	08.25.19 17.56	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	08.25.19 17.56	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.25.19 17.56	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	08.25.19 17.56	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	08.25.19 17.56	U	1
Total BTEX		<0.000996	0.000996	mg/kg	08.25.19 17.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	80-120	08.25.19 17.56		
1,4-Difluorobenzene	540-36-3	97	%	80-120	08.25.19 17.56		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-26**
Lab Sample Id: 635008-026

Matrix: Soil
Date Collected: 08.22.19 08.48

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 15.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	701	9.90	mg/kg	08.24.19 00.11		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 12.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 01.27	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 01.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 01.27	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 01.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	108	%	70-135	08.25.19 01.27		
o-Terphenyl	84-15-1	91	%	70-135	08.25.19 01.27		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-26**
Lab Sample Id: 635008-026

Matrix: Soil
Date Collected: 08.22.19 08.48

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	08.25.19 18.56	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	08.25.19 18.56	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	08.25.19 18.56	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.25.19 18.56	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	08.25.19 18.56	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	08.25.19 18.56	U	1
Total BTEX		<0.000996	0.000996	mg/kg	08.25.19 18.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	80-120	08.25.19 18.56		
4-Bromofluorobenzene	460-00-4	107	%	80-120	08.25.19 18.56		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-27**
Lab Sample Id: 635008-027

Matrix: Soil
Date Collected: 08.22.19 08.50

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 15.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	702	9.86	mg/kg	08.24.19 00.17		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099623

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 12.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 01.47	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 01.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 01.47	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 01.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	108	%	70-135	08.25.19 01.47		
o-Terphenyl	84-15-1	92	%	70-135	08.25.19 01.47		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-27**
Lab Sample Id: 635008-027

Matrix: Soil
Date Collected: 08.22.19 08.50

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	08.25.19 19.16	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	08.25.19 19.16	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	08.25.19 19.16	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.25.19 19.16	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	08.25.19 19.16	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	08.25.19 19.16	U	1
Total BTEX		<0.000994	0.000994	mg/kg	08.25.19 19.16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	80-120	08.25.19 19.16		
4-Bromofluorobenzene	460-00-4	112	%	80-120	08.25.19 19.16		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-28**
Lab Sample Id: 635008-028

Matrix: Soil
Date Collected: 08.22.19 08.52

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099579

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 15.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	590	9.94	mg/kg	08.24.19 00.23		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.25.19 03.28	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.25.19 03.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.25.19 03.28	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.25.19 03.28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	112	%	70-135	08.25.19 03.28		
o-Terphenyl	84-15-1	94	%	70-135	08.25.19 03.28		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-28**
Lab Sample Id: 635008-028

Matrix: Soil
Date Collected: 08.22.19 08.52

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	08.25.19 19.37	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	08.25.19 19.37	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	08.25.19 19.37	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.25.19 19.37	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	08.25.19 19.37	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	08.25.19 19.37	U	1
Total BTEX		<0.000992	0.000992	mg/kg	08.25.19 19.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	80-120	08.25.19 19.37		
1,4-Difluorobenzene	540-36-3	95	%	80-120	08.25.19 19.37		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-29**
Lab Sample Id: 635008-029

Matrix: Soil
Date Collected: 08.22.19 08.54

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	434	9.82	mg/kg	08.24.19 13.23		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.25.19 04.27	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.25.19 04.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.25.19 04.27	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.25.19 04.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	102	%	70-135	08.25.19 04.27		
o-Terphenyl	84-15-1	87	%	70-135	08.25.19 04.27		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-29**
Lab Sample Id: 635008-029

Matrix: Soil
Date Collected: 08.22.19 08.54

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	08.25.19 19.57	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	08.25.19 19.57	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	08.25.19 19.57	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.25.19 19.57	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	08.25.19 19.57	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	08.25.19 19.57	U	1
Total BTEX		<0.000996	0.000996	mg/kg	08.25.19 19.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	80-120	08.25.19 19.57		
1,4-Difluorobenzene	540-36-3	96	%	80-120	08.25.19 19.57		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-30**
Lab Sample Id: 635008-030

Matrix: Soil
Date Collected: 08.22.19 08.56

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	426	10.0	mg/kg	08.24.19 13.40		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 04.48	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 04.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 04.48	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 04.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	08.25.19 04.48		
o-Terphenyl	84-15-1	93	%	70-135	08.25.19 04.48		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-30**
Lab Sample Id: 635008-030

Matrix: Soil
Date Collected: 08.22.19 08.56

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	08.25.19 20.17	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	08.25.19 20.17	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	08.25.19 20.17	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.25.19 20.17	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	08.25.19 20.17	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	08.25.19 20.17	U	1
Total BTEX		<0.000998	0.000998	mg/kg	08.25.19 20.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	80-120	08.25.19 20.17		
1,4-Difluorobenzene	540-36-3	88	%	80-120	08.25.19 20.17		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-31**
Lab Sample Id: 635008-031

Matrix: Soil
Date Collected: 08.22.19 08.58

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1560	49.1	mg/kg	08.24.19 13.46		5

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.25.19 05.08	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.25.19 05.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.25.19 05.08	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.25.19 05.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	08.25.19 05.08		
o-Terphenyl	84-15-1	89	%	70-135	08.25.19 05.08		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-31**
Lab Sample Id: 635008-031

Matrix: Soil
Date Collected: 08.22.19 08.58

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	08.25.19 20.37	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	08.25.19 20.37	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	08.25.19 20.37	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.25.19 20.37	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	08.25.19 20.37	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	08.25.19 20.37	U	1
Total BTEX		<0.000992	0.000992	mg/kg	08.25.19 20.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	80-120	08.25.19 20.37		
1,4-Difluorobenzene	540-36-3	102	%	80-120	08.25.19 20.37		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-32**
Lab Sample Id: 635008-032

Matrix: Soil
Date Collected: 08.22.19 09.00

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1350	49.4	mg/kg	08.24.19 13.52		5

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.25.19 05.28	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.25.19 05.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.25.19 05.28	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.25.19 05.28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	104	%	70-135	08.25.19 05.28		
o-Terphenyl	84-15-1	89	%	70-135	08.25.19 05.28		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-32**
Lab Sample Id: 635008-032

Matrix: Soil
Date Collected: 08.22.19 09.00

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	08.25.19 20.57	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	08.25.19 20.57	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	08.25.19 20.57	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.25.19 20.57	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	08.25.19 20.57	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	08.25.19 20.57	U	1
Total BTEX		<0.000990	0.000990	mg/kg	08.25.19 20.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	80-120	08.25.19 20.57		
4-Bromofluorobenzene	460-00-4	104	%	80-120	08.25.19 20.57		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-33**
Lab Sample Id: 635008-033

Matrix: Soil
Date Collected: 08.22.19 09.02

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1690	49.5	mg/kg	08.24.19 13.58		5

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.25.19 05.48	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.25.19 05.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.25.19 05.48	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.25.19 05.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	08.25.19 05.48		
o-Terphenyl	84-15-1	91	%	70-135	08.25.19 05.48		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-33**
Lab Sample Id: 635008-033

Matrix: Soil
Date Collected: 08.22.19 09.02

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000988	0.000988	mg/kg	08.25.19 21.17	U	1
Toluene	108-88-3	<0.000988	0.000988	mg/kg	08.25.19 21.17	U	1
Ethylbenzene	100-41-4	<0.000988	0.000988	mg/kg	08.25.19 21.17	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.25.19 21.17	U	1
o-Xylene	95-47-6	<0.000988	0.000988	mg/kg	08.25.19 21.17	U	1
Total Xylenes	1330-20-7	<0.000988	0.000988	mg/kg	08.25.19 21.17	U	1
Total BTEX		<0.000988	0.000988	mg/kg	08.25.19 21.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	80-120	08.25.19 21.17		
1,4-Difluorobenzene	540-36-3	101	%	80-120	08.25.19 21.17		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-34**
Lab Sample Id: 635008-034

Matrix: Soil
Date Collected: 08.22.19 09.04

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1120	49.7	mg/kg	08.24.19 14.03		5

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 06.08	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 06.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 06.08	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 06.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-135	08.25.19 06.08		
o-Terphenyl	84-15-1	91	%	70-135	08.25.19 06.08		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-34**
Lab Sample Id: 635008-034

Matrix: Soil
Date Collected: 08.22.19 09.04

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	08.25.19 21.37	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	08.25.19 21.37	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	08.25.19 21.37	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.25.19 21.37	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	08.25.19 21.37	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	08.25.19 21.37	U	1
Total BTEX		<0.000992	0.000992	mg/kg	08.25.19 21.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	80-120	08.25.19 21.37		
1,4-Difluorobenzene	540-36-3	104	%	80-120	08.25.19 21.37		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-35**
Lab Sample Id: 635008-035

