

REVIEWED*By Olivia Yu at 9:40 am, Nov 14, 2018*

October 31, 2018

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

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

Closure Report
Eata Fajita 1-5 CTB
RP#: 1RP-4920
DOR: January 3, 2018
GPS: 32.225956 -103.601582
Unit Letter M, Section 8, Township 24 South, Range 33 East
Lea County, New Mexico

Ms. Yu/Mr. Mann,

COG Production, LLC (COG) is pleased to submit the following closure report in response to a release that occurred on a flowline associated with the Eata Fajita 1-5 CTB. The release is located in Unit Letter M, Section 8, Township 24 South and Range 33 East in Lea County, New Mexico. More specifically the latitude and longitude for the release are 32.225956 North and -103.601582 West.

BACKGROUND

The release was discovered on January 3, 2018 and a C-141 initial report was submitted to the New Mexico Oil Conservation Division (NMOCD) and the New Mexico State Land Office (NMSLO). The initial C-141 is presented in Appendix A. A flowline failure resulted in the release of approximately one-hundred and fifteen (115) barrels (bbls) of produced water. Vacuum trucks were utilized to recover approximately forty-seven (47) bbls of produced water.

GROUNDWATER AND REGULATORY FRAMEWORK

According to the New Mexico Office of the State Engineer (NMOSE) the nearest water well (C 02431) is located approximately 1.37 miles southeast of the release point and indicates that groundwater in the project vicinity is approximately four-hundred and fifteen (415) 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

REMEDIATION PLAN

All samples were below Table 1 closure criteria and thus no remediation will occur. Based on the information provided, COG is requesting closure of the release. The signed C-141 Final is included in Appendix A.

SITE RECLAMATION AND RESTORATION

COG will perform the reclamation and revegetation in the pasture area per NMED 19.15.29.13. The reclamation will be achieved by removing the soil to a depth of four (4) feet BGS. Approximately 950 cubic yards of material will be removed and hauled to an NMOCD approved solid waste disposal facility. Once excavated, soil samples will be collected from the sidewalls to confirm the removal of impacted soil greater than 600 mg/kg of chlorides or background (whichever is greater). The backfill material will be non-contaminated with concentrations below 600 mg/kg of chlorides. The surface will be left in a rough condition to approximate natural surface deviations. The site will be mechanically seeded with the New Mexico State Land Office (NMSLO) Sandy Loam (SL) seed mixture.

CLOSURE REQUEST

COG Operating, LLC respectfully requests that the New Mexico Oil Conservation Division and the New Mexico State Land Office grant closure approval for the Eata Fajita 1-5 CTB incident that occurred on January 3, 2018.

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

Sincerely,

A handwritten signature in black ink that reads "Sheldon Hitchcock". The signature is written in a cursive, flowing style.

Sheldon L. Hitchcock
HSE Coordinator
slhitchcock@concho.com

FIGURES

Eata Fajita 1-5 CTB



TABLES

Table 1
COG Operating LLC.
Eata Fajita 1-5 CTB (3-1-2018)
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
T-1	0	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	3410
T-1	1	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	3,510
T-1	2	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	531
T-1	3	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	#
T-1	4	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	#
T-1	5	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	#
T-1	6	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	#
T-1	7	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	#
T-1	8	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	#
T-1	9	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	#
T-1	10	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	#
T-1	11	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	#
T-1	12	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	#
T-1	12.5	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	#
T-1	14	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	#
T-2	0	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	3540
T-2	1	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	4,040.0
T-2	2	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	4530
T-2	3	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	7040
T-2	4	2/19/2018	X		<15.0	24.7	<15.0	24.7	<15.0	24.7	24.7	<0.002	<0.002	7,100
T-2	5	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	5,160
T-2	6	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	8,460
T-2	7	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	10,100
T-2	8	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	4,170.0
T-2	9	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	1,260
T-2	10	2/19/2018	X		<15.0	<15.0	157	157.0	<15.0	<15.0	0.0	<0.002	<0.002	2,730
T-2	11	2/19/2018	X		<15.0	<15.0	230	230.0	<15.0	<15.0	0.0	<0.002	<0.002	1730
T-2	12	2/19/2018	X		<15.0	<15.0	103	103.0	<15.0	<15.0	0.0	<0.002	<0.002	2,730
T-2	13	2/19/2018	X		<15.0	<15.0	872	872.0	<15.0	<15.0	0.0	<0.002	<0.002	1,730
T-2	14	2/19/2018	X		<15.0	<15.0	71.8	71.8	<15.0	<15.0	0.0	<0.002	<0.002	72
T-2	15	4/4/2018	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0	<0.05	<0.30	1,140
T-2	16	4/4/2018	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0	<0.05	<0.30	1,150
T-2	17.5	4/4/2018	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0	<0.05	<0.30	429

Proposed Excavation Depth
 (#) Not Analyzed

Table 1 Continued
COG Operating LLC.
Eata Fajita 1-5 CTB (3-1-2018)
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
T-3	0	2/19/2018	X		<15.0	<15.0	71.2	71.2	<15.0	<15.0	0.0	<0.002	<0.002	3200
T-3	1	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	3,080
T-3	2	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	5,120
T-3	3	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	4710
T-3	4	2/19/2018	X		<15.0	<15.0	121	121.0	<15.0	<15.0	0.0	<0.002	<0.002	7460
T-3	5	2/19/2018	X		<15.0	<15.0	129	129.0	<15.0	<15.0	0.0	<0.002	<0.002	8100
T-3	6	2/19/2018	X		<15.0	<15.0	105	105.0	<15.0	<15.0	0.0	<0.002	<0.002	5350
T-3	8	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	6820
T-3	10	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	999
T-3	11	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	1490
T-3	12	4/4/2018	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.05	<0.3	94.6
T-3	14	4/4/2018	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.05	<0.3	#
NORTH	N/A	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.003	<0.003	18.8
SOUTH	N/A	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	18.7
EAST	N/A	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.003	<0.003	<5.00
WEST	N/A	2/19/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	11.8

Proposed Excavation Depth
 (#) 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
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating, LLC (OGRID# 229137)	Contact: Robert McNeill	
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No.: 432-683-7443	
Facility Name: Eata Fajita 1-5 CTB	Facility Type: Central Tank Battery	
Surface Owner: State	Mineral Owner: State	API No.:

LOCATION OF RELEASE

Unit Letter M	Section 8	Township 24S	Range 33E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
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Latitude: 32.225956 Longitude: -103.601582 NAD83

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 115bbls	Volume Recovered: 47bbls
Source of Release: Flowline	Date and Hour of Occurrence: 1/3/2018	Date and Hour of Discovery: 1/3/2018 9:00am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Olivia Yu-NMOCD Amber Groves-NMSLO	
By Whom? Sheldon Hitchcock	Date and Hour: 1/3/2018 2:12pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		

RECEIVED

By Olivia Yu at 3:17 pm, Jan 08, 2018

Describe Cause of Problem and Remedial Action Taken.*

A flowline ruptured resulting in the release of approximately 115bbls of produced water. The flowline was repaired.

Describe Area Affected and Cleanup Action Taken.*

The release occurred in the pasture **West** Eata Fajita 1-5 CTB. The impacted area measured approximately 150' x 60'. Concho will have the spill area evaluated for any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

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

Signature: <i>Sheldon Hitchcock</i>		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Sheldon L. Hitchcock		Approved by Environmental Specialist: <i>oy</i>	
Title: HSE Coordinator	Approval Date: 1/8/2018	Expiration Date:	
E-mail Address: slhitchcock@concho.com	Conditions of Approval: see attached directive	Attached ☒	
Date: 1/8/2018	Phone: 575-746-2010		

* Attach Additional Sheets If Necessary

fOY1800855168

1RP-4920

nOY1800855479

pOY1800855365

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 Gitan</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 Nitzan 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 Guitan 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 Gitan 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.

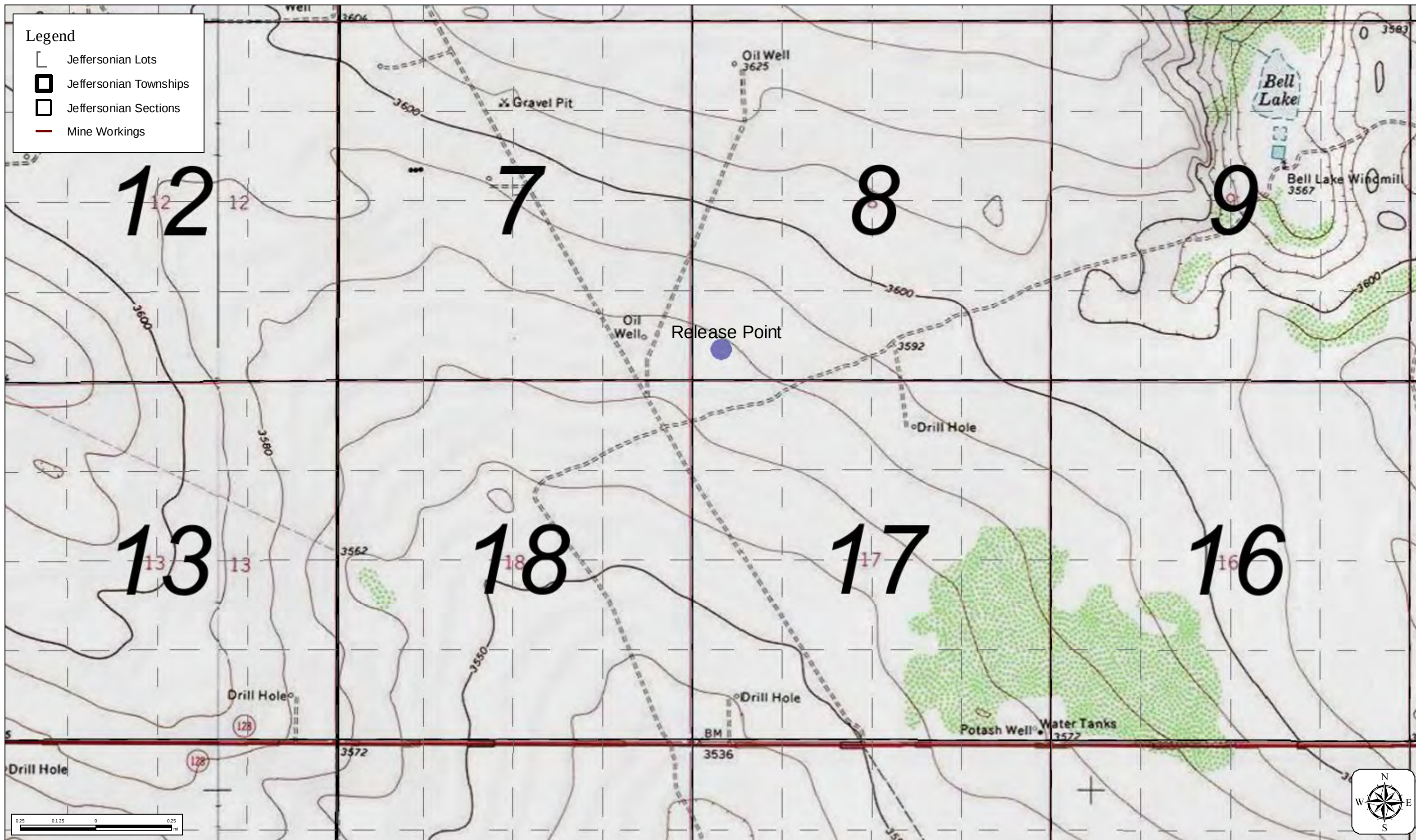
Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

APPENDIX B

Legend

-  Jeffersonian Lots
-  Jeffersonian Townships
-  Jeffersonian Sections
-  Mine Workings





Legend

- High Karst Potential
- Medium Karst Potential
- Nearest Water Well

REFERENCE LAYERS

- NFHL Data Available
- FIRM Panel Boundary
- LOMR Boundary

SPECIAL FLOOD HAZARD AREAS

- 1% Annual Chance Flood Hazard
Zone A, AE, A99, A0, AH, AR, V, VE
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard
Zone X
- Future Conditions 1% Annual
Chance Flood Hazard Zone X
- Area with Reduced Flood Risk
due to Levee Zone X
- Areas Outside the 0.2% Annual
Chance Floodplain Zone X
- Areas of Undetermined Flood
Hazard Zone D

CROSS SECTIONS & BFES

- Cross Sections with 1% Annual
Chance Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Base Flood Elevation

SUPPORTING INFORMATION

- Limit of Study
- Jurisdictional Boundary



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 03565 POD3	CUB	LE		3	4	08	24S	33E		632763	3566546	926		1533	
C 02431	CUB	LE		4	4	4	17	24S	33E	633175	3564728*	2155	525	415	110
C 02432	CUB	LE		4	4	4	17	24S	33E	633175	3564728*	2155	640	415	225
C 03591 POD1	CUB	LE		2	1	4	05	24S	33E	632731	3568518	2273			
C 02430	CUB	LE		3	3	3	16	24S	33E	633377	3564732*	2282	643	415	228

