CONCHO

[Sheldon L. Hitchcock]
[HSE Coordinator]

February 27, 2019

Bradford Billings
Oil Conservation Division
1220 S. St Francis Dr. #3
Santa Fe, NM 87505

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

Re: Closure Letter
Burch Keely Unit #963H
API #: 30-015-39576
RP#: 2RP-4916
Unit Letter D, Section 19, Township 17 S, Range 30 E
Lea County, New Mexico

Mr. Billings/Mr. Amos,

COG Operating, LLC (COG) is pleased to submit for your consideration the following closure report for the Burch Keely Unit #963H. This release occurred on June 14, 2018. Following the release an assessment of impacted soils was conducted. A remediation work plan was submitted to and subsequently approved by the New Mexico Oil Conservation Division (NMOCD) and the Bureau of Land Management. A copy of the approved work plan is attached in Appendix V.

BACKGROUND

The Lusk Deep Unit A #019 release was located in Unit Letter D, Section 19, Township 17 South and Range 30 East in Eddy County, New Mexico. More specifically the latitude and longitude for this release are 32.8248863 North and -104.0184937 West.

On August 7, 2018, debris obstructing the back-pressure valve resulted in the release of approximately fifteen (15) barrels (bbls) of produced water and five (5) bbls of oil. A vacuum truck was utilized to recover all freestanding fluids.

Remediation activities were conducted in accordance with the approved work plan and NMOCD/BLM stipulations. The analytical results from the confirmation soil sampling activities are summarized in the table below. A site diagram of the excavated area is presented in Appendix I.

GROUNDWATER AND SITE RANKING

According New Mexico Office of the State Engineer groundwater in the project vicinity is approximately seventy-six (76) feet below ground surface (BGS) (Appendix II). No water well or surface water was observed within one-thousand (1,000) feet of the release site. Therefore the site ranking for this release is ten (10) based on the following:

Depth to groundwater	50-100-feet
Distance to surface water body	>1000-feet
Wellhead Protection Area	>1000-feet

CONFIRMATION SOIL SAMPLING RESULTS

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
BTTM-1	0.5	12/26/2018	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.05	<0.05	<0.300
BTTM-2	0.5	12/26/2018		X	<10.0	151	12.2	163.2	<10.0	151	151.0	<0.05	<0.05	2030.0
BTTM-3	1	12/26/2018		X	<10.0	17.3	<10.0	17.3	<10.0	17.3	17.3	<0.05	<0.05	2000.0
BTTM-4	1	12/26/2018	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.05	<0.05	176.0
SW-1	N/A	12/26/2018		X	<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.05	<0.05	768.0
SW-2	N/A	12/26/2018		X	<10.0	174	<10.0	174.0	<10.0	174	174.0	<0.05	<0.05	848.0
SW-3	N/A	12/26/2018		X	<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.05	<0.05	736.0
SW-4	N/A	12/26/2018		X	<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.05	<0.05	912.0
BTTM-2	1	1/9/2018	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	165.0
BTTM-3	2	1/9/2019		X	<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	1290.0
SW-1	N/A	1/9/2020	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	<4.96
SW-2	N/A	1/9/2021	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	340.0
SW-3	N/A	1/9/2022	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	14.2
SW-4	N/A	1/9/2023	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	56.0
BTTM-3	3	1/17/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	64.0
BTTM-5	1	1/17/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	64.0
BTTM-6	1	1/17/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	32
BTTM-7	2	1/17/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	48
BTTM-8	2	1/17/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	96
BTTM-9	2	1/17/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	64
BTTM-10	2	1/17/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	32

REMEDIAL ACTIONS

- The impacted area was excavated utilizing field analysis and laboratory results to guide the extent of the excavation.
- Per NMOCD and BLM stipulations, confirmation soil samples were taken from the bottom and the sidewalls of the excavation. A site diagram is presented in Appendix I.
- All of the excavated material was hauled to an NMOCD approved solid waste disposal facility.
- Upon receipt of analytical results confirming that all impacted soil above NMOCD RRAL's was successfully removed the excavation was backfilled with caliche and contoured to match the surrounding location.

March 4, 2019

CLOSURE REQUEST

COG Operating, LLC respectfully requests that the New Mexico Oil Conservation Division and the Bureau of Land Management grant closure approval for the Burch Keely Unit #963H incident that occurred on August 7, 2018.

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

Sincerely,

Sheldon Hitchcock

Sheldon L. Hitchcock
HSE Coordinator
slhitchcock@concho.com

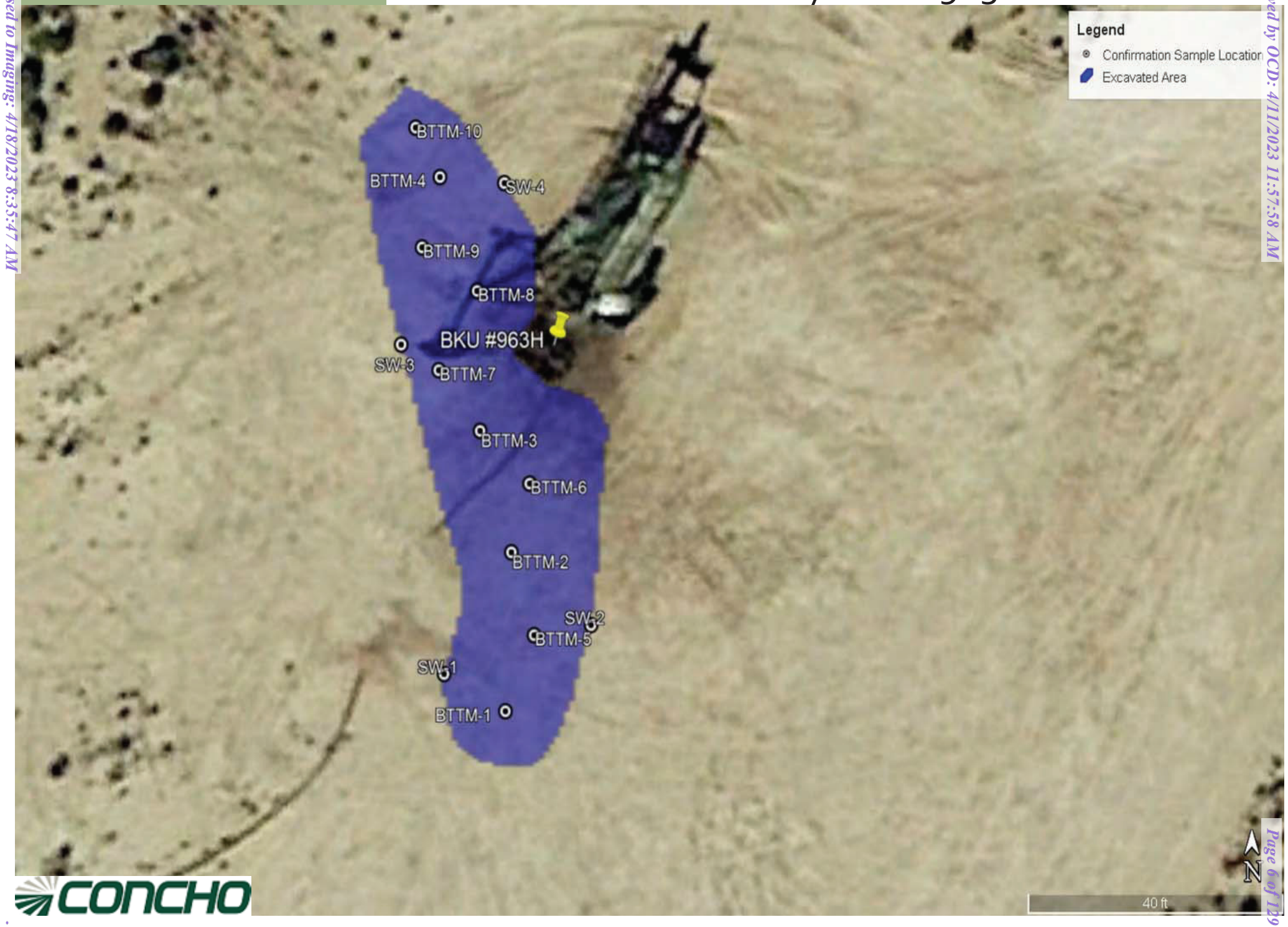
Enclosed:

Appendix I: Site Diagram
Appendix II: Groundwater Data
Appendix III: Initial C-141 (Copy)
Appendix IV: Final C-141
Appendix V: Approved Work Plan and Stipulations (Copy)
Appendix VI: Photographic Documentation
Appendix VII: Analytical Reports and Chain-of-Custody Forms

APPENDIX I

August 7, 2018

Burch Keely Unit #963H



CONCHO

APPENDIX II

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 Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 11914 POD1		RA	ED	2	4	2	20	17S	30E	594801	3632002	2865	85	80	5
RA 11807 POD1		RA	ED	1	2	3	22	17S	29E	587360	3631585	4663	131	76	55

Average Depth to Water: **78 feet**

Minimum Depth: **76 feet**

Maximum Depth: **80 feet**

Record Count: 2

Basin/County Search:

County: Eddy

UTMNAD83 Radius Search (in meters):

Easting (X): 591958 **Northing (Y):** 3632363 **Radius:** 5000

APPENDIX III

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: **Burch Keely Unit #963H**	Facility Type: Wellhead

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-39576

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	19	17S	30E	893	North	358	West	Eddy

Latitude 32.8248863 **Longitude** -104.0184937 NAD83

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release: 5 bbl. Oil 15 bbl. Produced Water	Volume Recovered: 2 bbl. Oil 3 bbl. Produced Water
Source of Release: Obstructed Valve	Date and Hour of Occurrence: August 7, 2018 6:30am	Date and Hour of Discovery: August 7, 2018 6:30am
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The release was caused by debris obstructing the back pressure valve. The valve has been replaced.