Matrix: Soil
Date Collected: 08.22.19 09.06

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1090	49.9	mg/kg	08.24.19 14.21		5

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.25.19 06.28	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.25.19 06.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.25.19 06.28	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.25.19 06.28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-135	08.25.19 06.28		
o-Terphenyl	84-15-1	88	%	70-135	08.25.19 06.28		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-35**
Lab Sample Id: 635008-035

Matrix: Soil
Date Collected: 08.22.19 09.06

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099598

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.25.19 21.57	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.25.19 21.57	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.25.19 21.57	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.25.19 21.57	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.25.19 21.57	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.25.19 21.57	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.25.19 21.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	80-120	08.25.19 21.57		
1,4-Difluorobenzene	540-36-3	103	%	80-120	08.25.19 21.57		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-36**
Lab Sample Id: 635008-036

Matrix: Soil
Date Collected: 08.22.19 09.08

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 16.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1320	50.0	mg/kg	08.24.19 14.26		5

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 13.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.25.19 06.48	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.25.19 06.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.25.19 06.48	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.25.19 06.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	104	%	70-135	08.25.19 06.48		
o-Terphenyl	84-15-1	90	%	70-135	08.25.19 06.48		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-36**
Lab Sample Id: 635008-036

Matrix: Soil
Date Collected: 08.22.19 09.08

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000986	0.000986	mg/kg	08.26.19 00.35	U	1
Toluene	108-88-3	<0.000986	0.000986	mg/kg	08.26.19 00.35	U	1
Ethylbenzene	100-41-4	<0.000986	0.000986	mg/kg	08.26.19 00.35	U	1
m,p-Xylenes	179601-23-1	<0.00197	0.00197	mg/kg	08.26.19 00.35	U	1
o-Xylene	95-47-6	<0.000986	0.000986	mg/kg	08.26.19 00.35	U	1
Total Xylenes	1330-20-7	<0.000986	0.000986	mg/kg	08.26.19 00.35	U	1
Total BTEX		<0.000986	0.000986	mg/kg	08.26.19 00.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	80-120	08.26.19 00.35		
1,4-Difluorobenzene	540-36-3	87	%	80-120	08.26.19 00.35		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-37**
Lab Sample Id: 635008-037

Matrix: Soil
Date Collected: 08.22.19 09.10

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1420	49.4	mg/kg	08.24.19 14.32		5

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.25.19 07.08	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.25.19 07.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.25.19 07.08	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.25.19 07.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	08.25.19 07.08		
o-Terphenyl	84-15-1	90	%	70-135	08.25.19 07.08		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-37**
Lab Sample Id: 635008-037

Matrix: Soil
Date Collected: 08.22.19 09.10

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	08.26.19 00.55	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	08.26.19 00.55	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	08.26.19 00.55	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.26.19 00.55	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	08.26.19 00.55	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	08.26.19 00.55	U	1
Total BTEX		<0.000996	0.000996	mg/kg	08.26.19 00.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	80-120	08.26.19 00.55		
1,4-Difluorobenzene	540-36-3	115	%	80-120	08.26.19 00.55		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-38**
Lab Sample Id: 635008-038

Matrix: Soil
Date Collected: 08.22.19 09.12

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	900	49.4	mg/kg	08.24.19 14.38		5

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 07.49	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 07.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 07.49	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 07.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	108	%	70-135	08.25.19 07.49		
o-Terphenyl	84-15-1	92	%	70-135	08.25.19 07.49		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-38**
Lab Sample Id: 635008-038

Matrix: Soil
Date Collected: 08.22.19 09.12

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	08.26.19 01.15	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	08.26.19 01.15	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	08.26.19 01.15	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.26.19 01.15	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	08.26.19 01.15	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	08.26.19 01.15	U	1
Total BTEX		<0.000992	0.000992	mg/kg	08.26.19 01.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	80-120	08.26.19 01.15		
1,4-Difluorobenzene	540-36-3	104	%	80-120	08.26.19 01.15		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-39**
Lab Sample Id: 635008-039

Matrix: Soil
Date Collected: 08.22.19 09.14

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	715	49.2	mg/kg	08.24.19 14.44		5

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 08.09	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 08.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 08.09	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 08.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	08.25.19 08.09	
o-Terphenyl	84-15-1	86	%	70-135	08.25.19 08.09	



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-39**
Lab Sample Id: 635008-039

Matrix: Soil
Date Collected: 08.22.19 09.14

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	08.26.19 01.35	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	08.26.19 01.35	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	08.26.19 01.35	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.26.19 01.35	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	08.26.19 01.35	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	08.26.19 01.35	U	1
Total BTEX		<0.000996	0.000996	mg/kg	08.26.19 01.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	80-120	08.26.19 01.35		
1,4-Difluorobenzene	540-36-3	101	%	80-120	08.26.19 01.35		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-40**
Lab Sample Id: 635008-040

Matrix: Soil
Date Collected: 08.22.19 09.16

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	603	9.90	mg/kg	08.24.19 14.49		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 08.29	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 08.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 08.29	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 08.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	08.25.19 08.29	
o-Terphenyl	84-15-1	96	%	70-135	08.25.19 08.29	



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-40**
Lab Sample Id: 635008-040

Matrix: Soil
Date Collected: 08.22.19 09.16

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	08.26.19 01.54	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	08.26.19 01.54	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	08.26.19 01.54	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.26.19 01.54	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	08.26.19 01.54	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	08.26.19 01.54	U	1
Total BTEX		<0.000998	0.000998	mg/kg	08.26.19 01.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	80-120	08.26.19 01.54		
4-Bromofluorobenzene	460-00-4	120	%	80-120	08.26.19 01.54		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-41**
Lab Sample Id: 635008-041

Matrix: Soil
Date Collected: 08.22.19 09.18

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	102	9.88	mg/kg	08.24.19 15.18		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.25.19 08.49	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.25.19 08.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.25.19 08.49	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.25.19 08.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-135	08.25.19 08.49		
o-Terphenyl	84-15-1	89	%	70-135	08.25.19 08.49		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-41**
Lab Sample Id: 635008-041

Matrix: Soil
Date Collected: 08.22.19 09.18

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	08.26.19 02.14	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	08.26.19 02.14	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	08.26.19 02.14	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.26.19 02.14	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	08.26.19 02.14	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	08.26.19 02.14	U	1
Total BTEX		<0.000998	0.000998	mg/kg	08.26.19 02.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	80-120	08.26.19 02.14		
4-Bromofluorobenzene	460-00-4	113	%	80-120	08.26.19 02.14		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-42**
Lab Sample Id: 635008-042

Matrix: Soil
Date Collected: 08.22.19 09.20

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	123	9.84	mg/kg	08.24.19 15.24		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.25.19 09.09	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.25.19 09.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.25.19 09.09	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.25.19 09.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	08.25.19 09.09		
o-Terphenyl	84-15-1	88	%	70-135	08.25.19 09.09		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-42**
Lab Sample Id: 635008-042

Matrix: Soil
Date Collected: 08.22.19 09.20

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	08.26.19 02.33	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	08.26.19 02.33	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	08.26.19 02.33	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.26.19 02.33	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	08.26.19 02.33	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	08.26.19 02.33	U	1
Total BTEX		<0.000996	0.000996	mg/kg	08.26.19 02.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	80-120	08.26.19 02.33		
4-Bromofluorobenzene	460-00-4	106	%	80-120	08.26.19 02.33		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-43**
Lab Sample Id: 635008-043

Matrix: Soil
Date Collected: 08.22.19 09.22

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	98.7	9.98	mg/kg	08.24.19 15.30		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 09.29	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 09.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 09.29	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 09.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	08.25.19 09.29		
o-Terphenyl	84-15-1	89	%	70-135	08.25.19 09.29		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-43**
Lab Sample Id: 635008-043

Matrix: Soil
Date Collected: 08.22.19 09.22

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000986	0.000986	mg/kg	08.26.19 02.53	U	1
Toluene	108-88-3	<0.000986	0.000986	mg/kg	08.26.19 02.53	U	1
Ethylbenzene	100-41-4	<0.000986	0.000986	mg/kg	08.26.19 02.53	U	1
m,p-Xylenes	179601-23-1	<0.00197	0.00197	mg/kg	08.26.19 02.53	U	1
o-Xylene	95-47-6	<0.000986	0.000986	mg/kg	08.26.19 02.53	U	1
Total Xylenes	1330-20-7	<0.000986	0.000986	mg/kg	08.26.19 02.53	U	1
Total BTEX		<0.000986	0.000986	mg/kg	08.26.19 02.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	80-120	08.26.19 02.53		
4-Bromofluorobenzene	460-00-4	111	%	80-120	08.26.19 02.53		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-44**
Lab Sample Id: 635008-044