Average Depth to Water: **694 feet**

Minimum Depth: **415 feet**

Maximum Depth: **1533 feet**

Record Count: 5

Basin/County Search:

County: Lea

UTM NAD83 Radius Search (in meters):

Easting (X): 631845

Northing (Y): 3566424

Radius: 3000

*UTM location was derived from PLSS - see Help

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

APPENDIX C



Certificate of Analysis Summary 577419

COG Operating LLC, Artesia, NM

Project Name: Eata Fajita 1-5 CTB



Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea County

Date Received in Lab: Mon Feb-26-18 07:45 am

Report Date: 09-MAR-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	577419-001	577419-002	577419-003	577419-004	577419-005	577419-006
	<i>Field Id:</i>	T-1	T-1	T-1	T-1	T-1	T-1
	<i>Depth:</i>		1- ft	2- ft	3- ft	4- ft	5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-28-18 15:00	Feb-26-18 10:00	Feb-26-18 10:00	Feb-26-18 16:45	Feb-26-18 16:45	Feb-26-18 16:45
	<i>Analyzed:</i>	Feb-28-18 23:31	Feb-26-18 17:18	Feb-26-18 17:37	Feb-26-18 23:00	Feb-26-18 23:19	Feb-26-18 23:38
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00401 0.00401	<0.00402 0.00402	<0.00403 0.00403	<0.00398 0.00398	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Feb-27-18 17:00	Feb-27-18 17:00	Mar-02-18 09:00			
	<i>Analyzed:</i>	Feb-27-18 22:24	Feb-27-18 22:30	Mar-02-18 11:03			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		3410 25.0	3510 25.0	531 4.96			
TPH By SW8015 Mod	<i>Extracted:</i>	Feb-27-18 15:00	Feb-27-18 15:00	Feb-27-18 15:00	Feb-27-18 15:00	Feb-27-18 15:00	Feb-27-18 15:00
	<i>Analyzed:</i>	Feb-27-18 20:12	Feb-27-18 21:26	Feb-27-18 21:54	Feb-27-18 22:20	Feb-27-18 22:45	Feb-27-18 23:11
	<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 (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9

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Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 577419

COG Operating LLC, Artesia, NM

Project Name: Eata Fajita 1-5 CTB



Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea County

Date Received in Lab: Mon Feb-26-18 07:45 am

Report Date: 09-MAR-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	577419-007	577419-008	577419-009	577419-010	577419-011	577419-012
	<i>Field Id:</i>	T-1	T-1	T-1	T-1	T-1	T-1
	<i>Depth:</i>	6- ft	8- ft	10- ft	12- ft	12.5- ft	14- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-26-18 16:45	Feb-26-18 16:45	Feb-26-18 16:45	Feb-26-18 16:45	Feb-26-18 16:45	Feb-26-18 16:45
	<i>Analyzed:</i>	Feb-26-18 23:57	Feb-27-18 00:17	Feb-27-18 00:36	Feb-27-18 00:55	Feb-27-18 01:14	Feb-27-18 01:33
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402	<0.00398 0.00398	<0.00398 0.00398	<0.00401 0.00401	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200
TPH By SW8015 Mod	<i>Extracted:</i>	Feb-27-18 15:00	Feb-27-18 15:00	Feb-27-18 15:00	Feb-27-18 15:00	Feb-27-18 15:00	Feb-27-18 15:00
	<i>Analyzed:</i>	Feb-27-18 23:37	Feb-28-18 00:02	Feb-28-18 00:28	Feb-28-18 00:53	Feb-28-18 02:10	Feb-28-18 02:35
	<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 (GRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Total TPH		<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 577419

COG Operating LLC, Artesia, NM

Project Name: Eata Fajita 1-5 CTB



Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea County

Date Received in Lab: Mon Feb-26-18 07:45 am

Report Date: 09-MAR-18

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	577419-013	577419-014	577419-015	577419-016	577419-017	577419-018
	Field Id:	T-2	T-2	T-2	T-2	T-2	T-2
	Depth:		1- ft	2- ft	3- ft	4- ft	5- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00
BTEX by EPA 8021B	Extracted:	Feb-26-18 16:45	Feb-26-18 16:45	Feb-26-18 16:45	Feb-26-18 16:45	Feb-26-18 16:45	Feb-26-18 16:45
	Analyzed:	Feb-27-18 01:52	Feb-27-18 02:50	Feb-27-18 03:09	Feb-27-18 03:28	Feb-27-18 03:47	Feb-27-18 04:06
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Toluene		<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Ethylbenzene		<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
m,p-Xylenes		<0.00398 0.00398	<0.00403 0.00403	<0.00397 0.00397	<0.00396 0.00396	<0.00399 0.00399	<0.00402 0.00402
o-Xylene		<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Total Xylenes		<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Total BTEX		<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201
Chloride by EPA 300	Extracted:	Feb-27-18 17:00	Feb-27-18 17:00	Mar-02-18 09:00	Mar-02-18 09:00	Mar-02-18 09:00	Mar-06-18 17:00
	Analyzed:	Feb-27-18 22:35	Feb-27-18 22:40	Mar-02-18 11:24	Mar-02-18 11:29	Mar-02-18 11:35	Mar-06-18 21:54
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		3540 25.0	4040 25.0	4530 50.0	7040 50.0	7100 49.8	5160 50.0
TPH By SW8015 Mod	Extracted:	Feb-27-18 15:00	Feb-27-18 15:00	Feb-27-18 15:00	Feb-27-18 15:00	Feb-27-18 15:00	Feb-27-18 15:00
	Analyzed:	Feb-28-18 03:02	Feb-28-18 03:26	Feb-28-18 03:51	Feb-28-18 04:19	Feb-28-18 04:44	Feb-28-18 05:10
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	24.7 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	24.7 15.0	<15.0 15.0

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Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 577419

COG Operating LLC, Artesia, NM

Project Name: Eata Fajita 1-5 CTB



Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea County

Date Received in Lab: Mon Feb-26-18 07:45 am

Report Date: 09-MAR-18

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	577419-019	577419-020	577419-021	577419-022	577419-023	577419-024
	Field Id:	T-2	T-2	T-2	T-2	T-2	T-2
	Depth:	6- ft	8- ft	10- ft	11- ft	12- ft	13- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00
BTEX by EPA 8021B	Extracted:	Feb-26-18 16:45	Feb-26-18 16:45	Feb-26-18 16:45	Feb-26-18 16:45	Feb-26-18 16:45	Feb-27-18 09:30
	Analyzed:	Feb-27-18 04:25	Feb-27-18 04:44	Feb-27-18 05:03	Feb-27-18 05:22	Feb-27-18 05:41	Feb-27-18 10:14
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
m,p-Xylenes		<0.00402 0.00402	<0.00401 0.00401	<0.00398 0.00398	<0.00397 0.00397	<0.00402 0.00402	<0.00403 0.00403
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
Chloride by EPA 300	Extracted:	Mar-07-18 18:00	Mar-07-18 18:00	Mar-07-18 18:30	Mar-07-18 18:30	Mar-07-18 18:30	Mar-07-18 18:30
	Analyzed:	*** ** *	*** ** ** *	Mar-08-18 13:22	Mar-08-18 13:27	Mar-08-18 13:06	Mar-08-18 13:11
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		8460 49.1	10100 100	4170 49.8	1260 24.8	2730 24.7	1730 24.7
TPH By SW8015 Mod	Extracted:	Feb-27-18 15:00	Feb-27-18 15:00	Feb-28-18 08:00	Feb-28-18 08:00	Feb-28-18 08:00	Feb-28-18 08:00
	Analyzed:	Feb-28-18 05:37	Feb-28-18 06:02	Feb-28-18 09:14	Feb-28-18 10:32	Feb-28-18 13:26	Feb-28-18 13:52
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	106 15.0	<15.0 15.0	64.4 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	257 15.0	230 15.0	103 15.0	872 15.0
Total TPH		<15.0 15.0	<15.0 15.0	257 15.0	336 15.0	103 15.0	936 15.0

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Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 577419

COG Operating LLC, Artesia, NM

Project Name: Eata Fajita 1-5 CTB



Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea County

Date Received in Lab: Mon Feb-26-18 07:45 am

Report Date: 09-MAR-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	577419-025	577419-026	577419-027	577419-028	577419-029	577419-030
	<i>Field Id:</i>	T-2	T-3	T-3	T-3	T-3	T-3
	<i>Depth:</i>	14- ft		1- ft	2- ft	3- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-27-18 09:30	Feb-27-18 09:30	Feb-27-18 09:30	Feb-27-18 09:30	Feb-27-18 09:30	Feb-28-18 15:00
	<i>Analyzed:</i>	Feb-27-18 10:53	Feb-27-18 11:12	Feb-27-18 11:29	Feb-27-18 11:48	Feb-27-18 12:08	Mar-01-18 01:04
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
m,p-Xylenes		<0.00401 0.00401	<0.00398 0.00398	<0.00399 0.00399	<0.00402 0.00402	<0.00402 0.00402	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	Mar-07-18 18:30	Feb-27-18 18:00	Feb-27-18 18:00	Mar-02-18 09:00	Mar-02-18 09:00	Mar-02-18 09:00
	<i>Analyzed:</i>	Mar-08-18 13:16	Feb-27-18 18:56	Feb-27-18 19:26	Mar-02-18 11:40	Mar-02-18 11:45	Mar-02-18 12:06
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		2520 24.7	3200 25.0	3080 25.0	5120 49.9	4710 50.0	7460 50.0
TPH By SW8015 Mod	<i>Extracted:</i>	Feb-28-18 08:00	Feb-28-18 08:00	Feb-28-18 08:00	Feb-28-18 08:00	Feb-28-18 08:00	Feb-28-18 08:00
	<i>Analyzed:</i>	Feb-28-18 14:17	Feb-28-18 14:45	Feb-28-18 15:11	Feb-28-18 15:36	Feb-28-18 16:02	Feb-28-18 16:28
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		71.8 15.0	71.2 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	121 15.0
Total TPH		71.8 15.0	71.2 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	121 15.0

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

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Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 577419

COG Operating LLC, Artesia, NM

Project Name: Eata Fajita 1-5 CTB



Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea County

Date Received in Lab: Mon Feb-26-18 07:45 am

Report Date: 09-MAR-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	577419-031	577419-032	577419-034	577419-035	577419-036	577419-037
	<i>Field Id:</i>	T-3	T-3	T-3	T-3	T-3	NORTH
	<i>Depth:</i>	5- ft	6- ft	8- ft	10- ft	11- ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-28-18 15:00	Feb-27-18 16:00	Feb-27-18 16:00	Feb-27-18 16:00	Feb-27-18 16:00	Feb-26-18 17:15
	<i>Analyzed:</i>	Mar-01-18 01:23	Feb-28-18 02:45	Feb-28-18 01:28	Feb-28-18 01:09	Feb-28-18 00:50	Feb-28-18 13:05
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00330 0.00330
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00330 0.00330
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00330 0.00330
m,p-Xylenes		<0.00398 0.00398	<0.00399 0.00399	<0.00403 0.00403	<0.00398 0.00398	<0.00396 0.00396	<0.00660 0.00660
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00330 0.00330
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00330 0.00330
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00330 0.00330
Chloride by EPA 300	<i>Extracted:</i>	Mar-06-18 17:00	Mar-07-18 18:00	Mar-07-18 18:30	Mar-07-18 18:30	Mar-09-18 08:00	Feb-27-18 18:00
	<i>Analyzed:</i>	Mar-06-18 21:59	** ** *	Mar-08-18 13:48	Mar-08-18 13:53	Mar-09-18 14:40	Feb-27-18 19:33
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		8100 49.7	5350 49.8	6820 49.1	999 4.95	1490 24.7	18.8 5.00
TPH By SW8015 Mod	<i>Extracted:</i>	Feb-28-18 08:00	Feb-28-18 08:00	Mar-01-18 12:00	Mar-01-18 12:00	Mar-01-18 12:00	Mar-01-18 12:00
	<i>Analyzed:</i>	Feb-28-18 17:44	Feb-28-18 18:12	Mar-01-18 17:59	Mar-01-18 18:24	Mar-01-18 18:52	Mar-01-18 19:17
	<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 (GRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		129 14.9	105 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		129 14.9	105 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 577419