Describe Area Affected and Cleanup Action Taken.*

The release impacted the location and the adjacent pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate 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: DeAnn Grant	OIL CONSERVATION DIVISION
Printed Name: DeAnn Grant	Approved by Environmental Specialist:
Title: HSE Administrative Assistant	Approval Date: / Expiration Date:
E-mail Address: agrant@concho.com	Conditions of Approval: / Attached ☐
Date: August 7, 2018 Phone: 432-253-4513	

* Attach Additional Sheets If Necessary

APPENDIX IV

District I
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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	COG Operating, LLC	OGRID	229137
Contact Name	Jennifer Knowlton	Contact Telephone	(432) 683-7443
Contact email	jknowlton@concho.com	Incident # *(assigned by OCD)*	
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.8248863 Longitude -104.0184937

(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Burch Keely Unit #963H	Site Type	Well
Date Release Discovered	8/7/2018	API# *(if applicable)*	30-015-39576

Unit Letter	Section	Township	Range	County
D	19	17S	30E	Eddy

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) 5	Volume Recovered (bbls) 2
☒ Produced Water	Volume Released (bbls) 15	Volume Recovered (bbls) 3
	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

Debris obstructing the back-pressure valve.

State of New Mexico
Oil Conservation Division

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 not 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: Sheldon L. Hitchcock Title: HSE Coordinator

Signature: Sheldon Hitchcock Date: 3/4/2019

email: slhitchcock@concho.com Telephone: 575-746-2010

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

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?	76 (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: ***Each of the following items must be included in the report.***

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

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: Sheldon L. Hitchcock Title: HSE Coordinator

Signature: Sheldon Hitchcock Date: 3/4/2019

email: slhitchcock@concho.com Telephone: 575-746-2010

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
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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: Sheldon L. Hitchcock Title: HSE Coordinator

Signature: Sheldon Hitchcock Date: 3/4/2019

email: slhitchcock@concho.com Telephone: 575-746-2010

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

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: Sheldon L. Hitchcock Title: HSE Coordinator

Signature: Sheldon Hitchcock Date: 3/4/2019

email: slhitchcock@concho.com Telephone: 575-746-2010

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: Brittany Hall Date: 4/18/2023

Printed Name: Brittany Hall Title: Environmental Specialist

APPENDIX V

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

Incident ID	
District RP	2RP-4916
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party COG Operating LLC	OGRID 229137
Contact Name Robert McNeill	Contact Telephone 432-683-7443
Contact email rmcneill@concho.com	Incident # *(assigned by OCD)*
Contact mailing address 600 West Illinois Avenue, Midland, TX 79701	

Location of Release Source

Latitude 32.8248863 Longitude -103.0184937
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Burch Keely Unit #963H	Site Type Battery
Date Release Discovered 8/7/2018	API# *(if applicable) 30-015-39576*

Unit Letter	Section	Township	Range	County
D	19	17S	30E	Eddy

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) 15	Volume Recovered (bbls) 2
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	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
Release was caused by debris obstructing the back pressure valve.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4916
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)?	

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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: Jennifer Knowlton Title: HRL Compliance Solutions, Regional Manager

Signature: Jennifer Knowlton Date: _____

email: jknowlton@hrlcomp.com Telephone: 505-238-3588

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4916
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?	80 (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: ***Each of the following items must be included in the report.***

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4916
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: Jennifer Knowlton Title: HRL Compliance Solutions, Regional Manager

Signature: Jennifer Knowlton Date: _____

email: jknowlton@hrlcomp.com Telephone: 505-238-3588

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-4916
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: Jennifer Knowlton Title: HRL Compliance Solutions, Regional Manager

Signature: Jennifer Knowlton Date: _____

email: jknowlton@hrlcomp.com Telephone: 505-238-3588

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	
District RP	2RP-4916
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: _____ 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: _____

HRL COMPLIANCE SOLUTIONS
P.O. Box 1708 • Artesia, NM 88211
www.hrlcomp.com

SUBJECT: SOIL REMEDIATION PLAN FOR THE INCIDENT AT THE Burch Keely Unit #963H, EDDY COUNTY, NEW MEXICO

On behalf of COG Operating, LLC, HRL Compliance Solutions, Inc (HRL) has prepared this remediation plan that describes the assessment, characterization, and proposed remediation for a release associated with the Burch Keely Unit #963H. The site is in Unit D, SECTION 19, TOWNSHIP 17S, RANGE 30E, NMPM, Eddy County, New Mexico, on State land.

Site Assessment/Characterization

An assessment of surrounding water well information identifies 3 water wells within a 3-mile buffer. Depth to water at this site is estimated to be between 50 and 100 feet at the location. This information is illustrated in Attachment A.

There are no features of concern identified within proximity of the site. There is no flowing watercourse or significant watercourse within 300 feet of this location. There is no lakebed, sinkhole, or playa lake within 200 feet for this location. This location is not within 300 feet of an occupied permanent residence, school, hospital, institution, or church. This location is not with 500 feet for a spring or domestic freshwater well. This facility is not within incorporated municipal boundaries or within a defined municipal freshwater well field. This is illustrated in Attachment B.

An assessment of wetlands and springs was performed using USGS National Water Information System and re-verified utilizing a 7.5-minute topographical map There are no wetlands with 300 feet of this location. There are no springs within 1000 feet of this location. This map is in Attachment B.

This facility is not within a 100-year floodplain as per FEMA, reference Map 35015C0400D. A portion of the FEMA map is in Attachment B.

This location is not located in an area identified in an unstable karst geology area. An area map generated with data from the USGS showing geologic units and structural features is in Attachment B.

Upon receiving clearance from the underground utility locate (811) on August 27, 2018, HRL field personnel assessed the impacted area. Samples were collected on 8/27/2018 to characterize the extent of impacts and calculate a volume of soil to be excavated for disposal with a backhoe. All samples were collected and analyzed at a National Environmental Laboratory Accreditation Program (NELAP) laboratory and in accordance with NMOCD soil sampling procedures. The samples were submitted to Hall Laboratories for analyses including chlorides by Method 300.0, volatile organics (BTEX) by Method 8021B, and MRO, DRO, and GRO by EPA Method 8015B. Sample locations are depicted in Attachment C. All laboratory results are summarized in Table 1 with raw analytical reports included in Attachment D.

Table 1: Analytical Results Summary

Burch Keely 963 H Analytical Data								
Sample ID	Date	Chloride mg/Kg	Benzene mg/Kg	BTEX mg/Kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	TPH mg/Kg
S1- Surface	8/27/2018	ND	ND	ND	ND	ND	ND	ND
S1-1'	8/27/2018	170	ND	ND	ND	ND	ND	ND
S1-2'	8/27/2018	ND	-	-	-	-	-	-
S1-3'	8/27/2018	ND	-	-	-	-	-	-
S1-4'	8/27/2018	ND	-	-	-	-	-	-
S2 Surface	8/27/2018	51	ND	ND	ND	43	ND	43
S2-1'	8/27/2018	ND	ND	ND	ND	ND	ND	ND
S2-2'	8/27/2018	52	-	-	-	-	-	-
S2-3'	8/27/2018	120	-	-	-	-	-	-
S2-4'	8/27/2018	85	-	-	-	-	-	-
S3 Surface	8/27/2018	910	ND	ND	ND	**3600**	**1700**	**5300**
S3-1'	8/27/2018	200	ND	ND	ND	ND	ND	ND
S3-2'	8/27/2018	160	-	-	-	-	-	-
S3-3'	8/27/2018	87	-	-	-	-	-	-
S3-4'	8/27/2018	ND	-	-	-	-	-	-
S4 Surface	8/27/2018	150	ND	ND	ND	ND	ND	ND
S4-1'	8/27/2018	69	ND	ND	ND	ND	ND	ND
S4-2'	8/27/2018	38.0	-	-	-	-	-	-
S4-3'	8/27/2018	ND	-	-	-	-	-	-
S4-4'	8/27/2018	ND	-	-	-	-	-	-
S5 Surface	8/27/2018	5,800	ND	ND	ND	170	63	233
S5-1'	8/27/2018	1,100	ND	ND	ND	66	ND	66
S5-2'	8/27/2018	360	-	-	-	-	-	-
S5-3'	8/27/2018	ND	-	-	-	-	-	-
S5-4'	8/27/2018	ND	-	-	-	-	-	-
S6 Surface	8/27/2018	ND	ND	ND	ND	ND	ND	ND

Burch Keely 963 H Analytical Data								
Sample ID	Date	Chloride mg/Kg	Benzene mg/Kg	BTEX mg/Kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	TPH mg/Kg
EAST	8/27/2018	180	ND	ND	ND	ND	ND	ND
WEST	8/27/2018	ND	ND	ND	ND	ND	ND	ND
NORTH	8/27/2018	44	ND	ND	ND	140	440	580
SOUTH	8/27/2018	ND	ND	ND	ND	ND	ND	ND

Closure Criteria Assessment

Closure Criteria		
Depth to Ground Water	**Constituent**	**Limit**
51 feet - 100 feet	Chloride	10,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

Remediation Plan

Only the area around Sample Point 5 is above the closure criteria in Table 1. The area around Sample Point 5 will be excavated to an approximate depth of 1 foot where it doesn't impact existing production equipment. The total estimated volume of material to be removed is 65 cubic yards. A five-point composite sample will be collected from the bottom of the excavation and four side wall samples will be collected. The areas and excavated yardages may be adjusted during the excavation.

Concho is requesting a deferment of some areas of soil removal. Per 19.15.29.12.C(2), if the contamination is in areas immediately under or around production equipment such as production tanks, wellheads and pipelines were remediation could cause a major facility deconstruction, the remediation may be deferred with approval until the equipment is removed.