Matrix: Soil
Date Collected: 08.22.19 09.24

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	118	10.0	mg/kg	08.24.19 15.36		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 09.50	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 09.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 09.50	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 09.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	08.25.19 09.50	
o-Terphenyl	84-15-1	91	%	70-135	08.25.19 09.50	



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-44**
Lab Sample Id: 635008-044

Matrix: Soil
Date Collected: 08.22.19 09.24

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	08.26.19 03.12	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	08.26.19 03.12	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	08.26.19 03.12	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.26.19 03.12	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	08.26.19 03.12	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	08.26.19 03.12	U	1
Total BTEX		<0.000992	0.000992	mg/kg	08.26.19 03.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	80-120	08.26.19 03.12		
4-Bromofluorobenzene	460-00-4	105	%	80-120	08.26.19 03.12		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-45**
Lab Sample Id: 635008-045

Matrix: Soil
Date Collected: 08.22.19 09.26

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 16.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	105	10.0	mg/kg	08.24.19 15.41		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 13.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.25.19 10.10	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.25.19 10.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.25.19 10.10	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.25.19 10.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	113	%	70-135	08.25.19 10.10		
o-Terphenyl	84-15-1	96	%	70-135	08.25.19 10.10		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-45**
Lab Sample Id: 635008-045

Matrix: Soil
Date Collected: 08.22.19 09.26

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.26.19 03.32	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.26.19 03.32	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.26.19 03.32	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.26.19 03.32	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.26.19 03.32	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.26.19 03.32	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.26.19 03.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	80-120	08.26.19 03.32		
4-Bromofluorobenzene	460-00-4	105	%	80-120	08.26.19 03.32		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-46**
Lab Sample Id: 635008-046

Matrix: Soil
Date Collected: 08.22.19 09.28

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	113	9.96	mg/kg	08.24.19 15.47		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 10.30	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 10.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 10.30	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 10.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	08.25.19 10.30	
o-Terphenyl	84-15-1	94	%	70-135	08.25.19 10.30	



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-46**
Lab Sample Id: 635008-046

Matrix: Soil
Date Collected: 08.22.19 09.28

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000988	0.000988	mg/kg	08.26.19 04.31	U	1
Toluene	108-88-3	<0.000988	0.000988	mg/kg	08.26.19 04.31	U	1
Ethylbenzene	100-41-4	<0.000988	0.000988	mg/kg	08.26.19 04.31	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.26.19 04.31	U	1
o-Xylene	95-47-6	<0.000988	0.000988	mg/kg	08.26.19 04.31	U	1
Total Xylenes	1330-20-7	<0.000988	0.000988	mg/kg	08.26.19 04.31	U	1
Total BTEX		<0.000988	0.000988	mg/kg	08.26.19 04.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	80-120	08.26.19 04.31		
4-Bromofluorobenzene	460-00-4	113	%	80-120	08.26.19 04.31		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-47**
Lab Sample Id: 635008-047

Matrix: Soil
Date Collected: 08.22.19 09.30

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099581

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	109	9.98	mg/kg	08.24.19 15.53		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099678

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 10.51	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 10.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 10.51	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 10.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	117	%	70-135	08.25.19 10.51		
o-Terphenyl	84-15-1	100	%	70-135	08.25.19 10.51		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-47**
Lab Sample Id: 635008-047

Matrix: Soil
Date Collected: 08.22.19 09.30

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.26.19 04.51	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.26.19 04.51	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.26.19 04.51	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.26.19 04.51	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.26.19 04.51	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.26.19 04.51	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.26.19 04.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	80-120	08.26.19 04.51		
4-Bromofluorobenzene	460-00-4	104	%	80-120	08.26.19 04.51		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-48**
Lab Sample Id: 635008-048

Matrix: Soil
Date Collected: 08.22.19 09.32

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099582

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 16.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	103	9.96	mg/kg	08.24.19 16.27		1

Analytical Method: TPH By SW8015 Mod

Tech: MAB

Analyst: DTH

Seq Number: 3099638

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 14.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.25.19 12.31	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.25.19 12.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.25.19 12.31	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.25.19 12.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	119	%	70-135	08.25.19 12.31		
o-Terphenyl	84-15-1	101	%	70-135	08.25.19 12.31		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-48**
Lab Sample Id: 635008-048

Matrix: Soil
Date Collected: 08.22.19 09.32

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.26.19 05.11	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.26.19 05.11	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.26.19 05.11	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.26.19 05.11	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.26.19 05.11	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.26.19 05.11	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.26.19 05.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	80-120	08.26.19 05.11		
1,4-Difluorobenzene	540-36-3	106	%	80-120	08.26.19 05.11		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-49**
Lab Sample Id: 635008-049

Matrix: Soil
Date Collected: 08.22.19 09.34

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099582

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 16.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	76.2	9.88	mg/kg	08.24.19 16.45		1

Analytical Method: TPH By SW8015 Mod

Tech: MAB

Analyst: DTH

Seq Number: 3099638

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 14.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 13.31	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 13.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 13.31	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 13.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	124	%	70-135	08.25.19 13.31		
o-Terphenyl	84-15-1	107	%	70-135	08.25.19 13.31		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-49**
Lab Sample Id: 635008-049

Matrix: Soil
Date Collected: 08.22.19 09.34

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	08.26.19 05.30	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	08.26.19 05.30	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	08.26.19 05.30	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.26.19 05.30	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	08.26.19 05.30	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	08.26.19 05.30	U	1
Total BTEX		<0.000994	0.000994	mg/kg	08.26.19 05.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	80-120	08.26.19 05.30		
1,4-Difluorobenzene	540-36-3	98	%	80-120	08.26.19 05.30		



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COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-50**
Lab Sample Id: 635008-050

Matrix: Soil
Date Collected: 08.22.19 09.36

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099582

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 16.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	92.3	10.0	mg/kg	08.24.19 16.50		1

Analytical Method: TPH By SW8015 Mod

Tech: MAB

Analyst: DTH

Seq Number: 3099638

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 14.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 13.51	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 13.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 13.51	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 13.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	122	%	70-135	08.25.19 13.51		
o-Terphenyl	84-15-1	106	%	70-135	08.25.19 13.51		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-50**
Lab Sample Id: 635008-050

Matrix: Soil
Date Collected: 08.22.19 09.36

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000984	0.000984	mg/kg	08.26.19 05.50	U	1
Toluene	108-88-3	<0.000984	0.000984	mg/kg	08.26.19 05.50	U	1
Ethylbenzene	100-41-4	<0.000984	0.000984	mg/kg	08.26.19 05.50	U	1
m,p-Xylenes	179601-23-1	<0.00197	0.00197	mg/kg	08.26.19 05.50	U	1
o-Xylene	95-47-6	<0.000984	0.000984	mg/kg	08.26.19 05.50	U	1
Total Xylenes	1330-20-7	<0.000984	0.000984	mg/kg	08.26.19 05.50	U	1
Total BTEX		<0.000984	0.000984	mg/kg	08.26.19 05.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	80-120	08.26.19 05.50		
4-Bromofluorobenzene	460-00-4	95	%	80-120	08.26.19 05.50		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-51**
Lab Sample Id: 635008-051

Matrix: Soil
Date Collected: 08.22.19 09.36

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099582

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	65.1	10.0	mg/kg	08.24.19 16.56		1

Analytical Method: TPH By SW8015 Mod

Tech: MAB

Analyst: DTH

Seq Number: 3099638

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 14.11	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 14.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 14.11	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 14.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	114	%	70-135	08.25.19 14.11		
o-Terphenyl	84-15-1	100	%	70-135	08.25.19 14.11		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-51**
Lab Sample Id: 635008-051

Matrix: Soil
Date Collected: 08.22.19 09.36

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	08.26.19 06.10	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	08.26.19 06.10	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	08.26.19 06.10	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.26.19 06.10	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	08.26.19 06.10	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	08.26.19 06.10	U	1
Total BTEX		<0.000996	0.000996	mg/kg	08.26.19 06.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	80-120	08.26.19 06.10		
1,4-Difluorobenzene	540-36-3	99	%	80-120	08.26.19 06.10		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-52**
Lab Sample Id: 635008-052

Matrix: Soil
Date Collected: 08.22.19 09.38

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099582

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 16.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	117	9.98	mg/kg	08.24.19 17.02		1

Analytical Method: TPH By SW8015 Mod

Tech: MAB

Analyst: DTH

Seq Number: 3099638

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 14.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.25.19 14.31	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.25.19 14.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.25.19 14.31	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.25.19 14.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	114	%	70-135	08.25.19 14.31		
o-Terphenyl	84-15-1	98	%	70-135	08.25.19 14.31		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-52**
Lab Sample Id: 635008-052