COG Operating LLC, Artesia, NM

Project Name: Eata Fajita 1-5 CTB



Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea County

Date Received in Lab: Mon Feb-26-18 07:45 am

Report Date: 09-MAR-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	577419-038	577419-039	577419-040			
	<i>Field Id:</i>	SOUTH	EAST	WEST			
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Feb-19-18 00:00	Feb-19-18 00:00	Feb-19-18 00:00			
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-27-18 16:00	Feb-26-18 17:15	Feb-27-18 16:00			
	<i>Analyzed:</i>	Feb-28-18 00:12	Feb-28-18 13:24	Feb-27-18 22:55			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00200 0.00200	<0.00340 0.00340	<0.00201 0.00201			
Toluene		<0.00200 0.00200	<0.00340 0.00340	<0.00201 0.00201			
Ethylbenzene		<0.00200 0.00200	<0.00340 0.00340	<0.00201 0.00201			
m,p-Xylenes		<0.00401 0.00401	<0.00680 0.00680	<0.00402 0.00402			
o-Xylene		<0.00200 0.00200	<0.00340 0.00340	<0.00201 0.00201			
Total Xylenes		<0.00200 0.00200	<0.00340 0.00340	<0.00201 0.00201			
Total BTEX		<0.00200 0.00200	<0.00340 0.00340	<0.00201 0.00201			
Chloride by EPA 300	<i>Extracted:</i>	Feb-27-18 18:00	Feb-27-18 18:00	Feb-27-18 18:00			
	<i>Analyzed:</i>	Feb-27-18 19:55	Feb-27-18 20:02	Feb-27-18 20:10			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		18.7 5.00	<5.00 5.00	11.8 4.97			
TPH By SW8015 Mod	<i>Extracted:</i>	Mar-01-18 12:00	Mar-01-18 12:00	Mar-01-18 12:00			
	<i>Analyzed:</i>	Mar-01-18 20:34	Mar-01-18 21:01	Mar-01-18 21:26			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9			
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9			
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<14.9 14.9			
Total TPH		<15.0 15.0	<15.0 15.0	<14.9 14.9			

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Version: 1.0%

Jessica Kramer

Jessica Kramer
Project Assistant

Analytical Report 577419

for COG Operating LLC

Project Manager: Sheldon Hitchcock

Eata Fajita 1-5 CTB

09-MAR-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Dallas (EPA Lab code: TX01468):

Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

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

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

Xenco-Atlanta (LELAP Lab ID #04176)



09-MAR-18

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

Reference: XENCO Report No(s): **577419**
Eata Fajita 1-5 CTB
Project Address: Lea County

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) 577419. 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. 577419 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Assistant

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Sample Cross Reference 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1	S	02-19-18 00:00		577419-001
T-1	S	02-19-18 00:00	1 ft	577419-002
T-1	S	02-19-18 00:00	2 ft	577419-003
T-1	S	02-19-18 00:00	3 ft	577419-004
T-1	S	02-19-18 00:00	4 ft	577419-005
T-1	S	02-19-18 00:00	5 ft	577419-006
T-1	S	02-19-18 00:00	6 ft	577419-007
T-1	S	02-19-18 00:00	8 ft	577419-008
T-1	S	02-19-18 00:00	10 ft	577419-009
T-1	S	02-19-18 00:00	12 ft	577419-010
T-1	S	02-19-18 00:00	12.5 ft	577419-011
T-1	S	02-19-18 00:00	14 ft	577419-012
T-2	S	02-19-18 00:00	N/A	577419-013
T-2	S	02-19-18 00:00	1 ft	577419-014
T-2	S	02-19-18 00:00	2 ft	577419-015
T-2	S	02-19-18 00:00	3 ft	577419-016
T-2	S	02-19-18 00:00	4 ft	577419-017
T-2	S	02-19-18 00:00	5 ft	577419-018
T-2	S	02-19-18 00:00	6 ft	577419-019
T-2	S	02-19-18 00:00	8 ft	577419-020
T-2	S	02-19-18 00:00	10 ft	577419-021
T-2	S	02-19-18 00:00	11 ft	577419-022
T-2	S	02-19-18 00:00	12 ft	577419-023
T-2	S	02-19-18 00:00	13 ft	577419-024
T-2	S	02-19-18 00:00	14 ft	577419-025
T-3	S	02-19-18 00:00	N/A	577419-026
T-3	S	02-19-18 00:00	1 ft	577419-027
T-3	S	02-19-18 00:00	2 ft	577419-028
T-3	S	02-19-18 00:00	3 ft	577419-029
T-3	S	02-19-18 00:00	4 ft	577419-030
T-3	S	02-19-18 00:00	5 ft	577419-031
T-3	S	02-19-18 00:00	6 ft	577419-032
T-3	S	02-19-18 00:00	8 ft	577419-034
T-3	S	02-19-18 00:00	10 ft	577419-035
T-3	S	02-19-18 00:00	11 ft	577419-036
NORTH	S	02-19-18 00:00	N/A	577419-037
SOUTH	S	02-19-18 00:00	N/A	577419-038
EAST	S	02-19-18 00:00	N/A	577419-039
WEST	S	02-19-18 00:00	N/A	577419-040
T-3	S	02-19-18 00:00	7 ft	Not Analyzed



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Eata Fajita 1-5 CTB

Project ID:
Work Order Number(s): 577419

Report Date: 09-MAR-18
Date Received: 02/26/2018

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3042157 BTEX by EPA 8021B

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

Batch: LBA-3042343 BTEX by EPA 8021B

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

Lab Sample ID 577419-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).

Benzene recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference.

Samples in the analytical batch are: 577419-004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020, -021, -022, -023.

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

Batch: LBA-3042447 BTEX by EPA 8021B

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



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-001

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3042453

Prep Method: E300P

% Moisture:

Date Prep: 02.27.18 17.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3410	25.0	mg/kg	02.27.18 22.24		5

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042363

Prep Method: TX1005P

% Moisture:

Date Prep: 02.27.18 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.27.18 20.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.27.18 20.12	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.27.18 20.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.27.18 20.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	99	%	70-135	02.27.18 20.12		
o-Terphenyl	84-15-1	100	%	70-135	02.27.18 20.12		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-001

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.28.18 15.00

Basis: Wet Weight

Seq Number: 3042447

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.28.18 23.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.28.18 23.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.28.18 23.31	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.28.18 23.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.28.18 23.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.28.18 23.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.28.18 23.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	70-130	02.28.18 23.31		
1,4-Difluorobenzene	540-36-3	82	%	70-130	02.28.18 23.31		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-002

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3042453

Prep Method: E300P
% Moisture:
Date Prep: 02.27.18 17.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3510	25.0	mg/kg	02.27.18 22.30		5

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042363

Prep Method: TX1005P
% Moisture:
Date Prep: 02.27.18 15.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.27.18 21.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.27.18 21.26	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.27.18 21.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.27.18 21.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	101	%	70-135	02.27.18 21.26		
o-Terphenyl	84-15-1	103	%	70-135	02.27.18 21.26		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-002

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.26.18 10.00

Basis: Wet Weight

Seq Number: 3042157

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.26.18 17.18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.26.18 17.18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.26.18 17.18	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.26.18 17.18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.26.18 17.18	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.26.18 17.18	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.26.18 17.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	80-120	02.26.18 17.18		
1,4-Difluorobenzene	540-36-3	85	%	80-120	02.26.18 17.18		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-003

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3042826

Date Prep: 03.02.18 09.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	531	4.96	mg/kg	03.02.18 11.03		1

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.27.18 21.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.27.18 21.54	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.27.18 21.54	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.27.18 21.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	99	%	70-135	02.27.18 21.54		
o-Terphenyl	84-15-1	100	%	70-135	02.27.18 21.54		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-003

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.26.18 10.00

Basis: Wet Weight

Seq Number: 3042157

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.26.18 17.37	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.26.18 17.37	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.26.18 17.37	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.26.18 17.37	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.26.18 17.37	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.26.18 17.37	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.26.18 17.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	84	%	80-120	02.26.18 17.37		
4-Bromofluorobenzene	460-00-4	105	%	80-120	02.26.18 17.37		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-004

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 3 ft

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.27.18 22.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.27.18 22.20	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.27.18 22.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.27.18 22.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.27.18 22.20	
o-Terphenyl	84-15-1	99	%	70-135	02.27.18 22.20	

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3042343

Date Prep: 02.26.18 16.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.26.18 23.00	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.26.18 23.00	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.26.18 23.00	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.26.18 23.00	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.26.18 23.00	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.26.18 23.00	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.26.18 23.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	86	%	70-130	02.26.18 23.00	
4-Bromofluorobenzene	460-00-4	107	%	70-130	02.26.18 23.00	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-005

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 4 ft

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.27.18 22.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.27.18 22.45	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.27.18 22.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.27.18 22.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	02.27.18 22.45	
o-Terphenyl	84-15-1	113	%	70-135	02.27.18 22.45	

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3042343

Date Prep: 02.26.18 16.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.26.18 23.19	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.26.18 23.19	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.26.18 23.19	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.26.18 23.19	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.26.18 23.19	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.26.18 23.19	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.26.18 23.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	86	%	70-130	02.26.18 23.19	
4-Bromofluorobenzene	460-00-4	116	%	70-130	02.26.18 23.19	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-006

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 5 ft

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.27.18 23.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.27.18 23.11	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.27.18 23.11	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.27.18 23.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	02.27.18 23.11	
o-Terphenyl	84-15-1	111	%	70-135	02.27.18 23.11	

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3042343

Date Prep: 02.26.18 16.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.26.18 23.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.26.18 23.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.26.18 23.38	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.26.18 23.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.26.18 23.38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.26.18 23.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.26.18 23.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	02.26.18 23.38	
1,4-Difluorobenzene	540-36-3	83	%	70-130	02.26.18 23.38	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-007

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 6 ft

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.27.18 23.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.27.18 23.37	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.27.18 23.37	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.27.18 23.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.27.18 23.37	
o-Terphenyl	84-15-1	105	%	70-135	02.27.18 23.37	

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3042343

Date Prep: 02.26.18 16.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.26.18 23.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.26.18 23.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.26.18 23.57	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.26.18 23.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.26.18 23.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.26.18 23.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.26.18 23.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	02.26.18 23.57	
1,4-Difluorobenzene	540-36-3	84	%	70-130	02.26.18 23.57	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-008

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 8 ft

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 00.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 00.02	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 00.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.18 00.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.28.18 00.02	
o-Terphenyl	84-15-1	100	%	70-135	02.28.18 00.02	

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3042343

Date Prep: 02.26.18 16.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.27.18 00.17	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.27.18 00.17	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.27.18 00.17	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.27.18 00.17	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.27.18 00.17	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.27.18 00.17	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.27.18 00.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	86	%	70-130	02.27.18 00.17	
4-Bromofluorobenzene	460-00-4	111	%	70-130	02.27.18 00.17	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-009

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 10 ft

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 00.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 00.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 00.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.18 00.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	02.28.18 00.28	
o-Terphenyl	84-15-1	110	%	70-135	02.28.18 00.28	

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3042343

Date Prep: 02.26.18 16.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.27.18 00.36	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.27.18 00.36	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.27.18 00.36	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.27.18 00.36	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.27.18 00.36	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.27.18 00.36	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.27.18 00.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	81	%	70-130	02.27.18 00.36	
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.27.18 00.36	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-010

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 12 ft

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.28.18 00.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.28.18 00.53	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.28.18 00.53	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.28.18 00.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.28.18 00.53	
o-Terphenyl	84-15-1	106	%	70-135	02.28.18 00.53	

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3042343

Date Prep: 02.26.18 16.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.27.18 00.55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.27.18 00.55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.27.18 00.55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.27.18 00.55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.27.18 00.55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.27.18 00.55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.27.18 00.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	78	%	70-130	02.27.18 00.55	
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.27.18 00.55	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-011

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 12.5 ft

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 02.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 02.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 02.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.18 02.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	02.28.18 02.10	
o-Terphenyl	84-15-1	111	%	70-135	02.28.18 02.10	

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3042343

Date Prep: 02.26.18 16.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.27.18 01.14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.27.18 01.14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.27.18 01.14	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.27.18 01.14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.27.18 01.14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.27.18 01.14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.27.18 01.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	89	%	70-130	02.27.18 01.14	
4-Bromofluorobenzene	460-00-4	103	%	70-130	02.27.18 01.14	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-1
Lab Sample Id: 577419-012

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 14 ft

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 02.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 02.35	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 02.35	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.18 02.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	02.28.18 02.35	
o-Terphenyl	84-15-1	113	%	70-135	02.28.18 02.35	

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3042343

Date Prep: 02.26.18 16.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.27.18 01.33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.27.18 01.33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.27.18 01.33	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.27.18 01.33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.27.18 01.33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.27.18 01.33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.27.18 01.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	02.27.18 01.33	
1,4-Difluorobenzene	540-36-3	84	%	70-130	02.27.18 01.33	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-013