The area of contamination is around the wellhead with known electric lines running through the contamination area. Concho will remove what contamination can be safely removed and leave some in place in protect equipment and electric lines.

Remediation is scheduled to begin within 90 days of approval of this remediation plan.

Restoration, Reclamation, and Revegetation

All impacted areas are within an active production pad. The area will be stabilized to prevent erosion.

If there are any questions regarding this report, please contact Jennifer Knowlton at 505-238-3588.

Submitted by:
HRL Compliance Solutions, Inc

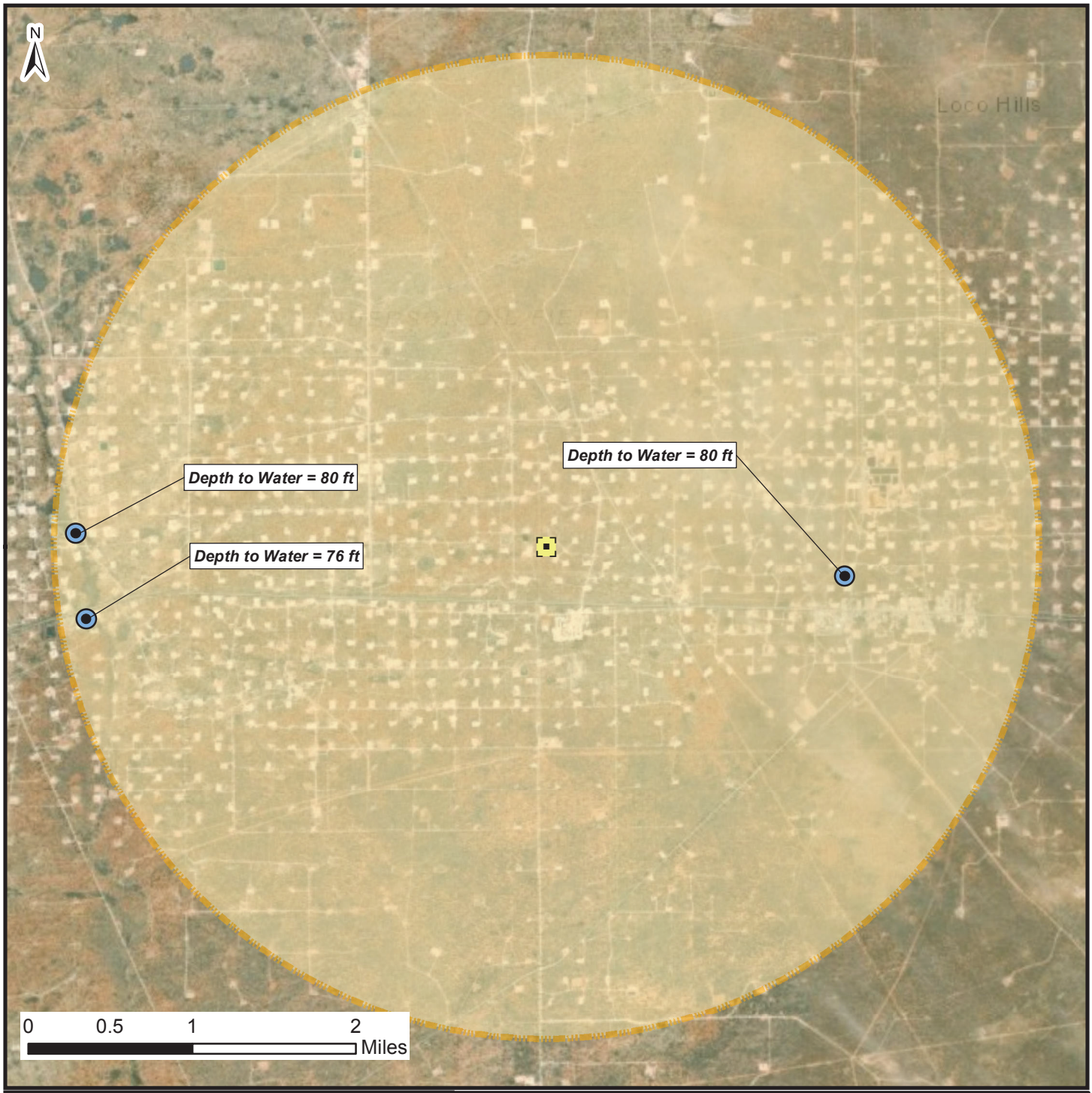
Jennifer Knowlton
Regional Manager - Permian

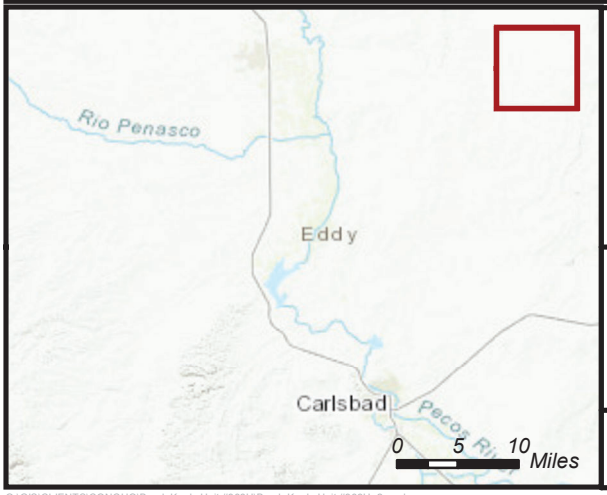
Attachments:

Attachment A: NMOSE Depth to Water Map and Report
Attachment B: Site Location Map
Wetlands Map
Floodplain Map
Karst Area Map
Attachment C: Sample Location Map
Attachment D: Laboratory Analytical Reports

Attachment A:

NMOSE Depth to Water Map and Report





CONCHO

Site Location Map

Burch Keely Unit #963H

32.8248863 -104.0184937

Section 19, Township 17 South, Range 30 East

Legend

- Water Well
- Burch Keely Unit #963H
- 3 Mile Buffer

DISCLAIMER: This representation and the Geographic Information System (GIS) used to create it are designed as a source of reference and not intended to replace official records and/or legal surveys. HCSI assumes no responsibility for any risks, dangers, or liabilities that may result from its use and makes no guarantees as to the quality or accuracy of the underlying data.

HRL COMPLIANCE SOLUTIONS

Author:	K. Fox
Revision:	0
Date:	9/26/2018

O:\GIS\CLIENTS\CONCHO\Burch Keely Unit #963H\Burch Keely Unit #963H_2.mxd

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-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 11914 POD1	RA	ED	2	4	2	20	17S	30E	594801	3632002	2945	85	80	5
RA 11807 POD1	RA	ED	1	2	3	22	17S	29E	587360	3631585	4567	131	76	55

Average Depth to Water: **78 feet**

Minimum Depth: **76 feet**

Maximum Depth: **80 feet**

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 591870.76 **Northing (Y):** 3632300.64 **Radius:** 4828

Burch Keely Unit

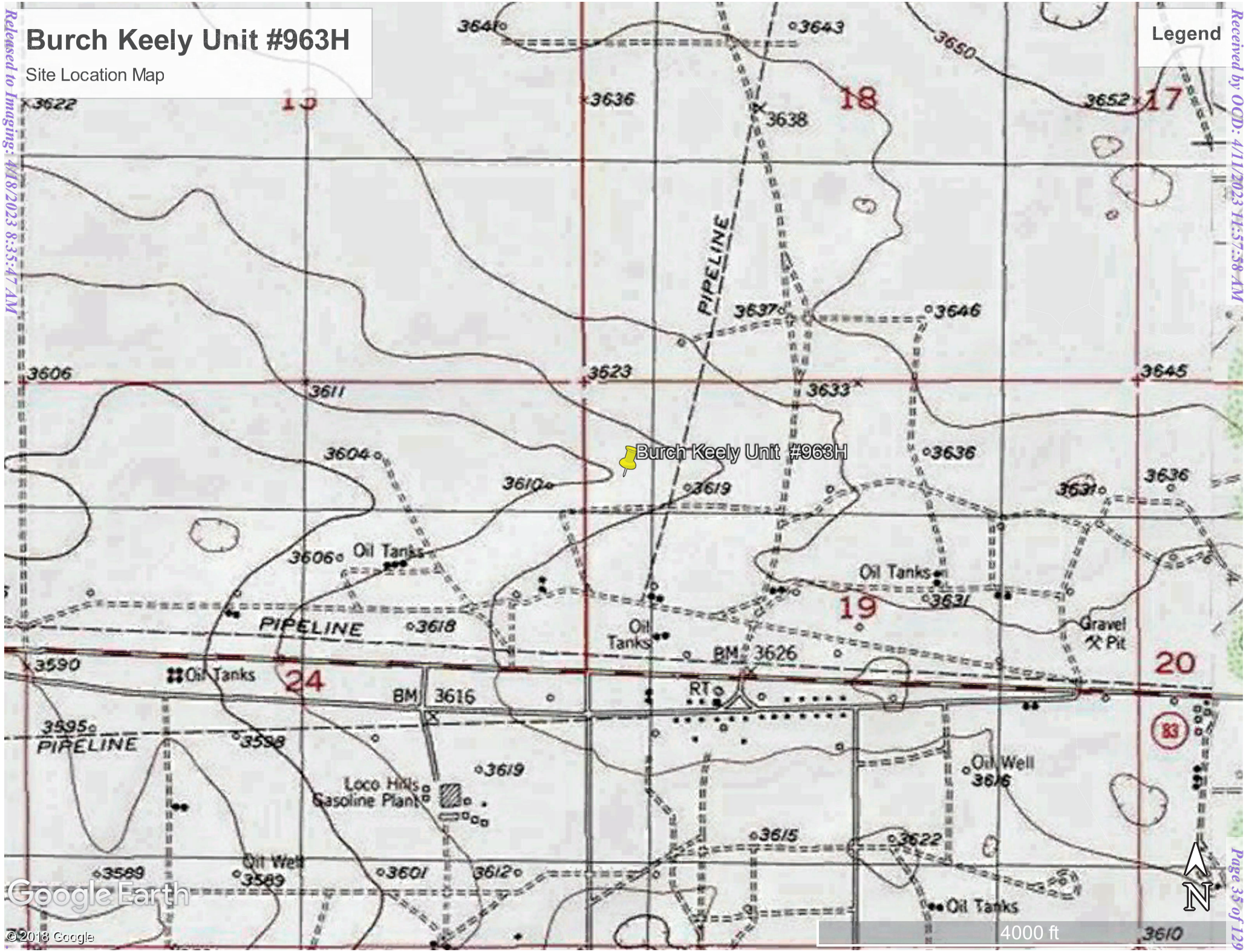
RA 11914	594801	3632002			80 ft
RA 11807	587360	3631585			76 ft
325210103580101			32.86944	-103.967	361.26 ft
325216103575701			32.87111	-103.966	362.44 ft
324935104040401			32.82639	-104.068	79.70 ft
324936104040501			32.82667	-104.085	70.90 ft