Matrix: Soil
Date Collected: 08.22.19 09.38

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	08.26.19 06.30	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	08.26.19 06.30	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	08.26.19 06.30	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.26.19 06.30	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	08.26.19 06.30	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	08.26.19 06.30	U	1
Total BTEX		<0.000992	0.000992	mg/kg	08.26.19 06.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	80-120	08.26.19 06.30		
4-Bromofluorobenzene	460-00-4	97	%	80-120	08.26.19 06.30		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-53**
Lab Sample Id: 635008-053

Matrix: Soil
Date Collected: 08.22.19 09.40

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099582

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 16.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	102	9.96	mg/kg	08.24.19 17.08		1

Analytical Method: TPH By SW8015 Mod

Tech: MAB

Analyst: DTH

Seq Number: 3099638

Prep Method: SW8015P

% Moisture:

Date Prep: 08.24.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.25.19 14.51	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.25.19 14.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.25.19 14.51	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.25.19 14.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	08.25.19 14.51	
o-Terphenyl	84-15-1	100	%	70-135	08.25.19 14.51	



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-53**
Lab Sample Id: 635008-053

Matrix: Soil
Date Collected: 08.22.19 09.40

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	08.26.19 06.50	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	08.26.19 06.50	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	08.26.19 06.50	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.26.19 06.50	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	08.26.19 06.50	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	08.26.19 06.50	U	1
Total BTEX		<0.000994	0.000994	mg/kg	08.26.19 06.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	80-120	08.26.19 06.50		
4-Bromofluorobenzene	460-00-4	109	%	80-120	08.26.19 06.50		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-54**
Lab Sample Id: 635008-054

Matrix: Soil
Date Collected: 08.22.19 09.42

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099582

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 16.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	95.4	10.0	mg/kg	08.24.19 17.13		1

Analytical Method: TPH By SW8015 Mod

Tech: MAB

Analyst: DTH

Seq Number: 3099638

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 14.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.25.19 15.11	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.25.19 15.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.25.19 15.11	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.25.19 15.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	114	%	70-135	08.25.19 15.11		
o-Terphenyl	84-15-1	99	%	70-135	08.25.19 15.11		



Certificate of Analytical Results 635008

COG Operating LLC, Artesia, NM

Winward West CTB 7/6/2019

Sample Id: **B-54**
Lab Sample Id: 635008-054

Matrix: Soil
Date Collected: 08.22.19 09.42

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 16.08

Basis: Wet Weight

Seq Number: 3099601

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	08.26.19 07.09	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	08.26.19 07.09	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	08.26.19 07.09	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.26.19 07.09	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	08.26.19 07.09	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	08.26.19 07.09	U	1
Total BTEX		<0.000992	0.000992	mg/kg	08.26.19 07.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	80-120	08.26.19 07.09		
1,4-Difluorobenzene	540-36-3	99	%	80-120	08.26.19 07.09		

Flagging Criteria

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

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



QC Summary 635008

COG Operating LLC Winward West CTB 7/6/2019

Analytical Method: Chloride by EPA 300

Seq Number: 3099578

MB Sample Id: 7684876-1-BLK

Matrix: Solid

LCS Sample Id: 7684876-1-BKS

Prep Method: E300P

Date Prep: 08.23.19

LCSD Sample Id: 7684876-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	100	106	106	105	105	80-120	1	20	mg/kg	08.23.19 17:59	

Analytical Method: Chloride by EPA 300

Seq Number: 3099579

Matrix: Solid

LCS Sample Id: 7684880-1-BKS

Prep Method: E300P

Date Prep: 08.23.19

LCSD Sample Id: 7684880-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	296	300	296	99	298	99	80-120	1	20	mg/kg	08.23.19 21:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3099581

Matrix: Solid

LCS Sample Id: 7684885-1-BKS

Prep Method: E300P

Date Prep: 08.23.19

LCSD Sample Id: 7684885-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	259	104	259	104	80-120	0	20	mg/kg	08.24.19 12:54	

Analytical Method: Chloride by EPA 300

Seq Number: 3099582

Matrix: Solid

LCS Sample Id: 7684886-1-BKS

Prep Method: E300P

Date Prep: 08.23.19

LCSD Sample Id: 7684886-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	262	105	252	101	80-120	4	20	mg/kg	08.24.19 16:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3099578

Matrix: Soil

Parent Sample Id: 635003-001

MS Sample Id: 635003-001 S

Prep Method: E300P

Date Prep: 08.23.19

MSD Sample Id: 635003-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	19.7	250	254	94	273	101	80-120	7	20	mg/kg	08.23.19 18:28	

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 635008

COG Operating LLC Winward West CTB 7/6/2019

Analytical Method: Chloride by EPA 300

Seq Number: 3099578

Parent Sample Id: 635006-001

Matrix: Soil

MS Sample Id: 635006-001 S

Prep Method: E300P

Date Prep: 08.23.19

MSD Sample Id: 635006-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	20.2	250	262	97	267	99	80-120	2	20	mg/kg	08.23.19 19:54	

Analytical Method: Chloride by EPA 300

Seq Number: 3099579

Parent Sample Id: 635008-010

Matrix: Soil

MS Sample Id: 635008-010 S

Prep Method: E300P

Date Prep: 08.23.19

MSD Sample Id: 635008-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	57.5	250	307	100	319	105	80-120	4	20	mg/kg	08.23.19 21:50	

Analytical Method: Chloride by EPA 300

Seq Number: 3099579

Parent Sample Id: 635008-020

Matrix: Solid

MS Sample Id: 635008-020 S

Prep Method: E300P

Date Prep: 08.23.19

MSD Sample Id: 635008-020 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	467	250	742	110	742	110	80-120	0	20	mg/kg	08.23.19 23:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3099581

Parent Sample Id: 635008-029

Matrix: Soil

MS Sample Id: 635008-029 S

Prep Method: E300P

Date Prep: 08.23.19

MSD Sample Id: 635008-029 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	434	247	675	98	666	94	80-120	1	20	mg/kg	08.24.19 13:29	

Analytical Method: Chloride by EPA 300

Seq Number: 3099581

Parent Sample Id: 635008-040

Matrix: Solid

MS Sample Id: 635008-040 S

Prep Method: E300P

Date Prep: 08.23.19

MSD Sample Id: 635008-040 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	603	249	851	100	853	100	80-120	0	20	mg/kg	08.24.19 14:55	

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 635008

COG Operating LLC Winward West CTB 7/6/2019

Analytical Method: Chloride by EPA 300

Seq Number: 3099582

Parent Sample Id: 635008-048

Matrix: Soil

MS Sample Id: 635008-048 S

Prep Method: E300P

Date Prep: 08.23.19

MSD Sample Id: 635008-048 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	103	249	331	92	338	94	80-120	2	20	mg/kg	08.24.19 16:33	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3099589

MB Sample Id: 7684956-1-BLK

Matrix: Solid

LCS Sample Id: 7684956-1-BKS

Prep Method: SW8015P

Date Prep: 08.23.19

LCSD Sample Id: 7684956-1-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	<9.88	1000	995	100	1050	105	70-135	5	35	mg/kg	08.23.19 20:11	
Diesel Range Organics	<9.88	1000	810	81	1020	102	70-135	23	35	mg/kg	08.23.19 20:11	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		116		124		70-135	%	08.23.19 20:11
o-Terphenyl	86		113		108		70-135	%	08.23.19 20:11

Analytical Method: TPH By SW8015 Mod

Seq Number: 3099623

MB Sample Id: 7684979-1-BLK

Matrix: Solid

LCS Sample Id: 7684979-1-BKS

Prep Method: SW8015P

Date Prep: 08.24.19

LCSD Sample Id: 7684979-1-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	<25.0	1000	1090	109	1120	112	70-135	3	35	mg/kg	08.24.19 17:47	
Diesel Range Organics	<9.88	1000	993	99	1030	103	70-135	4	35	mg/kg	08.24.19 17:47	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		118		112		70-135	%	08.24.19 17:47
o-Terphenyl	90		103		108		70-135	%	08.24.19 17:47

Analytical Method: TPH By SW8015 Mod

Seq Number: 3099678

MB Sample Id: 7685008-1-BLK

Matrix: Solid

LCS Sample Id: 7685008-1-BKS

Prep Method: SW8015P

Date Prep: 08.24.19

LCSD Sample Id: 7685008-1-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	<25.0	1000	1090	109	1110	111	70-135	2	35	mg/kg	08.25.19 02:47	
Diesel Range Organics	<9.88	1000	993	99	962	96	70-135	3	35	mg/kg	08.25.19 02:47	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		114		156	**	70-135	%	08.25.19 02:47
o-Terphenyl	97		115		116		70-135	%	08.25.19 02:47