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3042453

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 02.27.18 17.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3540	25.0	mg/kg	02.27.18 22.35		5

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042363

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 02.27.18 15.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 03.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 03.02	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 03.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.18 03.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	97	%	70-135	02.28.18 03.02		
o-Terphenyl	84-15-1	97	%	70-135	02.28.18 03.02		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-013

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.26.18 16.45

Basis: Wet Weight

Seq Number: 3042343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.27.18 01.52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.27.18 01.52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.27.18 01.52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.27.18 01.52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.27.18 01.52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.27.18 01.52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.27.18 01.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	85	%	70-130	02.27.18 01.52		
4-Bromofluorobenzene	460-00-4	109	%	70-130	02.27.18 01.52		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-014

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3042453

Date Prep: 02.27.18 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4040	25.0	mg/kg	02.27.18 22.40		5

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 03.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 03.26	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 03.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.18 03.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	112	%	70-135	02.28.18 03.26		
o-Terphenyl	84-15-1	114	%	70-135	02.28.18 03.26		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-014

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.26.18 16.45

Basis: Wet Weight

Seq Number: 3042343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.27.18 02.50	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.27.18 02.50	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.27.18 02.50	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.27.18 02.50	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.27.18 02.50	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.27.18 02.50	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.27.18 02.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	84	%	70-130	02.27.18 02.50		
4-Bromofluorobenzene	460-00-4	110	%	70-130	02.27.18 02.50		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-015

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3042826

Date Prep: 03.02.18 09.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4530	50.0	mg/kg	03.02.18 11.24		10

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 03.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 03.51	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 03.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.18 03.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	109	%	70-135	02.28.18 03.51		
o-Terphenyl	84-15-1	108	%	70-135	02.28.18 03.51		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-015

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3042343

Date Prep: 02.26.18 16.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.27.18 03.09	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.27.18 03.09	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.27.18 03.09	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.27.18 03.09	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.27.18 03.09	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.27.18 03.09	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.27.18 03.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	02.27.18 03.09		
1,4-Difluorobenzene	540-36-3	89	%	70-130	02.27.18 03.09		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-016

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3042826

Date Prep: 03.02.18 09.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7040	50.0	mg/kg	03.02.18 11.29		10

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 04.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 04.19	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 04.19	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.18 04.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.28.18 04.19	
o-Terphenyl	84-15-1	99	%	70-135	02.28.18 04.19	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-016

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3042343

Date Prep: 02.26.18 16.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.27.18 03.28	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.27.18 03.28	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.27.18 03.28	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	02.27.18 03.28	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.27.18 03.28	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.27.18 03.28	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.27.18 03.28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.27.18 03.28		
1,4-Difluorobenzene	540-36-3	87	%	70-130	02.27.18 03.28		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-017

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3042826

Date Prep: 03.02.18 09.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7100	49.8	mg/kg	03.02.18 11.35		10

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 04.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	24.7	15.0	mg/kg	02.28.18 04.44		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 04.44	U	1
Total TPH	PHC635	24.7	15.0	mg/kg	02.28.18 04.44		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	111	%	70-135	02.28.18 04.44		
o-Terphenyl	84-15-1	114	%	70-135	02.28.18 04.44		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-017

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.26.18 16.45

Basis: Wet Weight

Seq Number: 3042343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.27.18 03.47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.27.18 03.47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.27.18 03.47	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.27.18 03.47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.27.18 03.47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.27.18 03.47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.27.18 03.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.27.18 03.47		
1,4-Difluorobenzene	540-36-3	86	%	70-130	02.27.18 03.47		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-018

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043018

Date Prep: 03.06.18 17.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5160	50.0	mg/kg	03.06.18 21.54		10

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 05.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 05.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 05.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.18 05.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	97	%	70-135	02.28.18 05.10		
o-Terphenyl	84-15-1	99	%	70-135	02.28.18 05.10		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-018

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.26.18 16.45

Basis: Wet Weight

Seq Number: 3042343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.27.18 04.06	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.27.18 04.06	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.27.18 04.06	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.27.18 04.06	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.27.18 04.06	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.27.18 04.06	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.27.18 04.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	86	%	70-130	02.27.18 04.06		
4-Bromofluorobenzene	460-00-4	104	%	70-130	02.27.18 04.06		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-019

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3043098

Date Prep: 03.07.18 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8460	49.1	mg/kg	03.07.18 17.06		10

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 05.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 05.37	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 05.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.18 05.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	98	%	70-135	02.28.18 05.37		
o-Terphenyl	84-15-1	100	%	70-135	02.28.18 05.37		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-019

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.26.18 16.45

Basis: Wet Weight

Seq Number: 3042343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.27.18 04.25	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.27.18 04.25	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.27.18 04.25	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.27.18 04.25	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.27.18 04.25	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.27.18 04.25	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.27.18 04.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.27.18 04.25		
1,4-Difluorobenzene	540-36-3	83	%	70-130	02.27.18 04.25		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-020

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043098

Date Prep: 03.07.18 18.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10100	100	mg/kg	03.07.18 17.11		20

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042363

Date Prep: 02.27.18 15.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 06.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 06.02	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 06.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.18 06.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	02.28.18 06.02		
o-Terphenyl	84-15-1	107	%	70-135	02.28.18 06.02		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-020

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.26.18 16.45

Basis: Wet Weight

Seq Number: 3042343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.27.18 04.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.27.18 04.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.27.18 04.44	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.27.18 04.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.27.18 04.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.27.18 04.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.27.18 04.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	83	%	70-130	02.27.18 04.44		
4-Bromofluorobenzene	460-00-4	103	%	70-130	02.27.18 04.44		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-021

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043154

Date Prep: 03.07.18 18.30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4170	49.8	mg/kg	03.08.18 13.22		10

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042497

Date Prep: 02.28.18 08.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 09.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 09.14	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	257	15.0	mg/kg	02.28.18 09.14		1
Total TPH	PHC635	257	15.0	mg/kg	02.28.18 09.14		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	95	%	70-135	02.28.18 09.14		
o-Terphenyl	84-15-1	84	%	70-135	02.28.18 09.14		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-021

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.26.18 16.45

Basis: Wet Weight

Seq Number: 3042343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.27.18 05.03	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.27.18 05.03	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.27.18 05.03	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.27.18 05.03	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.27.18 05.03	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.27.18 05.03	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.27.18 05.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	02.27.18 05.03		
1,4-Difluorobenzene	540-36-3	82	%	70-130	02.27.18 05.03		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-022

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 11 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043154

Date Prep: 03.07.18 18.30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1260	24.8	mg/kg	03.08.18 13.27		5

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042497

Date Prep: 02.28.18 08.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 10.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	106	15.0	mg/kg	02.28.18 10.32		1
Oil Range Hydrocarbons (ORO)	PHCG2835	230	15.0	mg/kg	02.28.18 10.32		1
Total TPH	PHC635	336	15.0	mg/kg	02.28.18 10.32		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	99	%	70-135	02.28.18 10.32		
o-Terphenyl	84-15-1	89	%	70-135	02.28.18 10.32		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-022

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 11 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.26.18 16.45

Basis: Wet Weight

Seq Number: 3042343

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.27.18 05.22	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.27.18 05.22	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.27.18 05.22	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.27.18 05.22	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.27.18 05.22	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.27.18 05.22	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.27.18 05.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.27.18 05.22		
1,4-Difluorobenzene	540-36-3	83	%	70-130	02.27.18 05.22		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-023

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 12 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043154

Date Prep: 03.07.18 18.30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2730	24.7	mg/kg	03.08.18 13.06		5

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042497

Date Prep: 02.28.18 08.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 13.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 13.26	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	103	15.0	mg/kg	02.28.18 13.26		1
Total TPH	PHC635	103	15.0	mg/kg	02.28.18 13.26		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	102	%	70-135	02.28.18 13.26		
o-Terphenyl	84-15-1	97	%	70-135	02.28.18 13.26		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-023

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 12 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3042343

Date Prep: 02.26.18 16.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.27.18 05.41	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.27.18 05.41	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.27.18 05.41	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.27.18 05.41	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.27.18 05.41	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.27.18 05.41	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.27.18 05.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	02.27.18 05.41		
1,4-Difluorobenzene	540-36-3	83	%	70-130	02.27.18 05.41		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-024

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 13 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043154

Date Prep: 03.07.18 18.30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1730	24.7	mg/kg	03.08.18 13.11		5

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042497

Date Prep: 02.28.18 08.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 13.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	64.4	15.0	mg/kg	02.28.18 13.52		1
Oil Range Hydrocarbons (ORO)	PHCG2835	872	15.0	mg/kg	02.28.18 13.52		1
Total TPH	PHC635	936	15.0	mg/kg	02.28.18 13.52		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	02.28.18 13.52		
o-Terphenyl	84-15-1	70	%	70-135	02.28.18 13.52		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-024

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 13 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.27.18 09.30

Basis: Wet Weight

Seq Number: 3042346

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.27.18 10.14	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.27.18 10.14	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.27.18 10.14	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.27.18 10.14	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.27.18 10.14	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.27.18 10.14	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.27.18 10.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	02.27.18 10.14		
1,4-Difluorobenzene	540-36-3	84	%	70-130	02.27.18 10.14		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-025

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 14 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043154

Date Prep: 03.07.18 18.30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2520	24.7	mg/kg	03.08.18 13.16		5

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042497

Date Prep: 02.28.18 08.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 14.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 14.17	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	71.8	15.0	mg/kg	02.28.18 14.17		1
Total TPH	PHC635	71.8	15.0	mg/kg	02.28.18 14.17		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	92	%	70-135	02.28.18 14.17		
o-Terphenyl	84-15-1	94	%	70-135	02.28.18 14.17		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-2
Lab Sample Id: 577419-025

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 14 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.27.18 09.30

Basis: Wet Weight

Seq Number: 3042346

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.27.18 10.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.27.18 10.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.27.18 10.53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.27.18 10.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.27.18 10.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.27.18 10.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.27.18 10.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.27.18 10.53		
1,4-Difluorobenzene	540-36-3	82	%	70-130	02.27.18 10.53		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-026

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3042371

Prep Method: E300P

% Moisture:

Date Prep: 02.27.18 18.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3200	25.0	mg/kg	02.27.18 18.56		5

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042497

Prep Method: TX1005P

% Moisture:

Date Prep: 02.28.18 08.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 14.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 14.45	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	71.2	15.0	mg/kg	02.28.18 14.45		1
Total TPH	PHC635	71.2	15.0	mg/kg	02.28.18 14.45		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.28.18 14.45	
o-Terphenyl	84-15-1	119	%	70-135	02.28.18 14.45	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-026

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.27.18 09.30

Basis: Wet Weight

Seq Number: 3042346

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.27.18 11.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.27.18 11.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.27.18 11.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.27.18 11.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.27.18 11.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.27.18 11.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.27.18 11.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	84	%	70-130	02.27.18 11.12		
4-Bromofluorobenzene	460-00-4	107	%	70-130	02.27.18 11.12		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-027

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3042371

Date Prep: 02.27.18 18.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3080	25.0	mg/kg	02.27.18 19.26		5

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042497

Date Prep: 02.28.18 08.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 15.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 15.11	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 15.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.18 15.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	95	%	70-135	02.28.18 15.11		
o-Terphenyl	84-15-1	91	%	70-135	02.28.18 15.11		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-027

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.27.18 09.30

Basis: Wet Weight

Seq Number: 3042346

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.27.18 11.29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.27.18 11.29	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.27.18 11.29	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.27.18 11.29	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.27.18 11.29	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.27.18 11.29	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.27.18 11.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	79	%	70-130	02.27.18 11.29		
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.27.18 11.29		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3 Matrix: Soil Date Received: 02.26.18 07.45
Lab Sample Id: 577419-028 Date Collected: 02.19.18 00.00 Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 03.02.18 09.00 Basis: Wet Weight
Seq Number: 3042826

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5120	49.9	mg/kg	03.02.18 11.40		10

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.28.18 08.00 Basis: Wet Weight
Seq Number: 3042497

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.28.18 15.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.28.18 15.36	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.28.18 15.36	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.28.18 15.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-135	02.28.18 15.36		
o-Terphenyl	84-15-1	93	%	70-135	02.28.18 15.36		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-028

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.27.18 09.30

Basis: Wet Weight

Seq Number: 3042346

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.27.18 11.48	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.27.18 11.48	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.27.18 11.48	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.27.18 11.48	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.27.18 11.48	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.27.18 11.48	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.27.18 11.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	02.27.18 11.48		
1,4-Difluorobenzene	540-36-3	81	%	70-130	02.27.18 11.48		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-029

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3042826

Date Prep: 03.02.18 09.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4710	50.0	mg/kg	03.02.18 11.45		10