Attachment B:

Site Location Map
Wetlands Map
Floodplain Map
Karst Area Map

Burch Keely Unit #963H

Site Location Map



U.S. Fish and Wildlife Service

National Wetlands Inventory

Burch Keely Unit #963H Wetlands

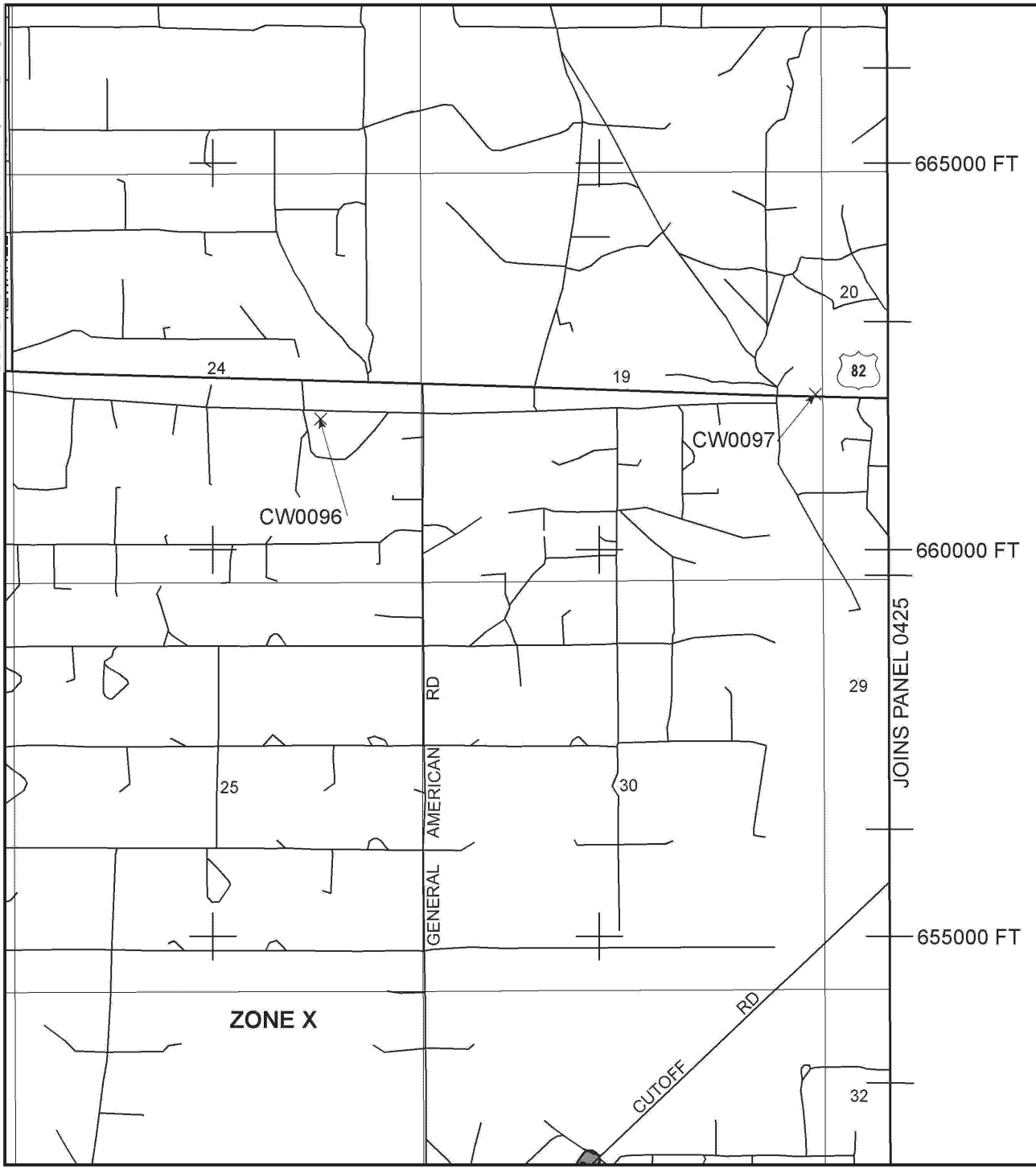
September 25, 2018

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper



ance Program at 1-800-638-6620.

MAP SCALE 1" = 2000'

0 0 1,000 2,000 3,000 4,000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0400D

FIRM

FLOOD INSURANCE RATE MAP

EDDY COUNTY, NEW MEXICO

AND INCORPORATED AREAS

PANEL 400 OF 2000

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
EDDY COUNTY, UNINCORPORATED AREAS	350120	0400	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