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



QC Summary 635008

COG Operating LLC Winward West CTB 7/6/2019

Analytical Method: TPH By SW8015 Mod

Seq Number: 3099638

MB Sample Id: 7684991-1-BLK

Matrix: Solid

LCS Sample Id: 7684991-1-BKS

Prep Method: SW8015P

Date Prep: 08.24.19

LCSD Sample Id: 7684991-1-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	<25.0	1000	1150	115	1150	115	70-135	0	35	mg/kg	08.25.19 11:51	
Diesel Range Organics	<9.88	1000	1050	105	1040	104	70-135	1	35	mg/kg	08.25.19 11:51	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	115		120		126		70-135	%	08.25.19 11:51			
o-Terphenyl	98		116		113		70-135	%	08.25.19 11:51			

Analytical Method: TPH By SW8015 Mod

Seq Number: 3099589

Parent Sample Id: 634674-001

Matrix: Soil

MS Sample Id: 634674-001 S

Prep Method: SW8015P

Date Prep: 08.23.19

MSD Sample Id: 634674-001 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	<9.88	1000	1060	106	1020	102	70-135	4	35	mg/kg	08.23.19 21:11	
Diesel Range Organics	10.4	1000	1030	102	970	96	70-135	6	35	mg/kg	08.23.19 21:11	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			121		132		70-135	%	08.23.19 21:11			
o-Terphenyl			110		109		70-135	%	08.23.19 21:11			

Analytical Method: TPH By SW8015 Mod

Seq Number: 3099623

Parent Sample Id: 635008-008

Matrix: Soil

MS Sample Id: 635008-008 S

Prep Method: SW8015P

Date Prep: 08.24.19

MSD Sample Id: 635008-008 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	<25.1	1010	1050	104	1090	109	70-135	4	35	mg/kg	08.24.19 18:47	
Diesel Range Organics	<9.93	1010	931	92	966	97	70-135	4	35	mg/kg	08.24.19 18:47	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			117		116		70-135	%	08.24.19 18:47			
o-Terphenyl			103		106		70-135	%	08.24.19 18:47			

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



QC Summary 635008

COG Operating LLC Winward West CTB 7/6/2019

Analytical Method: TPH By SW8015 Mod

Seq Number: 3099678

Parent Sample Id: 635008-028

Matrix: Soil

MS Sample Id: 635008-028 S

Prep Method: SW8015P

Date Prep: 08.24.19

MSD Sample Id: 635008-028 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	<25.1	1000	1140	114	1150	116	70-135	1	35	mg/kg	08.25.19 03:47	
Diesel Range Organics	<9.92	1000	1040	104	1040	105	70-135	0	35	mg/kg	08.25.19 03:47	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		123		70-135	%	08.25.19 03:47
o-Terphenyl	116		110		70-135	%	08.25.19 03:47

Analytical Method: TPH By SW8015 Mod

Seq Number: 3099638

Parent Sample Id: 635008-048

Matrix: Soil

MS Sample Id: 635008-048 S

Prep Method: SW8015P

Date Prep: 08.24.19

MSD Sample Id: 635008-048 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	<25.1	1000	1120	112	1110	110	70-135	1	35	mg/kg	08.25.19 12:51	
Diesel Range Organics	<9.91	1000	1020	102	1010	100	70-135	1	35	mg/kg	08.25.19 12:51	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		117		70-135	%	08.25.19 12:51
o-Terphenyl	111		105		70-135	%	08.25.19 12:51

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099532

MB Sample Id: 7684920-1-BLK

Matrix: Solid

LCS Sample Id: 7684920-1-BKS

Prep Method: SW5030B

Date Prep: 08.24.19

LCSD Sample Id: 7684920-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0856	86	0.0860	86	70-130	0	35	mg/kg	08.24.19 21:29	
Toluene	<0.000500	0.100	0.0918	92	0.0950	95	70-130	3	35	mg/kg	08.24.19 21:29	
Ethylbenzene	<0.000500	0.100	0.104	104	0.109	109	71-129	5	35	mg/kg	08.24.19 21:29	
m,p-Xylenes	<0.00100	0.200	0.211	106	0.221	111	70-135	5	35	mg/kg	08.24.19 21:29	
o-Xylene	<0.000500	0.100	0.104	104	0.110	110	71-133	6	35	mg/kg	08.24.19 21:29	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	115		110		105		80-120	%	08.24.19 21:29
4-Bromofluorobenzene	104		120		118		80-120	%	08.24.19 21:29

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

COG Operating LLC
Winward West CTB 7/6/2019

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099598

MB Sample Id: 7684921-1-BLK

Matrix: Solid

LCS Sample Id: 7684921-1-BKS

Prep Method: SW5030B

Date Prep: 08.24.19

LCSD Sample Id: 7684921-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0844	84	0.0980	98	70-130	15	35	mg/kg	08.25.19 12:51	
Toluene	<0.000500	0.100	0.0968	97	0.0927	93	70-130	4	35	mg/kg	08.25.19 12:51	
Ethylbenzene	<0.00100	0.100	0.109	109	0.104	104	71-129	5	35	mg/kg	08.25.19 12:51	
m,p-Xylenes	<0.00100	0.200	0.222	111	0.213	107	70-135	4	35	mg/kg	08.25.19 12:51	
o-Xylene	<0.000500	0.100	0.109	109	0.105	105	71-133	4	35	mg/kg	08.25.19 12:51	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	104		102		99		80-120			%	08.25.19 12:51	
4-Bromofluorobenzene	107		111		107		80-120			%	08.25.19 12:51	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099601

MB Sample Id: 7684922-1-BLK

Matrix: Solid

LCS Sample Id: 7684922-1-BKS

Prep Method: SW5030B

Date Prep: 08.24.19

LCSD Sample Id: 7684922-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0943	94	0.0948	95	70-130	1	35	mg/kg	08.25.19 22:37	
Toluene	<0.00100	0.100	0.101	101	0.102	102	70-130	1	35	mg/kg	08.25.19 22:37	
Ethylbenzene	<0.00100	0.100	0.113	113	0.114	114	71-129	1	35	mg/kg	08.25.19 22:37	
m,p-Xylenes	<0.00100	0.200	0.232	116	0.233	117	70-135	0	35	mg/kg	08.25.19 22:37	
o-Xylene	<0.00100	0.100	0.116	116	0.116	116	71-133	0	35	mg/kg	08.25.19 22:37	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	103		101		113		80-120			%	08.25.19 22:37	
4-Bromofluorobenzene	98		114		119		80-120			%	08.25.19 22:37	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099532

Parent Sample Id: 635003-006

Matrix: Soil

MS Sample Id: 635003-006 S

Prep Method: SW5030B

Date Prep: 08.24.19

MSD Sample Id: 635003-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000988	0.0988	0.0868	88	0.0848	85	70-130	2	35	mg/kg	08.24.19 22:08	
Toluene	0.000847	0.0988	0.0717	72	0.0771	77	70-130	7	35	mg/kg	08.24.19 22:08	
Ethylbenzene	0.000494	0.0988	0.0838	84	0.0849	86	71-129	1	35	mg/kg	08.24.19 22:08	
m,p-Xylenes	<0.000988	0.198	0.175	88	0.174	88	70-135	1	35	mg/kg	08.24.19 22:08	
o-Xylene	<0.000494	0.0988	0.0926	94	0.0872	88	71-133	6	35	mg/kg	08.24.19 22:08	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene			102		96		80-120			%	08.24.19 22:08	
4-Bromofluorobenzene			117		112		80-120			%	08.24.19 22:08	

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



QC Summary 635008

COG Operating LLC Winward West CTB 7/6/2019

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099598

Parent Sample Id: 635008-016

Matrix: Soil

MS Sample Id: 635008-016 S

Prep Method: SW5030B

Date Prep: 08.24.19

MSD Sample Id: 635008-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000994	0.0994	0.0766	77	0.0811	81	70-130	6	35	mg/kg	08.25.19 13:30	
Toluene	<0.000994	0.0994	0.0706	71	0.0938	94	70-130	28	35	mg/kg	08.25.19 13:30	
Ethylbenzene	<0.000994	0.0994	0.0977	98	0.104	104	71-129	6	35	mg/kg	08.25.19 13:30	
m,p-Xylenes	0.00124	0.199	0.211	105	0.212	105	70-135	0	35	mg/kg	08.25.19 13:30	
o-Xylene	<0.000994	0.0994	0.126	127	0.106	106	71-133	17	35	mg/kg	08.25.19 13:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	120		107		80-120	%	08.25.19 13:30
4-Bromofluorobenzene	112		119		80-120	%	08.25.19 13:30