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042497

Date Prep: 02.28.18 08.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 16.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 16.02	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.28.18 16.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.28.18 16.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	97	%	70-135	02.28.18 16.02		
o-Terphenyl	84-15-1	96	%	70-135	02.28.18 16.02		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-029

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.27.18 09.30

Basis: Wet Weight

Seq Number: 3042346

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.27.18 12.08	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.27.18 12.08	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.27.18 12.08	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.27.18 12.08	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.27.18 12.08	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.27.18 12.08	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.27.18 12.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.27.18 12.08		
1,4-Difluorobenzene	540-36-3	82	%	70-130	02.27.18 12.08		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-030

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3042826

Date Prep: 03.02.18 09.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7460	50.0	mg/kg	03.02.18 12.06		10

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042497

Date Prep: 02.28.18 08.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 16.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 16.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	121	15.0	mg/kg	02.28.18 16.28		1
Total TPH	PHC635	121	15.0	mg/kg	02.28.18 16.28		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	100	%	70-135	02.28.18 16.28		
o-Terphenyl	84-15-1	99	%	70-135	02.28.18 16.28		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-030

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.28.18 15.00

Basis: Wet Weight

Seq Number: 3042447

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.01.18 01.04	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.01.18 01.04	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.01.18 01.04	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.01.18 01.04	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.01.18 01.04	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.01.18 01.04	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.01.18 01.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	84	%	70-130	03.01.18 01.04		
4-Bromofluorobenzene	460-00-4	103	%	70-130	03.01.18 01.04		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-031

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043018

Date Prep: 03.06.18 17.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8100	49.7	mg/kg	03.06.18 21.59		10

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042497

Date Prep: 02.28.18 08.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.28.18 17.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.28.18 17.44	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	129	14.9	mg/kg	02.28.18 17.44		1
Total TPH	PHC635	129	14.9	mg/kg	02.28.18 17.44		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	02.28.18 17.44		
o-Terphenyl	84-15-1	117	%	70-135	02.28.18 17.44		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-031

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.28.18 15.00

Basis: Wet Weight

Seq Number: 3042447

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.01.18 01.23	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.01.18 01.23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.01.18 01.23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.01.18 01.23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.01.18 01.23	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.01.18 01.23	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.01.18 01.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	85	%	70-130	03.01.18 01.23		
4-Bromofluorobenzene	460-00-4	110	%	70-130	03.01.18 01.23		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-032

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043098

Date Prep: 03.07.18 18.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5350	49.8	mg/kg	03.07.18 17.17		10

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042497

Date Prep: 02.28.18 08.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.28.18 18.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.28.18 18.12	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	105	15.0	mg/kg	02.28.18 18.12		1
Total TPH	PHC635	105	15.0	mg/kg	02.28.18 18.12		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.28.18 18.12	
o-Terphenyl	84-15-1	126	%	70-135	02.28.18 18.12	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-032

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.27.18 16.00

Basis: Wet Weight

Seq Number: 3042347

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.28.18 02.45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.28.18 02.45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.28.18 02.45	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.28.18 02.45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.28.18 02.45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.28.18 02.45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.28.18 02.45	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109		%	70-130	02.28.18 02.45	
1,4-Difluorobenzene	540-36-3	91		%	70-130	02.28.18 02.45	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-034

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3043154

Date Prep: 03.07.18 18.30

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6820	49.1	mg/kg	03.08.18 13.48		10

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042633

Date Prep: 03.01.18 12.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.18 17.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.18 17.59	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.01.18 17.59	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.18 17.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	96	%	70-135	03.01.18 17.59		
o-Terphenyl	84-15-1	99	%	70-135	03.01.18 17.59		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-034

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.27.18 16.00

Basis: Wet Weight

Seq Number: 3042347

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.28.18 01.28	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.28.18 01.28	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.28.18 01.28	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.28.18 01.28	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.28.18 01.28	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.28.18 01.28	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.28.18 01.28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	70-130	02.28.18 01.28		
1,4-Difluorobenzene	540-36-3	82	%	70-130	02.28.18 01.28		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3 Matrix: Soil Date Received: 02.26.18 07.45
Lab Sample Id: 577419-035 Date Collected: 02.19.18 00.00 Sample Depth: 10 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: OJS % Moisture:
Analyst: OJS Date Prep: 03.07.18 18.30 Basis: Wet Weight
Seq Number: 3043154

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	999	4.95	mg/kg	03.08.18 13.53		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 03.01.18 12.00 Basis: Wet Weight
Seq Number: 3042633

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.18 18.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.18 18.24	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.01.18 18.24	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.18 18.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	03.01.18 18.24	
o-Terphenyl	84-15-1	106	%	70-135	03.01.18 18.24	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-035

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3042347

Date Prep: 02.27.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.28.18 01.09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.28.18 01.09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.28.18 01.09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.28.18 01.09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.28.18 01.09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.28.18 01.09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.28.18 01.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	78	%	70-130	02.28.18 01.09		
4-Bromofluorobenzene	460-00-4	104	%	70-130	02.28.18 01.09		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-036

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 11 ft

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3043254

Date Prep: 03.09.18 08.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1490	24.7	mg/kg	03.09.18 14.40		5

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042633

Date Prep: 03.01.18 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.18 18.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.18 18.52	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.01.18 18.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.18 18.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	03.01.18 18.52	
o-Terphenyl	84-15-1	97	%	70-135	03.01.18 18.52	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: T-3
Lab Sample Id: 577419-036

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45
Sample Depth: 11 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.27.18 16.00

Basis: Wet Weight

Seq Number: 3042347

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.28.18 00.50	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.28.18 00.50	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.28.18 00.50	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	02.28.18 00.50	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.28.18 00.50	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.28.18 00.50	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.28.18 00.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	02.28.18 00.50		
1,4-Difluorobenzene	540-36-3	89	%	70-130	02.28.18 00.50		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: **NORTH**
Lab Sample Id: 577419-037

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3042371

Prep Method: E300P

% Moisture:

Date Prep: 02.27.18 18.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.8	5.00	mg/kg	02.27.18 19.33		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042633

Prep Method: TX1005P

% Moisture:

Date Prep: 03.01.18 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.18 19.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.18 19.17	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.01.18 19.17	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.18 19.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	93	%	70-135	03.01.18 19.17		
o-Terphenyl	84-15-1	89	%	70-135	03.01.18 19.17		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: **NORTH**
Lab Sample Id: 577419-037

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.26.18 17.15

Basis: Wet Weight

Seq Number: 3042388

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00330	0.00330	mg/kg	02.28.18 13.05	U	1
Toluene	108-88-3	<0.00330	0.00330	mg/kg	02.28.18 13.05	U	1
Ethylbenzene	100-41-4	<0.00330	0.00330	mg/kg	02.28.18 13.05	U	1
m,p-Xylenes	179601-23-1	<0.00660	0.00660	mg/kg	02.28.18 13.05	U	1
o-Xylene	95-47-6	<0.00330	0.00330	mg/kg	02.28.18 13.05	U	1
Total Xylenes	1330-20-7	<0.00330	0.00330	mg/kg	02.28.18 13.05	U	1
Total BTEX		<0.00330	0.00330	mg/kg	02.28.18 13.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	84	%	70-130	02.28.18 13.05		
4-Bromofluorobenzene	460-00-4	104	%	70-130	02.28.18 13.05		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: **SOUTH**
Lab Sample Id: 577419-038

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3042371

Prep Method: E300P

% Moisture:

Date Prep: 02.27.18 18.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.7	5.00	mg/kg	02.27.18 19.55		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042633

Prep Method: TX1005P

% Moisture:

Date Prep: 03.01.18 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.18 20.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.18 20.34	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.01.18 20.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.18 20.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	03.01.18 20.34	
o-Terphenyl	84-15-1	90	%	70-135	03.01.18 20.34	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: **SOUTH**
Lab Sample Id: 577419-038

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.27.18 16.00

Basis: Wet Weight

Seq Number: 3042347

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.28.18 00.12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.28.18 00.12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.28.18 00.12	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.28.18 00.12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.28.18 00.12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.28.18 00.12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.28.18 00.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	02.28.18 00.12		
1,4-Difluorobenzene	540-36-3	82	%	70-130	02.28.18 00.12		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: **EAST**
Lab Sample Id: 577419-039

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3042371

Prep Method: E300P

% Moisture:

Date Prep: 02.27.18 18.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	02.27.18 20.02	U	1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042633

Prep Method: TX1005P

% Moisture:

Date Prep: 03.01.18 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.01.18 21.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.01.18 21.01	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.01.18 21.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.01.18 21.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	03.01.18 21.01	
o-Terphenyl	84-15-1	90	%	70-135	03.01.18 21.01	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: **EAST**
Lab Sample Id: 577419-039

Matrix: **Soil**
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: **ALJ**

% Moisture:

Analyst: **ALJ**

Date Prep: 02.26.18 17.15

Basis: **Wet Weight**

Seq Number: 3042388

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00340	0.00340	mg/kg	02.28.18 13.24	U	1
Toluene	108-88-3	<0.00340	0.00340	mg/kg	02.28.18 13.24	U	1
Ethylbenzene	100-41-4	<0.00340	0.00340	mg/kg	02.28.18 13.24	U	1
m,p-Xylenes	179601-23-1	<0.00680	0.00680	mg/kg	02.28.18 13.24	U	1
o-Xylene	95-47-6	<0.00340	0.00340	mg/kg	02.28.18 13.24	U	1
Total Xylenes	1330-20-7	<0.00340	0.00340	mg/kg	02.28.18 13.24	U	1
Total BTEX		<0.00340	0.00340	mg/kg	02.28.18 13.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	02.28.18 13.24		
1,4-Difluorobenzene	540-36-3	82	%	70-130	02.28.18 13.24		



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: **WEST**
Lab Sample Id: 577419-040

Matrix: Soil
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3042371

Prep Method: E300P

% Moisture:

Date Prep: 02.27.18 18.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.8	4.97	mg/kg	02.27.18 20.10		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3042633

Prep Method: TX1005P

% Moisture:

Date Prep: 03.01.18 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.01.18 21.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.01.18 21.26	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	03.01.18 21.26	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.01.18 21.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	03.01.18 21.26	
o-Terphenyl	84-15-1	90	%	70-135	03.01.18 21.26	



Certificate of Analytical Results 577419



COG Operating LLC, Artesia, NM

Eata Fajita 1-5 CTB

Sample Id: **WEST**
Lab Sample Id: 577419-040

Matrix: **Soil**
Date Collected: 02.19.18 00.00

Date Received: 02.26.18 07.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: **ALJ**

% Moisture:

Analyst: **ALJ**

Date Prep: 02.27.18 16.00

Basis: **Wet Weight**

Seq Number: 3042347

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.27.18 22.55	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.27.18 22.55	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.27.18 22.55	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.27.18 22.55	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.27.18 22.55	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.27.18 22.55	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.27.18 22.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	02.27.18 22.55		
1,4-Difluorobenzene	540-36-3	85	%	70-130	02.27.18 22.55		

- 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



COG Operating LLC

Eata Fajita 1-5 CTB

Analytical Method: Chloride by EPA 300

Seq Number: 3042453

MB Sample Id: 7639873-1-BLK

Matrix: Solid

LCS Sample Id: 7639873-1-BKS

Prep Method: E300P

Date Prep: 02.27.18

LCSD Sample Id: 7639873-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	274	110	274	110	90-110	0	20	mg/kg	02.27.18 20:07	

Analytical Method: Chloride by EPA 300

Seq Number: 3042371

MB Sample Id: 7639874-1-BLK

Matrix: Solid

LCS Sample Id: 7639874-1-BKS

Prep Method: E300P

Date Prep: 02.27.18

LCSD Sample Id: 7639874-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	239	96	239	96	90-110	0	20	mg/kg	02.27.18 16:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3042826

MB Sample Id: 7640118-1-BLK

Matrix: Solid

LCS Sample Id: 7640118-1-BKS

Prep Method: E300P

Date Prep: 03.02.18

LCSD Sample Id: 7640118-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	265	106	266	106	90-110	0	20	mg/kg	03.02.18 10:26	

Analytical Method: Chloride by EPA 300

Seq Number: 3043018

MB Sample Id: 7640279-1-BLK

Matrix: Solid

LCS Sample Id: 7640279-1-BKS

Prep Method: E300P

Date Prep: 03.06.18

LCSD Sample Id: 7640279-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	239	96	242	97	90-110	1	20	mg/kg	03.06.18 21:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3043098

MB Sample Id: 7640352-1-BLK

Matrix: Solid

LCS Sample Id: 7640352-1-BKS

Prep Method: E300P

Date Prep: 03.07.18

LCSD Sample Id: 7640352-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	255	102	274	110	90-110	7	20	mg/kg	03.07.18 15:57	