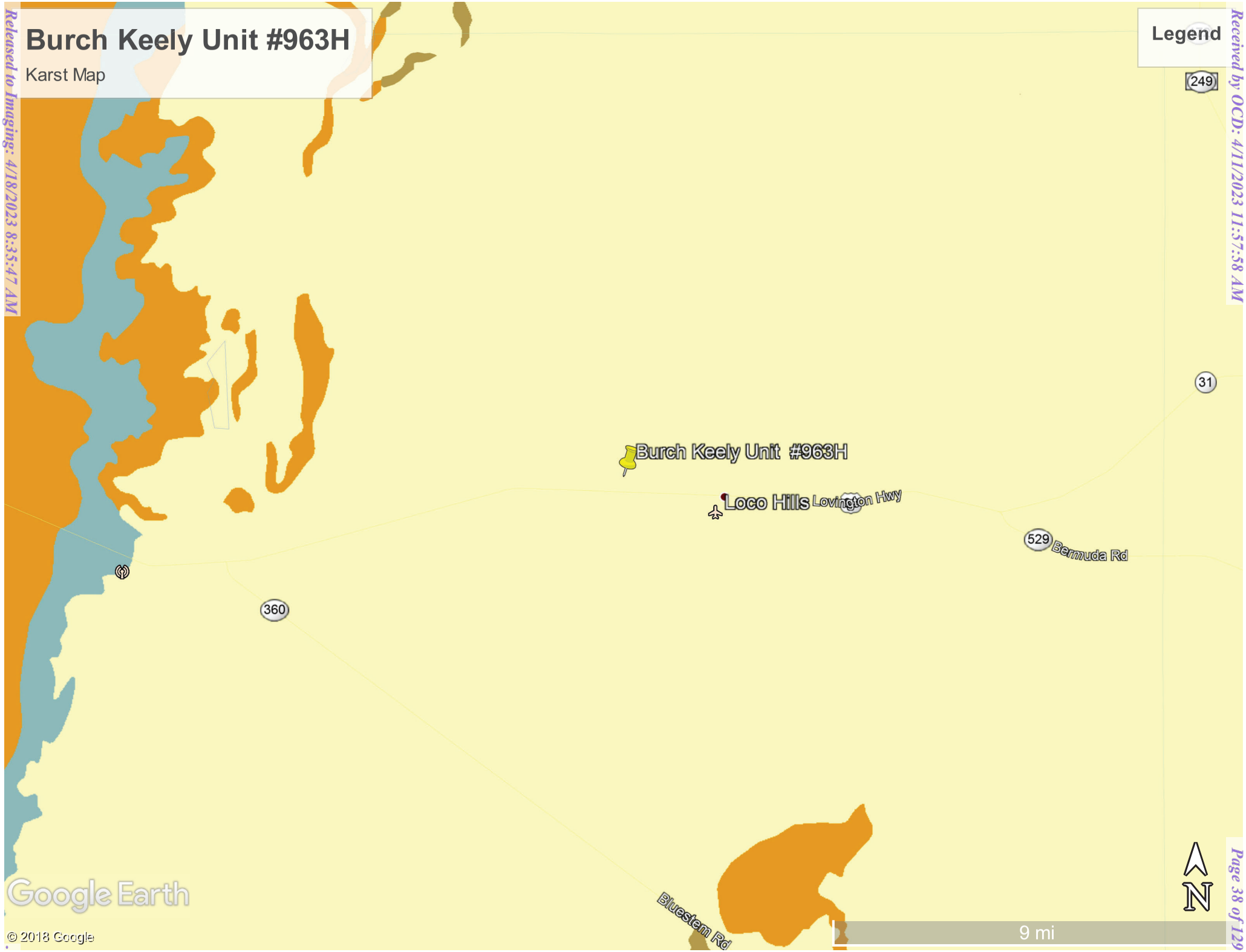
MAP NUMBER
35015C0400D

EFFECTIVE DATE
JUNE 4, 2010

Federal Emergency Management Agency

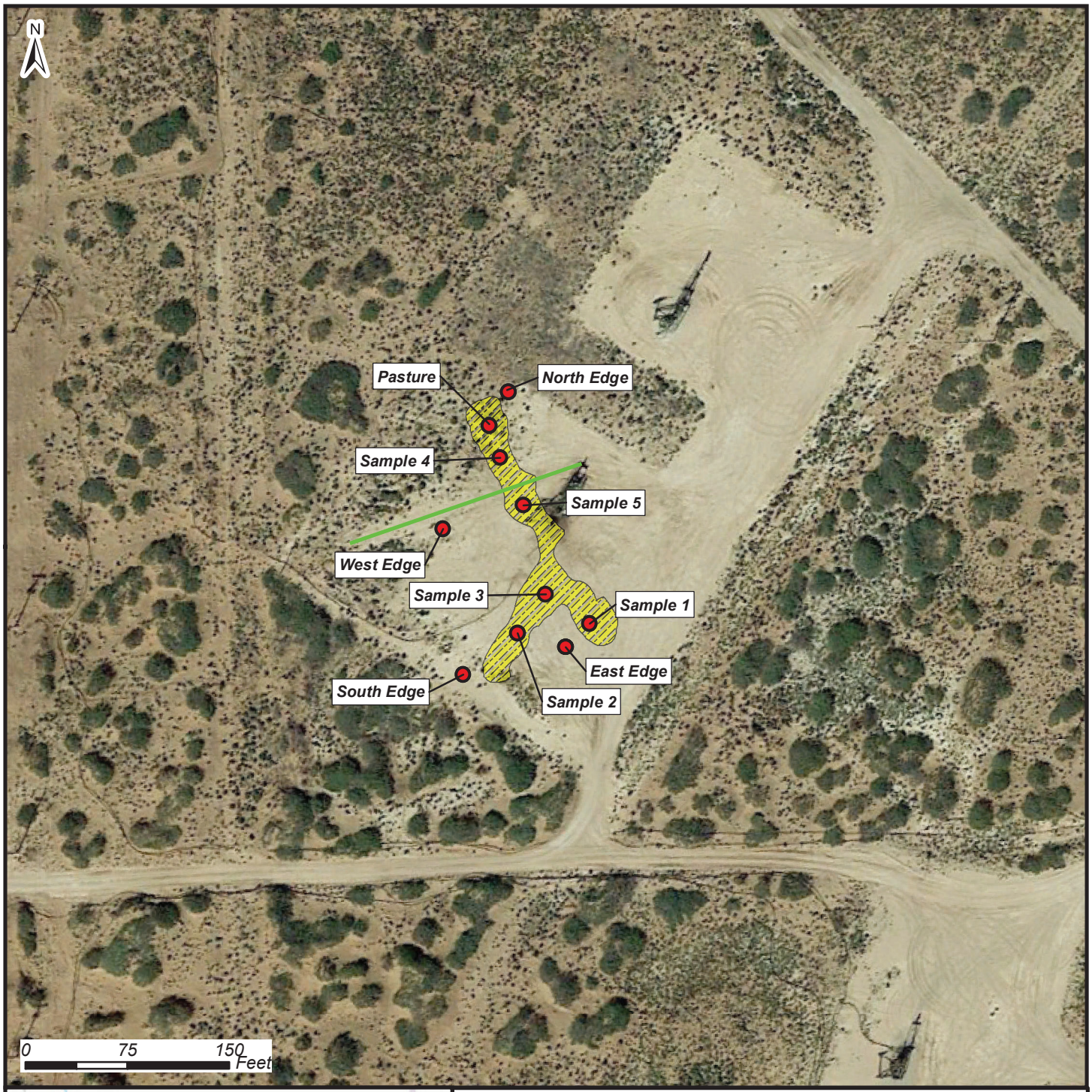
Burch Keely Unit #963H

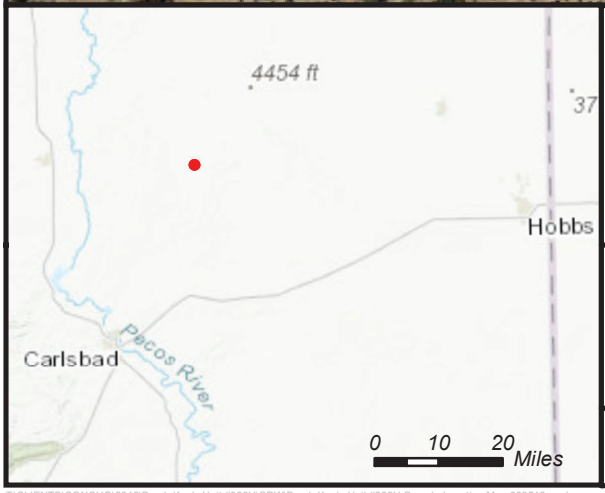
Karst Map



Attachment C:

Sample Location Map





CONCHO

Sample Location Map

Burch Keely Unit #963H

32.8248863 -104.0184937

Section 19, Township 17 South, Range 30 East

Mapped Features

- Sample Locations
- Electric Line
- Impacted Area

HRL COMPLIANCE SOLUTIONS

Author: A. Asay

Revision: 0

Date: 9/6/2018

T:\CLIENTS\CONCHO\2018\Burch Keely Unit #963H\SRW\Burch Keely Unit #963H Sample Location Map 090518.mxd

Attachment D:

Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 17, 2018

Jennifer Knowlton

Concho
600 W Illinois Ave
Midland, TX 79701
TEL: (505) 238-3588
FAX

RE: Burch Keely Unit 963H OrderNo.: 1808I89

Dear Jennifer Knowlton:

Hall Environmental Analysis Laboratory received 29 sample(s) on 8/31/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S1-Surface
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-001 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/6/2018 3:26:52 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/6/2018 3:26:52 PM
Surr: DNOP	107	50.6-138		%Rec	1	9/6/2018 3:26:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/5/2018 1:28:44 AM
Surr: BFB	92.4	15-316		%Rec	1	9/5/2018 1:28:44 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	9/5/2018 1:28:44 AM
Toluene	ND	0.050		mg/Kg	1	9/5/2018 1:28:44 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/5/2018 1:28:44 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/5/2018 1:28:44 AM
Surr: 4-Bromofluorobenzene	87.7	80-120		%Rec	1	9/5/2018 1:28:44 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	30		mg/Kg	20	9/12/2018 12:49:15 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho **Client Sample ID:** S1-1'
Project: Burch Keely Unit 963H **Collection Date:** 8/27/2018
Lab ID: 1808I89-002 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/6/2018 4:33:11 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/6/2018 4:33:11 PM
Surr: DNOP	78.0	50.6-138		%Rec	1	9/6/2018 4:33:11 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/5/2018 1:52:11 AM
Surr: BFB	91.6	15-316		%Rec	1	9/5/2018 1:52:11 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/5/2018 1:52:11 AM
Toluene	ND	0.048		mg/Kg	1	9/5/2018 1:52:11 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/5/2018 1:52:11 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/5/2018 1:52:11 AM
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	9/5/2018 1:52:11 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	170	30		mg/Kg	20	9/12/2018 1:01:39 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S1-2'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-003 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	30		mg/Kg	20	9/12/2018 1:14:04 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S1-3'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-004 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	30		mg/Kg	20	9/12/2018 1:26:29 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S1-4'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-005 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	30		mg/Kg	20	9/12/2018 1:38:54 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S2-Surface
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-006 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	43	9.6		mg/Kg	1	9/6/2018 4:55:09 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/6/2018 4:55:09 PM
Surr: DNOP	108	50.6-138		%Rec	1	9/6/2018 4:55:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/5/2018 2:15:32 AM
Surr: BFB	90.5	15-316		%Rec	1	9/5/2018 2:15:32 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	9/5/2018 2:15:32 AM
Toluene	ND	0.047		mg/Kg	1	9/5/2018 2:15:32 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/5/2018 2:15:32 AM
Xylenes, Total	ND	0.093		mg/Kg	1	9/5/2018 2:15:32 AM
Surr: 4-Bromofluorobenzene	87.4	80-120		%Rec	1	9/5/2018 2:15:32 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	51	30		mg/Kg	20	9/12/2018 1:51:18 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

CLIENT: Concho
Project: Burch Keely Unit 963H
Lab ID: 1808I89-007 **Matrix:** SOIL