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099601

Parent Sample Id: 635008-036

Matrix: Soil

MS Sample Id: 635008-036 S

Prep Method: SW5030B

Date Prep: 08.24.19

MSD Sample Id: 635008-036 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000992	0.0992	0.0542	55	0.0392	40	70-130	32	35	mg/kg	08.25.19 23:16	X
Toluene	<0.000992	0.0992	0.0686	69	0.0454	46	70-130	41	35	mg/kg	08.25.19 23:16	XF
Ethylbenzene	0.000858	0.0992	0.0793	79	0.0547	54	71-129	37	35	mg/kg	08.25.19 23:16	XF
m,p-Xylenes	<0.000992	0.198	0.158	80	0.0968	49	70-135	48	35	mg/kg	08.25.19 23:16	XF
o-Xylene	<0.000496	0.0992	0.0901	91	0.0639	65	71-133	34	35	mg/kg	08.25.19 23:16	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	115		102		80-120	%	08.25.19 23:16
4-Bromofluorobenzene	117		119		80-120	%	08.25.19 23:16

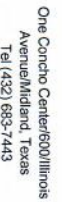
MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

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

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

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

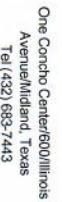
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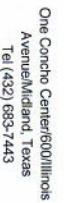
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Certificate of Analysis Summary 635003

COG Operating LLC, Artesia, NM

Project Name: Windward West CTB 7/6/2019

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea, NM

Date Received in Lab: Fri Aug-23-19 12:40 pm

Report Date: 26-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	635003-001	635003-002	635003-003	635003-004	635003-005	635003-006
	Field Id:	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-22-19 10:12	Aug-22-19 10:14	Aug-22-19 10:16	Aug-22-19 10:18	Aug-22-19 10:20	Aug-22-19 10:22
BTEX by EPA 8021B	Extracted:	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08	Aug-24-19 10:08
	Analyzed:	Aug-24-19 19:31	Aug-24-19 19:51	Aug-24-19 20:10	Aug-24-19 20:30	Aug-24-19 20:50	Aug-24-19 23:27
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00101 0.00101	<0.000992 0.000992	<0.000998 0.000998	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101
Toluene		<0.00101 0.00101	<0.000992 0.000992	<0.000998 0.000998	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101
Ethylbenzene		<0.00101 0.00101	<0.000992 0.000992	<0.000998 0.000998	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101
m,p-Xylenes		<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202
o-Xylene		<0.00101 0.00101	<0.000992 0.000992	<0.000998 0.000998	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101
Total Xylenes		<0.00101 0.00101	<0.000992 0.000992	<0.000998 0.000998	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101
Total BTEX		<0.00101 0.00101	<0.000992 0.000992	<0.000998 0.000998	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101
Chloride by EPA 300	Extracted:	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08
	Analyzed:	Aug-23-19 18:22	Aug-23-19 18:45	Aug-23-19 18:51	Aug-23-19 18:57	Aug-23-19 19:03	Aug-23-19 19:08
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		19.7 10.0	21.4 9.90	12.9 10.0	<10.0 10.0	10.0 9.82	91.1 9.96
TPH By SW8015 Mod	Extracted:	Aug-23-19 18:00	Aug-23-19 18:00	Aug-23-19 18:00	Aug-23-19 18:00	Aug-24-19 14:08	Aug-23-19 18:00
	Analyzed:	Aug-23-19 22:32	Aug-23-19 22:52	Aug-23-19 23:12	Aug-23-19 23:32	Aug-25-19 15:31	Aug-24-19 00:12
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons		<25.0 25.0	<25.0 25.0	<25.1 25.1	<25.0 25.0	<25.0 25.0	<25.0 25.0
Diesel Range Organics		<25.0 25.0	<25.0 25.0	<25.1 25.1	<25.0 25.0	<25.0 25.0	<25.0 25.0
Motor Oil Range Hydrocarbons (MRO)		<25.0 25.0	<25.0 25.0	<25.1 25.1	<25.0 25.0	<25.0 25.0	<25.0 25.0
Total TPH		<25.0 25.0	<25.0 25.0	<25.1 25.1	<25.0 25.0	<25.0 25.0	<25.0 25.0

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Version: 1.0%

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 635003

COG Operating LLC, Artesia, NM

Project Name: Windward West CTB 7/6/2019

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea, NM

Date Received in Lab: Fri Aug-23-19 12:40 pm

Report Date: 26-AUG-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	635003-007	635003-008	635003-009	635003-010		
	Field Id:	SW-7	SW-8	SW-9	SW-10		
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	Aug-22-19 10:24	Aug-22-19 10:26	Aug-22-19 10:28	Aug-22-19 10:30		
BTEX by EPA 8021B	Extracted:	Aug-24-19 10:08	Aug-24-19 10:08	Aug-24-19 10:08	Aug-24-19 10:08		
	Analyzed:	Aug-24-19 23:47	Aug-25-19 00:07	Aug-25-19 00:27	Aug-25-19 00:47		
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg		
		RL	RL	RL	RL		
Benzene		<0.000996 0.000996	<0.00101 0.00101	<0.000992 0.000992	<0.00101 0.00101		
Toluene		<0.000996 0.000996	<0.00101 0.00101	<0.000992 0.000992	<0.00101 0.00101		
Ethylbenzene		<0.000996 0.000996	<0.00101 0.00101	<0.000992 0.000992	<0.00101 0.00101		
m,p-Xylenes		<0.00199 0.00199	<0.00201 0.00201	<0.00198 0.00198	<0.00202 0.00202		
o-Xylene		<0.000996 0.000996	<0.00101 0.00101	<0.000992 0.000992	<0.00101 0.00101		
Total Xylenes		<0.000996 0.000996	<0.00101 0.00101	<0.000992 0.000992	<0.00101 0.00101		
Total BTEX		<0.000996 0.000996	<0.00101 0.00101	<0.000992 0.000992	<0.00101 0.00101		
Chloride by EPA 300	Extracted:	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08	Aug-23-19 14:08		
	Analyzed:	Aug-23-19 19:14	Aug-23-19 19:31	Aug-23-19 19:37	Aug-23-19 19:43		
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg		
		RL	RL	RL	RL		
Chloride		21.7 10.0	17.6 9.94	27.6 10.0	31.3 9.82		
TPH By SW8015 Mod	Extracted:	Aug-23-19 18:00	Aug-23-19 18:00	Aug-23-19 18:00	Aug-23-19 18:00		
	Analyzed:	Aug-24-19 00:33	Aug-24-19 01:13	Aug-24-19 01:33	Aug-24-19 01:54		
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg		
		RL	RL	RL	RL		
Gasoline Range Hydrocarbons		<25.1 25.1	<24.9 24.9	<24.9 24.9	<25.1 25.1		
Diesel Range Organics		<25.1 25.1	<24.9 24.9	<24.9 24.9	<25.1 25.1		
Motor Oil Range Hydrocarbons (MRO)		<25.1 25.1	<24.9 24.9	<24.9 24.9	<25.1 25.1		
Total TPH		<25.1 25.1	<24.9 24.9	<24.9 24.9	<25.1 25.1		

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

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

Version: 1.0%

Jessica Kramer
Project Assistant

Analytical Report 635003

for COG Operating LLC

Project Manager: Sheldon Hitchcock

Windward West CTB 7/6/2019

26-AUG-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
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-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)



26-AUG-19

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

Reference: XENCO Report No(s): **635003**
Windward West CTB 7/6/2019
Project Address: Lea, NM

Sheldon Hitchcock:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 635003. 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. 635003 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,

A handwritten signature in black ink that reads 'Jessica Kramer'. The signature is written in a cursive, flowing style.

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 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW-1	S	08-22-19 10:12		635003-001
SW-2	S	08-22-19 10:14		635003-002
SW-3	S	08-22-19 10:16		635003-003
SW-4	S	08-22-19 10:18		635003-004
SW-5	S	08-22-19 10:20		635003-005
SW-6	S	08-22-19 10:22		635003-006
SW-7	S	08-22-19 10:24		635003-007
SW-8	S	08-22-19 10:26		635003-008
SW-9	S	08-22-19 10:28		635003-009
SW-10	S	08-22-19 10:30		635003-010



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Windward West CTB 7/6/2019

Project ID:
Work Order Number(s): 635003

Report Date: 26-AUG-19
Date Received: 08/23/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3099530 BTEX by EPA 8021B

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

Batch: LBA-3099532 BTEX by EPA 8021B

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



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-1**
Lab Sample Id: 635003-001

Matrix: Soil
Date Collected: 08.22.19 10.12

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 14.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	19.7	10.0	mg/kg	08.23.19 18.22		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 18.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.23.19 22.32	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.23.19 22.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.23.19 22.32	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.23.19 22.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-135	08.23.19 22.32		
o-Terphenyl	84-15-1	86	%	70-135	08.23.19 22.32		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-1**
Lab Sample Id: 635003-001

Matrix: Soil
Date Collected: 08.22.19 10.12

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Seq Number: 3099530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.24.19 19.31	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.24.19 19.31	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.24.19 19.31	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.24.19 19.31	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.24.19 19.31	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.24.19 19.31	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.24.19 19.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	80-120	08.24.19 19.31		
4-Bromofluorobenzene	460-00-4	112	%	80-120	08.24.19 19.31		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: SW-2
Lab Sample Id: 635003-002