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$

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

Eata Fajita 1-5 CTB

Analytical Method: Chloride by EPA 300

Seq Number: 3043154

MB Sample Id: 7640435-1-BLK

Matrix: Solid

LCS Sample Id: 7640435-1-BKS

Prep Method: E300P

Date Prep: 03.07.18

LCSD Sample Id: 7640435-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	247	99	242	97	90-110	2	20	mg/kg	03.08.18 12:07	

Analytical Method: Chloride by EPA 300

Seq Number: 3043254

MB Sample Id: 7640499-1-BLK

Matrix: Solid

LCS Sample Id: 7640499-1-BKS

Prep Method: E300P

Date Prep: 03.09.18

LCSD Sample Id: 7640499-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	237	95	236	94	90-110	0	20	mg/kg	03.09.18 08:43	

Analytical Method: Chloride by EPA 300

Seq Number: 3042453

Parent Sample Id: 577383-022

Matrix: Soil

MS Sample Id: 577383-022 S

Prep Method: E300P

Date Prep: 02.27.18

MSD Sample Id: 577383-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	54.6	250	303	99	311	103	90-110	3	20	mg/kg	02.27.18 20:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3042453

Parent Sample Id: 577388-010

Matrix: Soil

MS Sample Id: 577388-010 S

Prep Method: E300P

Date Prep: 02.27.18

MSD Sample Id: 577388-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	268	107	262	105	90-110	2	20	mg/kg	02.27.18 21:37	

Analytical Method: Chloride by EPA 300

Seq Number: 3042371

Parent Sample Id: 576847-008

Matrix: Soil

MS Sample Id: 576847-008 S

Prep Method: E300P

Date Prep: 02.27.18

MSD Sample Id: 576847-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	324	248	513	76	582	104	90-110	13	20	mg/kg	02.27.18 19:11	X

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * | (C - E) / (C + E) |$
 $[D] = 100 * (C) / [B]$

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 577419

COG Operating LLC

Eata Fajita 1-5 CTB

Analytical Method: Chloride by EPA 300

Seq Number: 3042371

Parent Sample Id: 577603-002

Matrix: Soil

MS Sample Id: 577603-002 S

Prep Method: E300P

Date Prep: 02.27.18

MSD Sample Id: 577603-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	151	250	394	97	395	98	90-110	0	20	mg/kg	02.27.18 17:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3042826

Parent Sample Id: 577798-001

Matrix: Soil

MS Sample Id: 577798-001 S

Prep Method: E300P

Date Prep: 03.02.18

MSD Sample Id: 577798-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	56.6	250	321	106	323	107	90-110	1	20	mg/kg	03.02.18 10:42	

Analytical Method: Chloride by EPA 300

Seq Number: 3042826

Parent Sample Id: 577798-002

Matrix: Soil

MS Sample Id: 577798-002 S

Prep Method: E300P

Date Prep: 03.02.18

MSD Sample Id: 577798-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	322	249	606	114	596	110	90-110	2	20	mg/kg	03.02.18 11:56	X

Analytical Method: Chloride by EPA 300

Seq Number: 3043018

Parent Sample Id: 578231-001

Matrix: Soil

MS Sample Id: 578231-001 S

Prep Method: E300P

Date Prep: 03.06.18

MSD Sample Id: 578231-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	341	248	695	143	570	92	90-110	20	20	mg/kg	03.06.18 21:43	X

Analytical Method: Chloride by EPA 300

Seq Number: 3043018

Parent Sample Id: 578232-003

Matrix: Soil

MS Sample Id: 578232-003 S

Prep Method: E300P

Date Prep: 03.06.18

MSD Sample Id: 578232-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	259	104	285	114	90-110	10	20	mg/kg	03.06.18 22:59	X

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * | (C - E) / (C + E) |$
 $[D] = 100 * (C) / [B]$

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 577419

COG Operating LLC

Eata Fajita 1-5 CTB

Analytical Method: Chloride by EPA 300

Seq Number: 3043098

Parent Sample Id: 577915-002

Matrix: Soil

MS Sample Id: 577915-002 S

Prep Method: E300P

Date Prep: 03.07.18

MSD Sample Id: 577915-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.92	246	334	136	289	117	90-110	14	20	mg/kg	03.07.18 16:13	X

Analytical Method: Chloride by EPA 300

Seq Number: 3043098

Parent Sample Id: 577915-004

Matrix: Soil

MS Sample Id: 577915-004 S

Prep Method: E300P

Date Prep: 03.07.18

MSD Sample Id: 577915-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.90	245	292	119	267	109	90-110	9	20	mg/kg	03.07.18 17:27	X

Analytical Method: Chloride by EPA 300

Seq Number: 3043154

Parent Sample Id: 577917-001

Matrix: Soil

MS Sample Id: 577917-001 S

Prep Method: E300P

Date Prep: 03.07.18

MSD Sample Id: 577917-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12.6	250	285	109	286	109	90-110	0	20	mg/kg	03.08.18 12:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3043154

Parent Sample Id: 577917-003

Matrix: Soil

MS Sample Id: 577917-003 S

Prep Method: E300P

Date Prep: 03.07.18

MSD Sample Id: 577917-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1230	250	1420	76	1430	80	90-110	1	20	mg/kg	03.08.18 13:38	X

Analytical Method: Chloride by EPA 300

Seq Number: 3043254

Parent Sample Id: 577919-004

Matrix: Soil

MS Sample Id: 577919-004 S

Prep Method: E300P

Date Prep: 03.09.18

MSD Sample Id: 577919-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	22.4	248	338	127	338	127	90-110	0	20	mg/kg	03.09.18 10:24	X

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * | (C - E) / (C + E) |$
 $[D] = 100 * (C) / [B]$

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

Eata Fajita 1-5 CTB

Analytical Method: Chloride by EPA 300

Seq Number: 3043254

Parent Sample Id: 578657-004

Matrix: Soil

MS Sample Id: 578657-004 S

Prep Method: E300P

Date Prep: 03.09.18

MSD Sample Id: 578657-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	80.5	250	350	108	349	107	90-110	0	20	mg/kg	03.09.18 08:58	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3042363

MB Sample Id: 7639880-1-BLK

Matrix: Solid

LCS Sample Id: 7639880-1-BKS

Prep Method: TX1005P

Date Prep: 02.27.18

LCSD Sample Id: 7639880-1-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 (GRO)	<15.0	1000	1020	102	948	95	70-135	7	35	mg/kg	02.27.18 19:18	
Diesel Range Organics (DRO)	<15.0	1000	1050	105	973	97	70-135	8	35	mg/kg	02.27.18 19:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		123		113		70-135	%	02.27.18 19:18
o-Terphenyl	112		121		113		70-135	%	02.27.18 19:18

Analytical Method: TPH By SW8015 Mod

Seq Number: 3042497

MB Sample Id: 7639972-1-BLK

Matrix: Solid

LCS Sample Id: 7639972-1-BKS

Prep Method: TX1005P

Date Prep: 02.28.18

LCSD Sample Id: 7639972-1-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 (GRO)	<15.0	1000	965	97	963	96	70-135	0	35	mg/kg	02.28.18 08:22	
Diesel Range Organics (DRO)	<15.0	1000	988	99	983	98	70-135	1	35	mg/kg	02.28.18 08:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		110		101		70-135	%	02.28.18 08:22
o-Terphenyl	106		107		110		70-135	%	02.28.18 08:22

Analytical Method: TPH By SW8015 Mod

Seq Number: 3042633

MB Sample Id: 7640031-1-BLK

Matrix: Solid

LCS Sample Id: 7640031-1-BKS

Prep Method: TX1005P

Date Prep: 03.01.18

LCSD Sample Id: 7640031-1-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 (GRO)	<15.0	1000	974	97	1080	108	70-135	10	35	mg/kg	03.01.18 13:41	
Diesel Range Organics (DRO)	<15.0	1000	1000	100	1110	111	70-135	10	35	mg/kg	03.01.18 13:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		116		122		70-135	%	03.01.18 13:41
o-Terphenyl	107		116		120		70-135	%	03.01.18 13:41

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * | (C-E) / (C+E) |$
 $[D] = 100 * (C) / [B]$

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 577419

COG Operating LLC

Eata Fajita 1-5 CTB

Analytical Method: TPH By SW8015 Mod

Seq Number: 3042363

Parent Sample Id: 577419-001

Matrix: Soil

MS Sample Id: 577419-001 S

Prep Method: TX1005P

Date Prep: 02.27.18

MSD Sample Id: 577419-001 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 (GRO)	<15.0	1000	1070	107	965	97	70-135	10	35	mg/kg	02.27.18 20:36	
Diesel Range Organics (DRO)	<15.0	1000	1120	112	1090	109	70-135	3	35	mg/kg	02.27.18 20:36	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		112		70-135	%	02.27.18 20:36
o-Terphenyl	120		110		70-135	%	02.27.18 20:36

Analytical Method: TPH By SW8015 Mod

Seq Number: 3042497

Parent Sample Id: 577419-021

Matrix: Soil

MS Sample Id: 577419-021 S

Prep Method: TX1005P

Date Prep: 02.28.18

MSD Sample Id: 577419-021 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 (GRO)	<15.0	999	1070	107	953	95	70-135	12	35	mg/kg	02.28.18 09:38	
Diesel Range Organics (DRO)	<15.0	999	1180	118	1060	106	70-135	11	35	mg/kg	02.28.18 09:38	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		90		70-135	%	02.28.18 09:38
o-Terphenyl	82		83		70-135	%	02.28.18 09:38

Analytical Method: TPH By SW8015 Mod

Seq Number: 3042633

Parent Sample Id: 577756-001

Matrix: Soil

MS Sample Id: 577756-001 S

Prep Method: TX1005P

Date Prep: 03.01.18

MSD Sample Id: 577756-001 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 (GRO)	<15.0	997	1060	106	957	96	70-135	10	35	mg/kg	03.01.18 14:59	
Diesel Range Organics (DRO)	<15.0	997	1100	110	1010	101	70-135	9	35	mg/kg	03.01.18 14:59	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		107		70-135	%	03.01.18 14:59
o-Terphenyl	114		105		70-135	%	03.01.18 14:59

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$

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

Eata Fajita 1-5 CTB

Analytical Method: BTEX by EPA 8021B

Seq Number: 3042157

MB Sample Id: 7639793-1-BLK

Matrix: Solid

LCS Sample Id: 7639793-1-BKS

Prep Method: SW5030B

Date Prep: 02.26.18

LCSD Sample Id: 7639793-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0931	93	0.0925	93	70-130	1	35	mg/kg	02.26.18 09:57	
Toluene	<0.00199	0.0996	0.0994	100	0.0979	98	70-130	2	35	mg/kg	02.26.18 09:57	
Ethylbenzene	<0.00199	0.0996	0.115	115	0.113	113	71-129	2	35	mg/kg	02.26.18 09:57	
m,p-Xylenes	<0.00398	0.199	0.230	116	0.226	113	70-135	2	35	mg/kg	02.26.18 09:57	
o-Xylene	<0.00199	0.0996	0.112	112	0.110	110	71-133	2	35	mg/kg	02.26.18 09:57	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	82		81		84		80-120			%	02.26.18 09:57	
4-Bromofluorobenzene	110		120		116		80-120			%	02.26.18 09:57	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3042343

MB Sample Id: 7639846-1-BLK

Matrix: Solid

LCS Sample Id: 7639846-1-BKS

Prep Method: SW5030B

Date Prep: 02.26.18

LCSD Sample Id: 7639846-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0877	88	0.0883	87	70-130	1	35	mg/kg	02.26.18 20:48	
Toluene	<0.00201	0.100	0.0933	93	0.0936	93	70-130	0	35	mg/kg	02.26.18 20:48	
Ethylbenzene	<0.00201	0.100	0.106	106	0.107	106	70-130	1	35	mg/kg	02.26.18 20:48	
m,p-Xylenes	<0.00402	0.201	0.211	105	0.213	105	70-130	1	35	mg/kg	02.26.18 20:48	
o-Xylene	<0.00201	0.100	0.103	103	0.105	104	70-130	2	35	mg/kg	02.26.18 20:48	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	84		89		88		70-130			%	02.26.18 20:48	
4-Bromofluorobenzene	98		108		109		70-130			%	02.26.18 20:48	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3042388

MB Sample Id: 7639915-1-BLK

Matrix: Solid

LCS Sample Id: 7639915-1-BKS

Prep Method: SW5030B

Date Prep: 02.26.18

LCSD Sample Id: 7639915-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0833	82	0.0797	80	70-130	4	35	mg/kg	02.28.18 03:42	
Toluene	<0.00202	0.101	0.0877	87	0.0857	86	70-130	2	35	mg/kg	02.28.18 03:42	
Ethylbenzene	<0.00202	0.101	0.0994	98	0.0970	97	70-130	2	35	mg/kg	02.28.18 03:42	
m,p-Xylenes	<0.00403	0.202	0.196	97	0.192	96	70-130	2	35	mg/kg	02.28.18 03:42	
o-Xylene	<0.00202	0.101	0.0981	97	0.0976	98	70-130	1	35	mg/kg	02.28.18 03:42	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	80		87		84		70-130			%	02.28.18 03:42	
4-Bromofluorobenzene	93		113		116		70-130			%	02.28.18 03:42	