Client Sample ID: S2-1'
Collection Date: 8/27/2018
Received Date: 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	9/6/2018 5:17:07 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/6/2018 5:17:07 PM
Surr: DNOP	108	50.6-138		%Rec	1	9/6/2018 5:17:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/5/2018 2:38:52 AM
Surr: BFB	88.4	15-316		%Rec	1	9/5/2018 2:38:52 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/5/2018 2:38:52 AM
Toluene	ND	0.048		mg/Kg	1	9/5/2018 2:38:52 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/5/2018 2:38:52 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/5/2018 2:38:52 AM
Surr: 4-Bromofluorobenzene	84.8	80-120		%Rec	1	9/5/2018 2:38:52 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	30		mg/Kg	20	9/12/2018 2:03:43 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S2-2'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-008 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	52	30		mg/Kg	20	9/12/2018 2:16:07 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S2-3'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-009 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	120	30		mg/Kg	20	9/12/2018 2:53:22 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S2-4'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-010 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	85	30		mg/Kg	20	9/12/2018 3:05:46 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S3-Surface
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-011 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	3600	96		mg/Kg	10	9/7/2018 9:33:52 AM
Motor Oil Range Organics (MRO)	1700	480		mg/Kg	10	9/7/2018 9:33:52 AM
Surr: DNOP	0	50.6-138	S	%Rec	10	9/7/2018 9:33:52 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	23	D	mg/Kg	5	9/5/2018 3:02:07 AM
Surr: BFB	128	15-316	D	%Rec	5	9/5/2018 3:02:07 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.12	D	mg/Kg	5	9/5/2018 3:02:07 AM
Toluene	ND	0.23	D	mg/Kg	5	9/5/2018 3:02:07 AM
Ethylbenzene	ND	0.23	D	mg/Kg	5	9/5/2018 3:02:07 AM
Xylenes, Total	ND	0.46	D	mg/Kg	5	9/5/2018 3:02:07 AM
Surr: 4-Bromofluorobenzene	90.5	80-120	D	%Rec	5	9/5/2018 3:02:07 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	910	30		mg/Kg	20	9/12/2018 3:18:10 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S3-1'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-012 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/6/2018 6:23:00 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/6/2018 6:23:00 PM
Surr: DNOP	117	50.6-138		%Rec	1	9/6/2018 6:23:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/5/2018 3:48:33 AM
Surr: BFB	90.5	15-316		%Rec	1	9/5/2018 3:48:33 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/5/2018 3:48:33 AM
Toluene	ND	0.048		mg/Kg	1	9/5/2018 3:48:33 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/5/2018 3:48:33 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/5/2018 3:48:33 AM
Surr: 4-Bromofluorobenzene	87.6	80-120		%Rec	1	9/5/2018 3:48:33 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	200	30		mg/Kg	20	9/12/2018 3:30:35 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S3-2'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-013 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	160	30		mg/Kg	20	9/11/2018 9:59:32 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S3-3'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-014 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	87	30		mg/Kg	20	9/11/2018 10:11:56 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho **Client Sample ID:** S3-4'
Project: Burch Keely Unit 963H **Collection Date:** 8/27/2018
Lab ID: 1808I89-015 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	30		mg/Kg	20	9/11/2018 10:24:21 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S4-Surface
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-016 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/6/2018 6:45:05 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/6/2018 6:45:05 PM
Surr: DNOP	109	50.6-138		%Rec	1	9/6/2018 6:45:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/5/2018 4:11:48 AM
Surr: BFB	88.5	15-316		%Rec	1	9/5/2018 4:11:48 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	9/5/2018 4:11:48 AM
Toluene	ND	0.046		mg/Kg	1	9/5/2018 4:11:48 AM
Ethylbenzene	ND	0.046		mg/Kg	1	9/5/2018 4:11:48 AM
Xylenes, Total	ND	0.093		mg/Kg	1	9/5/2018 4:11:48 AM
Surr: 4-Bromofluorobenzene	85.4	80-120		%Rec	1	9/5/2018 4:11:48 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	150	30		mg/Kg	20	9/11/2018 10:36:46 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S4-1'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-017 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/6/2018 7:06:57 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/6/2018 7:06:57 PM
Surr: DNOP	108	50.6-138		%Rec	1	9/6/2018 7:06:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/5/2018 4:35:07 AM
Surr: BFB	89.2	15-316		%Rec	1	9/5/2018 4:35:07 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/5/2018 4:35:07 AM
Toluene	ND	0.048		mg/Kg	1	9/5/2018 4:35:07 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/5/2018 4:35:07 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/5/2018 4:35:07 AM
Surr: 4-Bromofluorobenzene	86.1	80-120		%Rec	1	9/5/2018 4:35:07 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	69	30		mg/Kg	20	9/11/2018 11:13:59 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S4-2'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-018 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	38	30		mg/Kg	20	9/11/2018 11:26:24 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S4-3'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-019 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	30		mg/Kg	20	9/11/2018 11:38:48 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S4-4'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-020 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	30		mg/Kg	20	9/11/2018 11:51:13 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S5-Surface
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-021 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	170	9.6		mg/Kg	1	9/6/2018 7:29:04 PM
Motor Oil Range Organics (MRO)	63	48		mg/Kg	1	9/6/2018 7:29:04 PM
Surr: DNOP	110	50.6-138		%Rec	1	9/6/2018 7:29:04 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/5/2018 10:25:03 PM
Surr: BFB	124	15-316		%Rec	1	9/5/2018 10:25:03 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	9/5/2018 10:25:03 PM
Toluene	ND	0.049		mg/Kg	1	9/5/2018 10:25:03 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/5/2018 10:25:03 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/5/2018 10:25:03 PM
Surr: 4-Bromofluorobenzene	89.1	80-120		%Rec	1	9/5/2018 10:25:03 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	5800	300		mg/Kg	200	9/13/2018 10:38:09 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho **Client Sample ID:** S5-1'
Project: Burch Keely Unit 963H **Collection Date:** 8/27/2018
Lab ID: 1808I89-022 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	66	9.5		mg/Kg	1	9/6/2018 7:51:01 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/6/2018 7:51:01 PM
Surr: DNOP	112	50.6-138		%Rec	1	9/6/2018 7:51:01 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/5/2018 10:48:16 PM
Surr: BFB	96.6	15-316		%Rec	1	9/5/2018 10:48:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/5/2018 10:48:16 PM
Toluene	ND	0.048		mg/Kg	1	9/5/2018 10:48:16 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/5/2018 10:48:16 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/5/2018 10:48:16 PM
Surr: 4-Bromofluorobenzene	89.9	80-120		%Rec	1	9/5/2018 10:48:16 PM
EPA METHOD 300.0: ANIONS						Analyst: **MRA**
Chloride	1100	75		mg/Kg	50	9/13/2018 10:50:34 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S5-2'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-023 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	360	30		mg/Kg	20	9/12/2018 12:53:15 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S5-3'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-024 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	30		mg/Kg	20	9/12/2018 1:05:39 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho
Client Sample ID: S5-4'
Project: Burch Keely Unit 963H
Collection Date: 8/27/2018
Lab ID: 1808I89-025 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	30		mg/Kg	20	9/12/2018 1:18:04 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho **Client Sample ID:** East
Project: Burch Keely Unit 963H **Collection Date:** 8/27/2018
Lab ID: 1808I89-026 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/6/2018 8:13:07 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/6/2018 8:13:07 PM
Surr: DNOP	91.0	50.6-138		%Rec	1	9/6/2018 8:13:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/5/2018 11:11:31 PM
Surr: BFB	93.1	15-316		%Rec	1	9/5/2018 11:11:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/5/2018 11:11:31 PM
Toluene	ND	0.048		mg/Kg	1	9/5/2018 11:11:31 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/5/2018 11:11:31 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/5/2018 11:11:31 PM
Surr: 4-Bromofluorobenzene	88.2	80-120		%Rec	1	9/5/2018 11:11:31 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	180	30		mg/Kg	20	9/12/2018 1:30:29 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho **Client Sample ID:** West
Project: Burch Keely Unit 963H **Collection Date:** 8/27/2018
Lab ID: 1808I89-027 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/6/2018 8:35:14 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/6/2018 8:35:14 PM
Surr: DNOP	79.4	50.6-138		%Rec	1	9/6/2018 8:35:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/5/2018 11:34:52 PM
Surr: BFB	93.5	15-316		%Rec	1	9/5/2018 11:34:52 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	9/5/2018 11:34:52 PM
Toluene	ND	0.046		mg/Kg	1	9/5/2018 11:34:52 PM
Ethylbenzene	ND	0.046		mg/Kg	1	9/5/2018 11:34:52 PM
Xylenes, Total	ND	0.091		mg/Kg	1	9/5/2018 11:34:52 PM
Surr: 4-Bromofluorobenzene	89.8	80-120		%Rec	1	9/5/2018 11:34:52 PM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	30		mg/Kg	20	9/12/2018 1:42:53 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho **Client Sample ID:** North
Project: Burch Keely Unit 963H **Collection Date:** 8/27/2018
Lab ID: 1808I89-028 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	140	9.1		mg/Kg	1	9/6/2018 8:57:28 PM
Motor Oil Range Organics (MRO)	440	46		mg/Kg	1	9/6/2018 8:57:28 PM
Surr: DNOP	101	50.6-138		%Rec	1	9/6/2018 8:57:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/6/2018 1:08:13 AM
Surr: BFB	93.1	15-316		%Rec	1	9/6/2018 1:08:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	9/6/2018 1:08:13 AM
Toluene	ND	0.046		mg/Kg	1	9/6/2018 1:08:13 AM
Ethylbenzene	ND	0.046		mg/Kg	1	9/6/2018 1:08:13 AM
Xylenes, Total	ND	0.092		mg/Kg	1	9/6/2018 1:08:13 AM
Surr: 4-Bromofluorobenzene	87.0	80-120		%Rec	1	9/6/2018 1:08:13 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	44	30		mg/Kg	20	9/12/2018 1:55:18 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1808I89**
Date Reported: **9/17/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Concho **Client Sample ID:** South
Project: Burch Keely Unit 963H **Collection Date:** 8/27/2018
Lab ID: 1808I89-029 **Matrix:** SOIL **Received Date:** 8/31/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/7/2018 9:11:38 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/7/2018 9:11:38 AM
Surr: DNOP	68.2	50.6-138		%Rec	1	9/7/2018 9:11:38 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/6/2018 1:31:35 AM
Surr: BFB	91.9	15-316		%Rec	1	9/6/2018 1:31:35 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/6/2018 1:31:35 AM
Toluene	ND	0.048		mg/Kg	1	9/6/2018 1:31:35 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/6/2018 1:31:35 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/6/2018 1:31:35 AM
Surr: 4-Bromofluorobenzene	86.8	80-120		%Rec	1	9/6/2018 1:31:35 AM
EPA METHOD 300.0: ANIONS						Analyst: **smb**
Chloride	ND	30		mg/Kg	20	9/12/2018 2:07:42 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808I89**

17-Sep-18

Client: Concho

Project: Burch Keely Unit 963H

Sample ID	**MB-40290**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**40290**	RunNo:	**54069**					
Prep Date:	**9/11/2018**	Analysis Date:	**9/11/2018**	SeqNo:	**1787596**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-40290**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**40290**	RunNo:	**54069**					
Prep Date:	**9/11/2018**	Analysis Date:	**9/11/2018**	SeqNo:	**1787597**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	90	110			