Matrix: Soil
Date Collected: 08.22.19 10.14

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Seq Number: 3099578

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.4	9.90	mg/kg	08.23.19 18.45		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DTH

% Moisture:

Analyst: DTH

Date Prep: 08.23.19 18.00

Basis: Wet Weight

Seq Number: 3099589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.23.19 22.52	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.23.19 22.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.23.19 22.52	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.23.19 22.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	08.23.19 22.52	
o-Terphenyl	84-15-1	92	%	70-135	08.23.19 22.52	



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: SW-2
Lab Sample Id: 635003-002

Matrix: Soil
Date Collected: 08.22.19 10.14

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Seq Number: 3099530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	08.24.19 19.51	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	08.24.19 19.51	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	08.24.19 19.51	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.24.19 19.51	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	08.24.19 19.51	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	08.24.19 19.51	U	1
Total BTEX		<0.000992	0.000992	mg/kg	08.24.19 19.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	80-120	08.24.19 19.51		
4-Bromofluorobenzene	460-00-4	109	%	80-120	08.24.19 19.51		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-3**
Lab Sample Id: 635003-003

Matrix: Soil
Date Collected: 08.22.19 10.16

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.9	10.0	mg/kg	08.23.19 18.51		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Date Prep: 08.23.19 18.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.23.19 23.12	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.23.19 23.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.23.19 23.12	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.23.19 23.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	08.23.19 23.12		
o-Terphenyl	84-15-1	94	%	70-135	08.23.19 23.12		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: SW-3
Lab Sample Id: 635003-003

Matrix: Soil
Date Collected: 08.22.19 10.16

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Seq Number: 3099530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	08.24.19 20.10	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	08.24.19 20.10	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	08.24.19 20.10	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.24.19 20.10	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	08.24.19 20.10	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	08.24.19 20.10	U	1
Total BTEX		<0.000998	0.000998	mg/kg	08.24.19 20.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	80-120	08.24.19 20.10		
4-Bromofluorobenzene	460-00-4	118	%	80-120	08.24.19 20.10		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-4**
Lab Sample Id: 635003-004

Matrix: Soil
Date Collected: 08.22.19 10.18

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	08.23.19 18.57	U	1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Date Prep: 08.23.19 18.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.23.19 23.32	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.23.19 23.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.23.19 23.32	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.23.19 23.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	08.23.19 23.32	
o-Terphenyl	84-15-1	100	%	70-135	08.23.19 23.32	



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-4**
Lab Sample Id: 635003-004

Matrix: Soil
Date Collected: 08.22.19 10.18

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Seq Number: 3099530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.24.19 20.30	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.24.19 20.30	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.24.19 20.30	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	08.24.19 20.30	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.24.19 20.30	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.24.19 20.30	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.24.19 20.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	80-120	08.24.19 20.30		
1,4-Difluorobenzene	540-36-3	103	%	80-120	08.24.19 20.30		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: SW-5
Lab Sample Id: 635003-005

Matrix: Soil
Date Collected: 08.22.19 10.20

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 14.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.0	9.82	mg/kg	08.23.19 19.03		1

Analytical Method: TPH By SW8015 Mod

Tech: MAB

Analyst: DTH

Seq Number: 3099638

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.24.19 14.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.25.19 15.31	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.25.19 15.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.25.19 15.31	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.25.19 15.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	113	%	70-135	08.25.19 15.31		
o-Terphenyl	84-15-1	97	%	70-135	08.25.19 15.31		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: SW-5
Lab Sample Id: 635003-005

Matrix: Soil
Date Collected: 08.22.19 10.20

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Seq Number: 3099530

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.24.19 20.50	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.24.19 20.50	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.24.19 20.50	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	08.24.19 20.50	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.24.19 20.50	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.24.19 20.50	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.24.19 20.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	80-120	08.24.19 20.50		
4-Bromofluorobenzene	460-00-4	115	%	80-120	08.24.19 20.50		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-6**
Lab Sample Id: 635003-006

Matrix: Soil
Date Collected: 08.22.19 10.22

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 14.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	91.1	9.96	mg/kg	08.23.19 19.08		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 18.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.24.19 00.12	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.24.19 00.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.24.19 00.12	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.24.19 00.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-135	08.24.19 00.12		
o-Terphenyl	84-15-1	85	%	70-135	08.24.19 00.12		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-6**
Lab Sample Id: 635003-006

Matrix: Soil
Date Collected: 08.22.19 10.22

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.24.19 23.27	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.24.19 23.27	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.24.19 23.27	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.24.19 23.27	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.24.19 23.27	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.24.19 23.27	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.24.19 23.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	80-120	08.24.19 23.27		
1,4-Difluorobenzene	540-36-3	105	%	80-120	08.24.19 23.27		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-7**
Lab Sample Id: 635003-007

Matrix: Soil
Date Collected: 08.22.19 10.24

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.7	10.0	mg/kg	08.23.19 19.14		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Date Prep: 08.23.19 18.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 00.33	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 00.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 00.33	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 00.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-135	08.24.19 00.33		
o-Terphenyl	84-15-1	103	%	70-135	08.24.19 00.33		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: SW-7
Lab Sample Id: 635003-007

Matrix: Soil
Date Collected: 08.22.19 10.24

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	08.24.19 23.47	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	08.24.19 23.47	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	08.24.19 23.47	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.24.19 23.47	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	08.24.19 23.47	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	08.24.19 23.47	U	1
Total BTEX		<0.000996	0.000996	mg/kg	08.24.19 23.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	118	%	80-120	08.24.19 23.47		
4-Bromofluorobenzene	460-00-4	106	%	80-120	08.24.19 23.47		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-8**
Lab Sample Id: 635003-008

Matrix: Soil
Date Collected: 08.22.19 10.26

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.6	9.94	mg/kg	08.23.19 19.31		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Date Prep: 08.23.19 18.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.24.19 01.13	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.24.19 01.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.24.19 01.13	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.24.19 01.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	08.24.19 01.13	
o-Terphenyl	84-15-1	89	%	70-135	08.24.19 01.13	



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-8**
Lab Sample Id: 635003-008

Matrix: Soil
Date Collected: 08.22.19 10.26

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.25.19 00.07	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.25.19 00.07	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.25.19 00.07	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	08.25.19 00.07	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.25.19 00.07	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.25.19 00.07	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.25.19 00.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	80-120	08.25.19 00.07		
1,4-Difluorobenzene	540-36-3	112	%	80-120	08.25.19 00.07		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-9**
Lab Sample Id: 635003-009

Matrix: Soil
Date Collected: 08.22.19 10.28

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Date Prep: 08.23.19 14.08

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.6	10.0	mg/kg	08.23.19 19.37		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Date Prep: 08.23.19 18.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.24.19 01.33	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.24.19 01.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.24.19 01.33	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.24.19 01.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-135	08.24.19 01.33		
o-Terphenyl	84-15-1	101	%	70-135	08.24.19 01.33		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-9**
Lab Sample Id: 635003-009

Matrix: Soil
Date Collected: 08.22.19 10.28

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	08.25.19 00.27	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	08.25.19 00.27	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	08.25.19 00.27	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.25.19 00.27	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	08.25.19 00.27	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	08.25.19 00.27	U	1
Total BTEX		<0.000992	0.000992	mg/kg	08.25.19 00.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	80-120	08.25.19 00.27		
4-Bromofluorobenzene	460-00-4	117	%	80-120	08.25.19 00.27		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-10**
Lab Sample Id: 635003-010

Matrix: Soil
Date Collected: 08.22.19 10.30

Date Received: 08.23.19 12.40

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3099578

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 14.08

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	31.3	9.82	mg/kg	08.23.19 19.43		1

Analytical Method: TPH By SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3099589

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 08.23.19 18.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.24.19 01.54	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.24.19 01.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.24.19 01.54	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.24.19 01.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	104	%	70-135	08.24.19 01.54		
o-Terphenyl	84-15-1	92	%	70-135	08.24.19 01.54		



Certificate of Analytical Results 635003

COG Operating LLC, Artesia, NM

Windward West CTB 7/6/2019

Sample Id: **SW-10**
Lab Sample Id: 635003-010

Matrix: Soil
Date Collected: 08.22.19 10.30

Date Received: 08.23.19 12.40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: CAC

Date Prep: 08.24.19 10.08

Basis: Wet Weight

Seq Number: 3099532

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.25.19 00.47	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.25.19 00.47	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.25.19 00.47	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.25.19 00.47	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.25.19 00.47	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.25.19 00.47	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.25.19 00.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	80-120	08.25.19 00.47		
1,4-Difluorobenzene	540-36-3	111	%	80-120	08.25.19 00.47		

Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



QC Summary 635003

COG Operating LLC Windward West CTB 7/6/2019

Analytical Method: Chloride by EPA 300

Seq Number: 3099578

MB Sample Id: 7684876-1-BLK

Matrix: Solid

LCS Sample Id: 7684876-1-BKS

Prep Method: E300P

Date Prep: 08.23.19

LCSD Sample Id: 7684876-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	100	106	106	105	105	80-120	1	20	mg/kg	08.23.19 17:59	

Analytical Method: Chloride by EPA 300

Seq Number: 3099578

Parent Sample Id: 635003-001

Matrix: Soil

MS Sample Id: 635003-001 S

Prep Method: E300P

Date Prep: 08.23.19

MSD Sample Id: 635003-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	19.7	250	254	94	273	101	80-120	7	20	mg/kg	08.23.19 18:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3099578

Parent Sample Id: 635006-001

Matrix: Soil

MS Sample Id: 635006-001 S

Prep Method: E300P

Date Prep: 08.23.19

MSD Sample Id: 635006-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	20.2	250	262	97	267	99	80-120	2	20	mg/kg	08.23.19 19:54	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3099589

MB Sample Id: 7684956-1-BLK

Matrix: Solid

LCS Sample Id: 7684956-1-BKS

Prep Method: SW8015P

Date Prep: 08.23.19

LCSD Sample Id: 7684956-1-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	<9.88	1000	995	100	1050	105	70-135	5	35	mg/kg	08.23.19 20:11	
Diesel Range Organics	<9.88	1000	810	81	1020	102	70-135	23	35	mg/kg	08.23.19 20:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		116		124		70-135	%	08.23.19 20:11
o-Terphenyl	86		113		108		70-135	%	08.23.19 20:11

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 635003

COG Operating LLC Windward West CTB 7/6/2019

Analytical Method: TPH By SW8015 Mod

Seq Number: 3099638

MB Sample Id: 7684991-1-BLK

Matrix: Solid

LCS Sample Id: 7684991-1-BKS

Prep Method: SW8015P

Date Prep: 08.24.19

LCSD Sample Id: 7684991-1-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	<25.0	1000	1150	115	1150	115	70-135	0	35	mg/kg	08.25.19 11:51	
Diesel Range Organics	<9.88	1000	1050	105	1040	104	70-135	1	35	mg/kg	08.25.19 11:51	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	115		120		126		70-135	%	08.25.19 11:51			
o-Terphenyl	98		116		113		70-135	%	08.25.19 11:51			

Analytical Method: TPH By SW8015 Mod

Seq Number: 3099589

Parent Sample Id: 634674-001

Matrix: Soil

MS Sample Id: 634674-001 S

Prep Method: SW8015P

Date Prep: 08.23.19

MSD Sample Id: 634674-001 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	<9.88	1000	1060	106	1020	102	70-135	4	35	mg/kg	08.23.19 21:11	
Diesel Range Organics	10.4	1000	1030	102	970	96	70-135	6	35	mg/kg	08.23.19 21:11	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			121		132		70-135	%	08.23.19 21:11			
o-Terphenyl			110		109		70-135	%	08.23.19 21:11			

Analytical Method: TPH By SW8015 Mod

Seq Number: 3099638

Parent Sample Id: 635008-048

Matrix: Soil

MS Sample Id: 635008-048 S

Prep Method: SW8015P

Date Prep: 08.24.19

MSD Sample Id: 635008-048 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	<25.1	1000	1120	112	1110	110	70-135	1	35	mg/kg	08.25.19 12:51	
Diesel Range Organics	<9.91	1000	1020	102	1010	100	70-135	1	35	mg/kg	08.25.19 12:51	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			127		117		70-135	%	08.25.19 12:51			
o-Terphenyl			111		105		70-135	%	08.25.19 12:51			

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
Windward West CTB 7/6/2019

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099530

MB Sample Id: 7684919-1-BLK

Matrix: Solid

LCS Sample Id: 7684919-1-BKS

Prep Method: SW5030B

Date Prep: 08.23.19

LCSD Sample Id: 7684919-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0902	90	0.0906	91	70-130	0	35	mg/kg	08.23.19 19:45	
Toluene	<0.00100	0.100	0.0999	100	0.0950	95	70-130	5	35	mg/kg	08.23.19 19:45	
Ethylbenzene	<0.00100	0.100	0.114	114	0.110	110	71-129	4	35	mg/kg	08.23.19 19:45	
m,p-Xylenes	<0.00200	0.200	0.231	116	0.226	113	70-135	2	35	mg/kg	08.23.19 19:45	
o-Xylene	<0.00100	0.100	0.114	114	0.112	112	71-133	2	35	mg/kg	08.23.19 19:45	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date	Flag		
1,4-Difluorobenzene	111		106		101		80-120	%	08.23.19 19:45			
4-Bromofluorobenzene	118		112		114		80-120	%	08.23.19 19:45			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099532

MB Sample Id: 7684920-1-BLK

Matrix: Solid

LCS Sample Id: 7684920-1-BKS

Prep Method: SW5030B

Date Prep: 08.24.19

LCSD Sample Id: 7684920-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0856	86	0.0860	86	70-130	0	35	mg/kg	08.24.19 21:29	
Toluene	<0.000500	0.100	0.0918	92	0.0950	95	70-130	3	35	mg/kg	08.24.19 21:29	
Ethylbenzene	<0.000500	0.100	0.104	104	0.109	109	71-129	5	35	mg/kg	08.24.19 21:29	
m,p-Xylenes	<0.00100	0.200	0.211	106	0.221	111	70-135	5	35	mg/kg	08.24.19 21:29	
o-Xylene	<0.000500	0.100	0.104	104	0.110	110	71-133	6	35	mg/kg	08.24.19 21:29	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date	Flag		
1,4-Difluorobenzene	115		110		105		80-120	%	08.24.19 21:29			
4-Bromofluorobenzene	104		120		118		80-120	%	08.24.19 21:29			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099530

Parent Sample Id: 634675-001

Matrix: Soil

MS Sample Id: 634675-001 S

Prep Method: SW5030B

Date Prep: 08.23.19

MSD Sample Id: 634675-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000996	0.0996	0.0893	90	0.0936	94	70-130	5	35	mg/kg	08.23.19 20:25	
Toluene	0.110	0.0996	0.127	17	0.121	11	70-130	5	35	mg/kg	08.23.19 20:25	X
Ethylbenzene	0.204	0.0996	0.204	0	0.188	0	71-129	8	35	mg/kg	08.23.19 20:25	X
m,p-Xylenes	0.690	0.199	0.622	0	0.567	0	70-135	9	35	mg/kg	08.23.19 20:25	X
o-Xylene	0.392	0.0996	0.363	0	0.333	0	71-133	9	35	mg/kg	08.23.19 20:25	X
Surrogate			MS %Rec	MS Flag		MSD %Rec	MSD Flag	Limits		Units	Analysis Date	
1,4-Difluorobenzene			108			114		80-120		%	08.23.19 20:25	
4-Bromofluorobenzene			119			117		80-120		%	08.23.19 20:25	

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



QC Summary 635003

COG Operating LLC Windward West CTB 7/6/2019

Analytical Method: BTEX by EPA 8021B

Seq Number: 3099532

Parent Sample Id: 635003-006

Matrix: Soil

MS Sample Id: 635003-006 S

Prep Method: SW5030B

Date Prep: 08.24.19

MSD Sample Id: 635003-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000988	0.0988	0.0868	88	0.0848	85	70-130	2	35	mg/kg	08.24.19 22:08	
Toluene	0.000847	0.0988	0.0717	72	0.0771	77	70-130	7	35	mg/kg	08.24.19 22:08	
Ethylbenzene	0.000494	0.0988	0.0838	84	0.0849	86	71-129	1	35	mg/kg	08.24.19 22:08	
m,p-Xylenes	<0.000988	0.198	0.175	88	0.174	88	70-135	1	35	mg/kg	08.24.19 22:08	
o-Xylene	<0.000494	0.0988	0.0926	94	0.0872	88	71-133	6	35	mg/kg	08.24.19 22:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		96		80-120	%	08.24.19 22:08
4-Bromofluorobenzene	117		112		80-120	%	08.24.19 22:08

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

Page 1 of 1



(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

Final 1.000

APPENDIX D

South West Elevation

☼ 47°NE (T) ☉ 32°10'59"N, 103°42'12"W ±16.4ft ▲ 3550ft



29 Aug 2019, 09:08:31

South East Elevation

☼ 297°NW (T) ● 32°10'59"N, 103°42'11"W ±16.4ft ▲ 3496ft



29 Aug 2019, 09:45:10

South Elevation

☀ 355°N (T) ● 32°10'59"N, 103°42'12"W ±16ft ▲ 3503ft



04 Sep 2019, 15:09:05