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$

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

Eata Fajita 1-5 CTB

Analytical Method: BTEX by EPA 8021B

Seq Number: 3042346

MB Sample Id: 7639907-1-BLK

Matrix: Solid

LCS Sample Id: 7639907-1-BKS

Prep Method: SW5030B

Date Prep: 02.27.18

LCSD Sample Id: 7639907-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0899	90	0.0887	89	70-130	1	35	mg/kg	02.27.18 07:08	
Toluene	<0.00199	0.0996	0.0945	95	0.0941	95	70-130	0	35	mg/kg	02.27.18 07:08	
Ethylbenzene	<0.00199	0.0996	0.107	107	0.107	108	70-130	0	35	mg/kg	02.27.18 07:08	
m,p-Xylenes	<0.00398	0.199	0.213	107	0.213	107	70-130	0	35	mg/kg	02.27.18 07:08	
o-Xylene	<0.00199	0.0996	0.104	104	0.104	105	70-130	0	35	mg/kg	02.27.18 07:08	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	86		91		89		70-130			%	02.27.18 07:08	
4-Bromofluorobenzene	95		108		111		70-130			%	02.27.18 07:08	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3042347

MB Sample Id: 7639908-1-BLK

Matrix: Solid

LCS Sample Id: 7639908-1-BKS

Prep Method: SW5030B

Date Prep: 02.27.18

LCSD Sample Id: 7639908-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0882	88	0.0858	86	70-130	3	35	mg/kg	02.27.18 18:11	
Toluene	<0.00200	0.0998	0.0940	94	0.0912	91	70-130	3	35	mg/kg	02.27.18 18:11	
Ethylbenzene	<0.00200	0.0998	0.107	107	0.105	105	70-130	2	35	mg/kg	02.27.18 18:11	
m,p-Xylenes	<0.00399	0.200	0.213	107	0.207	104	70-130	3	35	mg/kg	02.27.18 18:11	
o-Xylene	<0.00200	0.0998	0.104	104	0.102	102	70-130	2	35	mg/kg	02.27.18 18:11	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	85		87		79		70-130			%	02.27.18 18:11	
4-Bromofluorobenzene	110		115		100		70-130			%	02.27.18 18:11	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3042447

MB Sample Id: 7639959-1-BLK

Matrix: Solid

LCS Sample Id: 7639959-1-BKS

Prep Method: SW5030B

Date Prep: 02.28.18

LCSD Sample Id: 7639959-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0851	85	0.0847	85	70-130	0	35	mg/kg	02.28.18 17:10	
Toluene	<0.00200	0.100	0.0910	91	0.0897	90	70-130	1	35	mg/kg	02.28.18 17:10	
Ethylbenzene	<0.00200	0.100	0.101	101	0.100	100	70-130	1	35	mg/kg	02.28.18 17:10	
m,p-Xylenes	<0.00401	0.200	0.201	101	0.200	100	70-130	0	35	mg/kg	02.28.18 17:10	
o-Xylene	<0.00200	0.100	0.0989	99	0.0985	99	70-130	0	35	mg/kg	02.28.18 17:10	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	84		86		87		70-130			%	02.28.18 17:10	
4-Bromofluorobenzene	103		112		107		70-130			%	02.28.18 17:10	

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$

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 577419

COG Operating LLC

Eata Fajita 1-5 CTB

Analytical Method: BTEX by EPA 8021B

Seq Number: 3042157

Parent Sample Id: 577421-001

Matrix: Soil

MS Sample Id: 577421-001 S

Prep Method: SW5030B

Date Prep: 02.26.18

MSD Sample Id: 577421-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0638	64	0.0720	72	70-130	12	35	mg/kg	02.26.18 10:36	X
Toluene	<0.00200	0.100	0.0679	68	0.0750	75	70-130	10	35	mg/kg	02.26.18 10:36	X
Ethylbenzene	<0.00200	0.100	0.0787	79	0.0845	85	71-129	7	35	mg/kg	02.26.18 10:36	
m,p-Xylenes	0.00414	0.200	0.155	75	0.170	83	70-135	9	35	mg/kg	02.26.18 10:36	
o-Xylene	<0.00200	0.100	0.0745	75	0.0856	86	71-133	14	35	mg/kg	02.26.18 10:36	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	80		82		80-120	%	02.26.18 10:36
4-Bromofluorobenzene	103		117		80-120	%	02.26.18 10:36

Analytical Method: BTEX by EPA 8021B

Seq Number: 3042343

Parent Sample Id: 577419-004

Matrix: Soil

MS Sample Id: 577419-004 S

Prep Method: SW5030B

Date Prep: 02.26.18

MSD Sample Id: 577419-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0681	68	0.0711	71	70-130	4	35	mg/kg	02.26.18 21:24	X
Toluene	<0.00200	0.100	0.0724	72	0.0747	75	70-130	3	35	mg/kg	02.26.18 21:24	
Ethylbenzene	<0.00200	0.100	0.0814	81	0.0833	84	70-130	2	35	mg/kg	02.26.18 21:24	
m,p-Xylenes	<0.00401	0.200	0.162	81	0.166	83	70-130	2	35	mg/kg	02.26.18 21:24	
o-Xylene	<0.00200	0.100	0.0813	81	0.0836	84	70-130	3	35	mg/kg	02.26.18 21:24	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		89		70-130	%	02.26.18 21:24
4-Bromofluorobenzene	113		115		70-130	%	02.26.18 21:24

Analytical Method: BTEX by EPA 8021B

Seq Number: 3042388

Parent Sample Id: 577388-008

Matrix: Soil

MS Sample Id: 577388-008 S

Prep Method: SW5030B

Date Prep: 02.26.18

MSD Sample Id: 577388-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0794	80	0.0699	70	70-130	13	35	mg/kg	02.28.18 04:21	
Toluene	<0.00199	0.0996	0.0844	85	0.0739	74	70-130	13	35	mg/kg	02.28.18 04:21	
Ethylbenzene	<0.00199	0.0996	0.0929	93	0.0819	82	70-130	13	35	mg/kg	02.28.18 04:21	
m,p-Xylenes	<0.00398	0.199	0.183	92	0.161	81	70-130	13	35	mg/kg	02.28.18 04:21	
o-Xylene	<0.00199	0.0996	0.0913	92	0.0793	80	70-130	14	35	mg/kg	02.28.18 04:21	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		82		70-130	%	02.28.18 04:21
4-Bromofluorobenzene	116		112		70-130	%	02.28.18 04:21

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * | (C-E) / (C+E) |$
 $[D] = 100 * (C) / [B]$

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

Eata Fajita 1-5 CTB

Analytical Method: BTEX by EPA 8021B

Seq Number: 3042346

Parent Sample Id: 577420-010

Matrix: Soil

MS Sample Id: 577420-010 S

Prep Method: SW5030B

Date Prep: 02.27.18

MSD Sample Id: 577420-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0839	84	0.0602	60	70-130	33	35	mg/kg	02.27.18 07:47	X
Toluene	<0.00199	0.0996	0.0875	88	0.0402	40	70-130	74	35	mg/kg	02.27.18 07:47	XF
Ethylbenzene	<0.00199	0.0996	0.0987	99	0.0647	65	70-130	42	35	mg/kg	02.27.18 07:47	XF
m,p-Xylenes	<0.00398	0.199	0.194	97	0.127	64	70-130	42	35	mg/kg	02.27.18 07:47	XF
o-Xylene	<0.00199	0.0996	0.0959	96	0.0628	63	70-130	42	35	mg/kg	02.27.18 07:47	XF

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		87		70-130	%	02.27.18 07:47
4-Bromofluorobenzene	114		109		70-130	%	02.27.18 07:47

Analytical Method: BTEX by EPA 8021B

Seq Number: 3042347

Parent Sample Id: 577420-009

Matrix: Soil

MS Sample Id: 577420-009 S

Prep Method: SW5030B

Date Prep: 02.27.18

MSD Sample Id: 577420-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0806	81	0.0732	73	70-130	10	35	mg/kg	02.27.18 18:49	
Toluene	<0.00199	0.0994	0.0835	84	0.0762	76	70-130	9	35	mg/kg	02.27.18 18:49	
Ethylbenzene	<0.00199	0.0994	0.0923	93	0.0852	85	70-130	8	35	mg/kg	02.27.18 18:49	
m,p-Xylenes	<0.00398	0.199	0.183	92	0.169	85	70-130	8	35	mg/kg	02.27.18 18:49	
o-Xylene	<0.00199	0.0994	0.0907	91	0.0841	84	70-130	8	35	mg/kg	02.27.18 18:49	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		86		70-130	%	02.27.18 18:49
4-Bromofluorobenzene	114		118		70-130	%	02.27.18 18:49

Analytical Method: BTEX by EPA 8021B

Seq Number: 3042447

Parent Sample Id: 577422-005

Matrix: Soil

MS Sample Id: 577422-005 S

Prep Method: SW5030B

Date Prep: 02.28.18

MSD Sample Id: 577422-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0800	80	0.0762	75	70-130	5	35	mg/kg	02.28.18 17:48	
Toluene	<0.00201	0.100	0.0841	84	0.0810	80	70-130	4	35	mg/kg	02.28.18 17:48	
Ethylbenzene	<0.00201	0.100	0.0945	95	0.0907	90	70-130	4	35	mg/kg	02.28.18 17:48	
m,p-Xylenes	<0.00402	0.201	0.188	94	0.181	90	70-130	4	35	mg/kg	02.28.18 17:48	
o-Xylene	<0.00201	0.100	0.0935	94	0.0904	90	70-130	3	35	mg/kg	02.28.18 17:48	

Surrogate

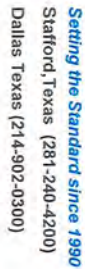
	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		89		70-130	%	02.28.18 17:48
4-Bromofluorobenzene	112		108		70-130	%	02.28.18 17:48

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$

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 4

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

www.xenco.com

Phoenix, Arizona (480-355-0900)

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CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp:

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Final 1.000



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CHAIN OF CUSTODY

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Midland, Texas (432-704-5251)

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Xenco Quote #

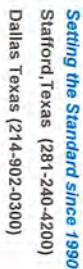
Xenco Job #

577419

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes						
Company Name / Branch: COG Operating, LLC				Project Name/Number: EATA PASITA 1-5 CTS														
Company Address: 2407 Pecos Ave. Artesia NM 88210				Project Location: Lea County														
Email: shilthcock@concho.com Phone No: 575-703-6475 dneel2@concho.com; cgray@concho.com; haskell@concho.com				Invoice To: COG Operating, LLC Attn: Robert McNeill 600 W. Illinois Ave. Midland TX, 79701														
Project Contact: Sheldon Hitchcock				PO Number:														
Sampler's Name: Christopher Gray																		
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH EXTENDED (EPA8015M)	BTEX (EPA 8021B)	CHLORIDES (EPA 300)	Field Comments
1	T-1	12.5	4/19/18		S	1									X	X	X	
2	T-1	14			S	1									X	X	X	
3	T-2	0			S	1									X	X	X	
4	T-2	1			S	1									X	X	X	
5	T-2	2			S	1									X	X	X	
6	T-2	3			S	1									X	X	X	
7	T-2	4			S	1									X	X	X	
8	T-2	5			S	1									X	X	X	
9	T-2	6			S	1									X	X	X	
10	T-2	8			S	1									X	X	X	
Turnaround Time (Business days)																		
Data Deliverable Information																		
Notes:																		
Same Day TAT ☒ 5 Day TAT ☐ Level II Std QC ☐ Level IV (Full Data Pkg raw data) ☐																		
Next Day EMERGENCY ☐ 7 Day TAT ☐ Level III Std QC+ Forms ☐ TRRP Level IV ☐																		
2 Day EMERGENCY ☐ Contract TAT ☐ Level 3 (CLP Forms) ☐ UST / RG -411 ☐																		
3 Day EMERGENCY ☐ TRRP Checklist ☐																		
TAT Starts Day received by Lab, if received by 5:00 pm																		
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																		
Relinquished by Sampler: Christopher Gray Date Time: 4/19/18 1:00 PM Received By: 1. daniel 2-23-18 Date Time: 2/23/18 2:30 PM Relinquished By: 2. [Signature] Date Time: 2/26/18																		
Relinquished by: 3. [Signature] Date Time: 3/1/18 Received By: 4. [Signature] Date Time: 3/1/18																		
Relinquished by: 5. [Signature] Date Time: 3/1/18 Received By: 6. [Signature] Date Time: 3/1/18																		