Sample ID	**MB-40286**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**40286**	RunNo:	**54095**					
Prep Date:	**9/11/2018**	Analysis Date:	**9/11/2018**	SeqNo:	**1787698**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-40286**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**40286**	RunNo:	**54095**					
Prep Date:	**9/11/2018**	Analysis Date:	**9/11/2018**	SeqNo:	**1787699**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.5	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808I89**

17-Sep-18

Client: Concho

Project: Burch Keely Unit 963H

Sample ID	**MB-40152**	SampType:	**MBLK**	TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**PBS**	Batch ID:	**40152**	RunNo:	**53970**					
Prep Date:	**9/5/2018**	Analysis Date:	**9/6/2018**	SeqNo:	**1782303**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		108	50.6	138			

Sample ID	**1808I89-001AMS**	SampType:	**MS**	TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**S1-Surface**	Batch ID:	**40152**	RunNo:	**53970**					
Prep Date:	**9/5/2018**	Analysis Date:	**9/6/2018**	SeqNo:	**1782305**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	70	10	50.76	4.777	128	53.5	126			S
Surr: DNOP	5.4		5.076		107	50.6	138			

Sample ID	**1808I89-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**S1-Surface**	Batch ID:	**40152**	RunNo:	**53970**					
Prep Date:	**9/5/2018**	Analysis Date:	**9/6/2018**	SeqNo:	**1782306**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	9.8	49.16	4.777	105	53.5	126	20.6	21.7	
Surr: DNOP	5.1		4.916		104	50.6	138	0	0	

Sample ID	**LCS-40152**	SampType:	**LCS**	TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**LCSS**	Batch ID:	**40152**	RunNo:	**53970**					
Prep Date:	**9/5/2018**	Analysis Date:	**9/6/2018**	SeqNo:	**1782317**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.6	70	130			
Surr: DNOP	4.9		5.000		98.6	50.6	138			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808I89**

17-Sep-18

Client: Concho

Project: Burch Keely Unit 963H

Sample ID	**MB-40101**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBS**	Batch ID:	**40101**		RunNo:	**53896**				
Prep Date:	**8/31/2018**	Analysis Date:	**9/4/2018**		SeqNo:	**1778755**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		94.2	15	316			

Sample ID	**LCS-40101**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSS**	Batch ID:	**40101**		RunNo:	**53896**				
Prep Date:	**8/31/2018**	Analysis Date:	**9/4/2018**		SeqNo:	**1778756**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	75.9	131			
Surr: BFB	1000		1000		103	15	316			

Sample ID	**1808I53-001AMS**	SampType:	**MS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**BatchQC**	Batch ID:	**40101**		RunNo:	**53896**				
Prep Date:	**8/31/2018**	Analysis Date:	**9/4/2018**		SeqNo:	**1778758**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.32	0	92.8	77.8	128			
Surr: BFB	1000		972.8		105	15	316			

Sample ID	**1808I53-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**BatchQC**	Batch ID:	**40101**		RunNo:	**53896**				
Prep Date:	**8/31/2018**	Analysis Date:	**9/4/2018**		SeqNo:	**1778759**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.7	23.52	0	95.1	77.8	128	0.836	20	
Surr: BFB	990		940.7		106	15	316	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808I89**

17-Sep-18

Client: Concho

Project: Burch Keely Unit 963H

Sample ID	**MB-40101**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**40101**	RunNo:	**53896**					
Prep Date:	**8/31/2018**	Analysis Date:	**9/4/2018**	SeqNo:	**1778800**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.91		1.000		90.7	80	120			

Sample ID	**LCS-40101**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**40101**	RunNo:	**53896**					
Prep Date:	**8/31/2018**	Analysis Date:	**9/4/2018**	SeqNo:	**1778801**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	89.7	77.3	128			
Toluene	0.93	0.050	1.000	0	92.6	79.2	125			
Ethylbenzene	0.92	0.050	1.000	0	91.9	80.7	127			
Xylenes, Total	2.8	0.10	3.000	0	93.0	81.6	129			
Surr: 4-Bromofluorobenzene	0.89		1.000		89.2	80	120			

Sample ID	**1808I68-001AMS**	SampType:	**MS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**BatchQC**	Batch ID:	**40101**	RunNo:	**53896**					
Prep Date:	**8/31/2018**	Analysis Date:	**9/4/2018**	SeqNo:	**1778803**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	83.8	68.5	133			
Toluene	0.89	0.050	1.000	0	88.8	75	130			
Ethylbenzene	0.89	0.050	1.000	0	89.0	79.4	128			
Xylenes, Total	2.7	0.10	3.000	0	91.2	77.3	131			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.2	80	120			

Sample ID	**1808I68-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**BatchQC**	Batch ID:	**40101**	RunNo:	**53896**					
Prep Date:	**8/31/2018**	Analysis Date:	**9/4/2018**	SeqNo:	**1778804**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	0.9804	0	84.5	68.5	133	1.20	20	
Toluene	0.87	0.049	0.9804	0	88.8	75	130	1.99	20	
Ethylbenzene	0.87	0.049	0.9804	0	88.8	79.4	128	2.17	20	
Xylenes, Total	2.7	0.098	2.941	0	91.4	77.3	131	1.77	20	
Surr: 4-Bromofluorobenzene	0.90		0.9804		92.2	80	120	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: CONCHO MIDLAND Work Order Number: 1808I89 RcptNo: 1

Received By: **Erin Melendrez** 8/31/2018 8:45:00 AM

Completed By: **Michelle Garcia** 8/31/2018 12:08:20 PM Michelle Garcia

Reviewed By: ENH 8/31/18

LB: JU 8.31.18

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: _____
ENH 8/31/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.7	Good	Yes			
2	1.9	Good	Yes			

1of 3

Chain-of-Custody Record

Client: COG

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other ______

☐ EDD (Type) ______

Turn-Around Time:
☒ Standard ☐ Rush ______

Project Name: Burch Keely Unit #963H

Project #:

Project Manager: HRL

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808I89	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BTEX 8021B	Chlorides			Air Bubbles (Y or N)
8/27/18		Soil	S1 - surface	Jar		001			X									X	X			
			S1 - 1'			002			X									X	X			
			S1 - 2'			003													X			
			S1 - 3'			004													X			
			S1 - 4'			005													X			
			S2 - Surface			006			X									X	X			
			S2 - 1'			007			X									X	X			
			S2 - 2'			008													X			
			S2 - 3'			009													X			
			S2 - 4'			010													X			
			S3 - Surface			011			X									X	X			
			S3 - 1'			012			X									X	X			

Date	Time	Relinquished by	Received by	Date	Time
8/30/18	0830	Jennifer Knowlton	[signature]	8/30/18	0830
8/30/18	1900	[signature]	[signature] Courier ENH 8/31/18	8/31/18	0845

Remarks:
Cooler 1: 2.7
Cooler 2: 1.9
ENH 8/31/18
jknowlton@hrlcomp.com
lcarrasco@hrlcomp.com
ksmith@hrlcomp.com
dneel2@~~hrlcomp.com~~ concho.com

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: COG

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name: Burch Keely Unit #963H

Project #:

Project Manager:

Sampler: Kevin Smith
On Ice: ☑ Yes ☐ No
Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808189	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BTEX 8021B	Chlorides			Air Bubbles (Y or N)
8/27/18		Soil	S3-2'	Jar		013													X			
			S3-3'			014													X			
			S3-4'			015													X			
			S4-Surface			016			X									X	X			
			S4-1'			017			X									X	X			
			S4-2'			018													X			
			S4-3'			019													X			
			S4-4'			020													X			
			S5-Surface			021			X									X	X			
			S5-1'			022			X									X	X			
			S5-2'			023													X			
			S5-3'			024													X			

Date	Time	Relinquished by:	Received by:	Date	Time
8/30/18	0830	Jennifer Knowlton			
8/30/18	1900		Courier ENH 8/31/18	8/31/18	0845

Remarks: COOler1: 2.1 knowlton@hrlcomp.com
cooler2: 1.9 carrasco@hrlcomp.com
ksmith@hrlcomp.com
dneel2@concho.com
ENH 8/31/18

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: COG

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: Burch Keely Unit #963H

Project #:

Project Manager:

Sampler: Kevin Smith

On Ice: ☒ Yes ☐ No

Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808189	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BTEX 8021B	Chlorides			Air Bubbles (Y or N)
8/27/18		Soil	SS-4'	Jar		025													X			
"		"	East	"		026			X									X	X			
"		"	West	"		027			X									X	X			
"		"	North	"		028			X									X	X			
"		"	South	"		029			X									X	X			

Date	Time	Relinquished by	Received by	Date	Time
8/30/18	0830	Jennifer Knowlton			
8/30/18	1900		Courier	8/31/18	0845

Remarks: COOler1: jknowlton@hrlcomp.com 2.7 lcarrasco@hrlcomp.com
COOler2: 1.9 lcsmith@hrlcomp.com
ENM 8/31/18 dneel2@concho.com

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

APPENDIX VI

NW N NE

300 330 0 30

344°N (T) 32.820232°, -104.028725° ±541.4ft ▲ 3609ft

10 Jan 2019, 10:39:02


CONCHO
COG Operating LLC
BURCH KEELY UNIT #963H
UNIT D, SEC.19-T17S-R30E
893' FNL & 358 FWL
EDDY CO., NM NMLC-028793A
API #30-015-39576

APPENDIX VII

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

December 27, 2018

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: BURCH KEELEY UNIT #963H

Enclosed are the results of analyses for samples received by the laboratory on 12/26/18 11:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	12/26/2018	Sampling Date:	12/26/2018
Reported:	12/27/2018	Sampling Type:	Soil
Project Name:	BURCH KEELEY UNIT #963H	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: BOTTOM - 1 (H803775-01)