Temp: 1.6 IR ID: R-8
CF: (0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.4

On Ice ☒ Cooler Temp. Thermo. Corr. Factor

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San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

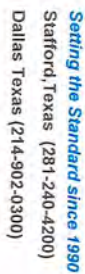
Phoenix, Arizona (480-355-0900)

www.xenco.com

Temp: 1.6 IR ID: R-8
CF: (0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.4

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Phoenix, Arizona (480-355-0900)

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Final 1.000



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

Date/ Time Received: 02/26/2018 07:45:00 AM

Work Order #: 577419

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.4	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6*Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	Yes	Sample 033 - T-3 7' jar is empty
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	N/A	
#18 Water VOC samples have zero headspace?	N/A	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 02/26/2018

Checklist reviewed by:

Jessica Kramer

Date: 02/26/2018

April 19, 2018

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: EATA FAJITA -1-5 CTB

Enclosed are the results of analyses for samples received by the laboratory on 04/12/18 12:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:COG OPERATING
P. O. BOX 1630
ARTESIA NM, 88210Project: EATA FAJITA -1-5 CTB
Project Number: NONE GIVEN
Project Manager: SHELDON HITCHCOCK
Fax To: NONEReported:
19-Apr-18 09:51

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T -2 15'	H801012-01	Soil	04-Apr-18 00:00	12-Apr-18 12:00
T -2 16'	H801012-02	Soil	04-Apr-18 00:00	12-Apr-18 12:00
T -2 17.5'	H801012-03	Soil	04-Apr-18 00:00	12-Apr-18 12:00
T -3 12'	H801012-04	Soil	04-Apr-18 00:00	12-Apr-18 12:00
T -3 14'	H801012-05	Soil	04-Apr-18 00:00	12-Apr-18 12:00

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
P. O. BOX 1630
ARTESIA NM, 88210

Project: EATA FAJITA -1-5 CTB
Project Number: NONE GIVEN
Project Manager: SHELDON HITCHCOCK
Fax To: NONE

Reported:
19-Apr-18 09:51

T -2 15'
H801012-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

Cardinal Laboratories

Inorganic Compounds

Chloride	1140		16.0	mg/kg	4	8041310	AC	13-Apr-18	4500-Cl-B	
----------	------	--	------	-------	---	---------	----	-----------	-----------	--

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8041202	MS	13-Apr-18	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 72-148 8041202 MS 13-Apr-18 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B	

Surrogate: 1-Chlorooctane 84.6 % 41-142 8041201 MS 13-Apr-18 8015B

Surrogate: 1-Chlorooctadecane 91.3 % 37.6-147 8041201 MS 13-Apr-18 8015B

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
P. O. BOX 1630
ARTESIA NM, 88210

Project: EATA FAJITA -1-5 CTB
Project Number: NONE GIVEN
Project Manager: SHELDON HITCHCOCK
Fax To: NONE

Reported:
19-Apr-18 09:51

T -2 16'
H801012-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	1150		16.0	mg/kg	4	8041310	AC	13-Apr-18	4500-Cl-B
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B
Toluene*	<0.050	0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B
Ethylbenzene*	<0.050	0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B
Total Xylenes*	<0.150	0.150	mg/kg	50	8041202	MS	13-Apr-18	8021B
Total BTEX	<0.300	0.300	mg/kg	50	8041202	MS	13-Apr-18	8021B
Surrogate: 4-Bromofluorobenzene (PID)		96.1 %		72-148	8041202	MS	13-Apr-18	8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B
Surrogate: 1-Chlorooctane		93.9 %		41-142	8041201	MS	13-Apr-18	8015B
Surrogate: 1-Chlorooctadecane		90.1 %		37.6-147	8041201	MS	13-Apr-18	8015B

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
P. O. BOX 1630
ARTESIA NM, 88210

Project: EATA FAJITA -1-5 CTB
Project Number: NONE GIVEN
Project Manager: SHELDON HITCHCOCK
Fax To: NONE

Reported:
19-Apr-18 09:51

T -2 17.5'
H801012-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	592		16.0	mg/kg	4	8041310	AC	13-Apr-18	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8041202	MS	13-Apr-18	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 96.6 % 72-148 8041202 MS 13-Apr-18 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B	

Surrogate: 1-Chlorooctane 92.3 % 41-142 8041201 MS 13-Apr-18 8015B

Surrogate: 1-Chlorooctadecane 85.4 % 37.6-147 8041201 MS 13-Apr-18 8015B

Green Analytical Laboratories

Soluble (DI Water Extraction)

Chloride	429		10.0	mg/kg wet	10	B804136	JDA	18-Apr-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
P. O. BOX 1630
ARTESIA NM, 88210

Project: EATA FAJITA -1-5 CTB
Project Number: NONE GIVEN
Project Manager: SHELDON HITCHCOCK
Fax To: NONE

Reported:
19-Apr-18 09:51

T -3 12'
H801012-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	112		16.0	mg/kg	4	8041310	AC	13-Apr-18	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8041202	MS	13-Apr-18	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 96.2 % 72-148 8041202 MS 13-Apr-18 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B	

Surrogate: 1-Chlorooctane 91.7 % 41-142 8041201 MS 13-Apr-18 8015B

Surrogate: 1-Chlorooctadecane 86.0 % 37.6-147 8041201 MS 13-Apr-18 8015B

Green Analytical Laboratories

Soluble (DI Water Extraction)

Chloride	94.6		10.0	mg/kg wet	10	B804136	JDA	18-Apr-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
P. O. BOX 1630
ARTESIA NM, 88210

Project: EATA FAJITA -1-5 CTB
Project Number: NONE GIVEN
Project Manager: SHELDON HITCHCOCK
Fax To: NONE

Reported:
19-Apr-18 09:51

T -3 14'
H801012-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8041202	MS	13-Apr-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8041202	MS	13-Apr-18	8021B	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			96.7 %	72-148		8041202	MS	13-Apr-18	8021B	

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8041201	MS	13-Apr-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			88.9 %	41-142		8041201	MS	13-Apr-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			81.0 %	37.6-147		8041201	MS	13-Apr-18	8015B	

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 P. O. BOX 1630
 ARTESIA NM, 88210

 Project: EATA FAJITA -1-5 CTB
 Project Number: NONE GIVEN
 Project Manager: SHELDON HITCHCOCK
 Fax To: NONE

 Reported:
 19-Apr-18 09:51

Inorganic Compounds - Quality Control
Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 8041310 - 1:4 DI Water									
Blank (8041310-BLK1)					Prepared & Analyzed: 13-Apr-18				
Chloride	ND	16.0	mg/kg						
LCS (8041310-BS1)					Prepared & Analyzed: 13-Apr-18				
Chloride	432	16.0	mg/kg	400	108	80-120			
LCS Dup (8041310-BSD1)					Prepared & Analyzed: 13-Apr-18				
Chloride	432	16.0	mg/kg	400	108	80-120	0.00	20	

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
P. O. BOX 1630
ARTESIA NM, 88210

Project: EATA FAJITA -1-5 CTB
Project Number: NONE GIVEN
Project Manager: SHELDON HITCHCOCK
Fax To: NONE

Reported:
19-Apr-18 09:51

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 8041202 - Volatiles

Blank (8041202-BLK1)

Prepared & Analyzed: 12-Apr-18

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0992		mg/kg	0.100		99.2	72-148			

LCS (8041202-BS1)

Prepared & Analyzed: 12-Apr-18

Benzene	1.81	0.050	mg/kg	2.00		90.6	79.5-124			
Toluene	1.83	0.050	mg/kg	2.00		91.6	75.5-127			
Ethylbenzene	1.81	0.050	mg/kg	2.00		90.3	77.7-125			
Total Xylenes	5.55	0.150	mg/kg	6.00		92.5	70.9-124			
Surrogate: 4-Bromofluorobenzene (PID)	0.104		mg/kg	0.100		104	72-148			

LCS Dup (8041202-BSD1)

Prepared & Analyzed: 12-Apr-18

Benzene	1.84	0.050	mg/kg	2.00		91.8	79.5-124	1.28	6.5	
Toluene	1.86	0.050	mg/kg	2.00		93.2	75.5-127	1.69	7.02	
Ethylbenzene	1.85	0.050	mg/kg	2.00		92.4	77.7-125	2.26	7.83	
Total Xylenes	5.71	0.150	mg/kg	6.00		95.2	70.9-124	2.85	7.78	
Surrogate: 4-Bromofluorobenzene (PID)	0.0990		mg/kg	0.100		99.0	72-148			

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
P. O. BOX 1630
ARTESIA NM, 88210

Project: EATA FAJITA -1-5 CTB
Project Number: NONE GIVEN
Project Manager: SHELDON HITCHCOCK
Fax To: NONE

Reported:
19-Apr-18 09:51

Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 8041201 - General Prep - Organics

Blank (8041201-BLK1)

Prepared: 12-Apr-18 Analyzed: 13-Apr-18

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	50.2		mg/kg	50.0		100	41-142			
Surrogate: 1-Chlorooctadecane	49.3		mg/kg	50.0		98.6	37.6-147			

LCS (8041201-BS1)

Prepared: 12-Apr-18 Analyzed: 13-Apr-18

GRO C6-C10	207	10.0	mg/kg	200		104	76.5-133			
DRO >C10-C28	211	10.0	mg/kg	200		105	72.9-138			
Total TPH C6-C28	418	10.0	mg/kg	400		105	78-132			
Surrogate: 1-Chlorooctane	51.4		mg/kg	50.0		103	41-142			
Surrogate: 1-Chlorooctadecane	52.0		mg/kg	50.0		104	37.6-147			

LCS Dup (8041201-BSD1)

Prepared: 12-Apr-18 Analyzed: 13-Apr-18

GRO C6-C10	221	10.0	mg/kg	200		111	76.5-133	6.61	20.6	
DRO >C10-C28	213	10.0	mg/kg	200		107	72.9-138	1.05	20.6	
Total TPH C6-C28	434	10.0	mg/kg	400		109	78-132	3.84	18	
Surrogate: 1-Chlorooctane	50.9		mg/kg	50.0		102	41-142			
Surrogate: 1-Chlorooctadecane	50.2		mg/kg	50.0		100	37.6-147			

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 P. O. BOX 1630
 ARTESIA NM, 88210

 Project: EATA FAJITA -1-5 CTB
 Project Number: NONE GIVEN
 Project Manager: SHELDON HITCHCOCK
 Fax To: NONE

 Reported:
 19-Apr-18 09:51

Soluble (DI Water Extraction) - Quality Control
Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B804136 - General Prep - Wet Chem										
Blank (B804136-BLK1)										
Prepared & Analyzed: 17-Apr-18										
Chloride	ND	10.0	mg/kg wet							
LCS (B804136-BS1)										
Prepared & Analyzed: 17-Apr-18										
Chloride	226	10.0	mg/kg wet	250		90.3	85-115			
LCS Dup (B804136-BSD1)										
Prepared & Analyzed: 17-Apr-18										
Chloride	225	10.0	mg/kg wet	250		90.1	85-115	0.204	20	

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Concho Resources		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager: Sheldon Hitchcock		Company: COG					
Address: 2407 Pecos Avenue		Attn: Robert McNeill					
City: Artesia		Address:					
Phone #: 575-703-6475		City:					
Fax #: Project Owner: Concho		State:					
Project #: 575-703-6475		Zip:					
Project Name: EATTA FASITA - 1-5 CTB		Phone #:					
Project Location: LISA COUNTY		Fax #:					
Sampler Name: Christopher Guey		PRESERV					
FOR LAB USE ONLY		SAMPLING					
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX		DATE	
H8D1D12				GROUNDWATER	WASTEWATER	SOIL	OIL
				SLUDGE	OTHER :	ACID/BASE:	ICE / COOL
				OTHER :			
1	7-2 15'	61	4/2/18	TPH 8015 M EXTENDED			
2	7-2 16'	61		BTX 8021 B			
3	7-2 17.5'	61		CHLORIDES EPA 300-4500			
4	7-3 12'	61		Added CL 300 4/17/18			
5	7-3 14'	61					

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. If no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 4-12-18	Received By:	Phone Result:	Yes	No	Add'l Phone #:
Christopher Guey	Time: 12:00	Sheldon Hitchcock	Fax Result:	Yes	No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:			
Christopher Guey	Time:	Sheldon Hitchcock	Stop running if chlorides are below 600			
#75			Push			

Delivered By: (Circle One) UPS - Bus - Other: 4.99/4.852

Sample Condition: Cool ☒ Intact ☒ Yes ☐ No ☐ No

CHECKED BY: (initials)

Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

corrected - .052