BTEX 8021B mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/26/2018	ND	2.01	100	2.00	15.6	
Toluene*	<0.050	0.050	12/26/2018	ND	1.95	97.7	2.00	16.0	
Ethylbenzene*	<0.050	0.050	12/26/2018	ND	1.96	97.9	2.00	15.4	
Total Xylenes*	<0.150	0.150	12/26/2018	ND	6.04	101	6.00	15.5	
Total BTEX	<0.300	0.300	12/26/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	12/26/2018	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2018	ND	196	97.8	200	1.34	
DRO >C10-C28*	<10.0	10.0	12/26/2018	ND	225	113	200	1.85	
EXT DRO >C28-C36	<10.0	10.0	12/26/2018	ND					

Surrogate: 1-Chlorooctane *97.0 %* *41-142*

Surrogate: 1-Chlorooctadecane *96.3 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	12/26/2018	Sampling Date:	12/26/2018
Reported:	12/27/2018	Sampling Type:	Soil
Project Name:	BURCH KEELEY UNIT #963H	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: BOTTOM - 2 (H803775-02)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/26/2018	ND	2.01	100	2.00	15.6	
Toluene*	<0.050	0.050	12/26/2018	ND	1.95	97.7	2.00	16.0	
Ethylbenzene*	<0.050	0.050	12/26/2018	ND	1.96	97.9	2.00	15.4	
Total Xylenes*	<0.150	0.150	12/26/2018	ND	6.04	101	6.00	15.5	
Total BTEX	<0.300	0.300	12/26/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.4 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2030**	16.0	12/26/2018	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2018	ND	196	97.8	200	1.34	
DRO >C10-C28*	**151**	10.0	12/26/2018	ND	225	113	200	1.85	
EXT DRO >C28-C36	**12.2**	10.0	12/26/2018	ND					

Surrogate: 1-Chlorooctane *96.6 %* *41-142*

Surrogate: 1-Chlorooctadecane *100 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	12/26/2018	Sampling Date:	12/26/2018
Reported:	12/27/2018	Sampling Type:	Soil
Project Name:	BURCH KEELEY UNIT #963H	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: BOTTOM - 3 (H803775-03)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/26/2018	ND	2.01	100	2.00	15.6	
Toluene*	<0.050	0.050	12/26/2018	ND	1.95	97.7	2.00	16.0	
Ethylbenzene*	<0.050	0.050	12/26/2018	ND	1.96	97.9	2.00	15.4	
Total Xylenes*	<0.150	0.150	12/26/2018	ND	6.04	101	6.00	15.5	
Total BTEX	<0.300	0.300	12/26/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.3 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2000**	16.0	12/26/2018	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2018	ND	196	97.8	200	1.34	
DRO >C10-C28*	**17.3**	10.0	12/26/2018	ND	225	113	200	1.85	
EXT DRO >C28-C36	<10.0	10.0	12/26/2018	ND					

Surrogate: 1-Chlorooctane *91.1 %* *41-142*

Surrogate: 1-Chlorooctadecane *90.5 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	12/26/2018	Sampling Date:	12/26/2018
Reported:	12/27/2018	Sampling Type:	Soil
Project Name:	BURCH KEELEY UNIT #963H	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: BOTTOM - 4 (H803775-04)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/26/2018	ND	2.01	100	2.00	15.6	
Toluene*	<0.050	0.050	12/26/2018	ND	1.95	97.7	2.00	16.0	
Ethylbenzene*	<0.050	0.050	12/26/2018	ND	1.96	97.9	2.00	15.4	
Total Xylenes*	<0.150	0.150	12/26/2018	ND	6.04	101	6.00	15.5	
Total BTEX	<0.300	0.300	12/26/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.6 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	12/26/2018	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2018	ND	196	97.8	200	1.34	
DRO >C10-C28*	<10.0	10.0	12/26/2018	ND	225	113	200	1.85	
EXT DRO >C28-C36	<10.0	10.0	12/26/2018	ND					

Surrogate: 1-Chlorooctane *89.2 %* *41-142*

Surrogate: 1-Chlorooctadecane *88.5 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	12/26/2018	Sampling Date:	12/26/2018
Reported:	12/27/2018	Sampling Type:	Soil
Project Name:	BURCH KEELEY UNIT #963H	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: SW - 1 (H803775-05)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2018	ND	2.01	100	2.00	15.6	
Toluene*	<0.050	0.050	12/27/2018	ND	1.95	97.7	2.00	16.0	
Ethylbenzene*	<0.050	0.050	12/27/2018	ND	1.96	97.9	2.00	15.4	
Total Xylenes*	<0.150	0.150	12/27/2018	ND	6.04	101	6.00	15.5	
Total BTEX	<0.300	0.300	12/27/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.5 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**768**	16.0	12/26/2018	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2018	ND	196	97.8	200	1.34	
DRO >C10-C28*	<10.0	10.0	12/26/2018	ND	225	113	200	1.85	
EXT DRO >C28-C36	<10.0	10.0	12/26/2018	ND					

Surrogate: 1-Chlorooctane *97.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.4 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	12/26/2018	Sampling Date:	12/26/2018
Reported:	12/27/2018	Sampling Type:	Soil
Project Name:	BURCH KEELEY UNIT #963H	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: SW - 2 (H803775-06)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2018	ND	2.01	100	2.00	15.6	
Toluene*	<0.050	0.050	12/27/2018	ND	1.95	97.7	2.00	16.0	
Ethylbenzene*	<0.050	0.050	12/27/2018	ND	1.96	97.9	2.00	15.4	
Total Xylenes*	<0.150	0.150	12/27/2018	ND	6.04	101	6.00	15.5	
Total BTEX	<0.300	0.300	12/27/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.0 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**848**	16.0	12/26/2018	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2018	ND	196	97.8	200	1.34	
DRO >C10-C28*	**147**	10.0	12/26/2018	ND	225	113	200	1.85	
EXT DRO >C28-C36	<10.0	10.0	12/26/2018	ND					

Surrogate: 1-Chlorooctane *94.7 %* *41-142*

Surrogate: 1-Chlorooctadecane *96.5 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	12/26/2018	Sampling Date:	12/26/2018
Reported:	12/27/2018	Sampling Type:	Soil
Project Name:	BURCH KEELEY UNIT #963H	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: SW - 3 (H803775-07)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2018	ND	2.01	100	2.00	15.6	
Toluene*	<0.050	0.050	12/27/2018	ND	1.95	97.7	2.00	16.0	
Ethylbenzene*	<0.050	0.050	12/27/2018	ND	1.96	97.9	2.00	15.4	
Total Xylenes*	<0.150	0.150	12/27/2018	ND	6.04	101	6.00	15.5	
Total BTEX	<0.300	0.300	12/27/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.2 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**736**	16.0	12/26/2018	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2018	ND	196	97.8	200	1.34	
DRO >C10-C28*	<10.0	10.0	12/26/2018	ND	225	113	200	1.85	
EXT DRO >C28-C36	<10.0	10.0	12/26/2018	ND					

Surrogate: 1-Chlorooctane *99.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *98.3 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	12/26/2018	Sampling Date:	12/26/2018
Reported:	12/27/2018	Sampling Type:	Soil
Project Name:	BURCH KEELEY UNIT #963H	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: SW - 4 (H803775-08)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2018	ND	2.01	100	2.00	15.6	
Toluene*	<0.050	0.050	12/27/2018	ND	1.95	97.7	2.00	16.0	
Ethylbenzene*	<0.050	0.050	12/27/2018	ND	1.96	97.9	2.00	15.4	
Total Xylenes*	<0.150	0.150	12/27/2018	ND	6.04	101	6.00	15.5	
Total BTEX	<0.300	0.300	12/27/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.1 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**912**	16.0	12/26/2018	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2018	ND	196	97.8	200	1.34	
DRO >C10-C28*	<10.0	10.0	12/26/2018	ND	225	113	200	1.85	
EXT DRO >C28-C36	<10.0	10.0	12/26/2018	ND					

Surrogate: 1-Chlorooctane *98.2 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.0 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Page 1 of 1

CONCHO

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

Client Name: COG-Artesia	Site Manager: Sheldon Hitchcock
Project Name: Burch Keely Unit #963H	
Project Location: (county, state) Eddy co, NM	Project #:
Invoice to: Sheldon Hitchcock	
Receiving Laboratory:	Sampler Name: Sheldon Hitchcock
Comments: Rush	

H803775

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	# CONTAINERS	FILTERED (Y/N)	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
1	Bttm-1	12/26/18	11:00c		✓			✓	1		X	X	X	
2	Bttm-2		11:10c		✓			✓	1		X	X	X	
3	Bttm-3		11:20c		✓			✓	1		X	X	X	
4	Bttm-4		11:30c		✓			✓	1		X	X	X	
5	SW-1		11:40c		✓			✓	1		X	X	X	
6	SW-2		11:50c		✓			✓	1		X	X	X	
7	SW-3		12:00c		✓			✓	1		X	X	X	
8	SW-4		12:10c		✓			✓	1		X	X	X	
									1					

ANALYSIS REQUEST (Circle or Specify Method No.)

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Sheldon Hitchcock			Jodi Henson	12/26/18	11:35
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 12.1°c/#97

REMARKS:

☒ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

samples taken & brought directly to lab. JA

Certificate of Analysis Summary 611110

COG Operating LLC, Artesia, NM

Project Name: BKU #963

Project Id:
Contact: Sheldon Hitchcock
Project Location:

Date Received in Lab: Fri Jan-11-19 01:15 pm
Report Date: 14-JAN-19
Project Manager: Jessica Kramer

Analysis Requested		Lab Id:	611110-001		611110-002		611110-003		611110-004		611110-005		611110-006	
		Field Id:	Bttm-2		Bttm-3		SW-1		SW-2		SW-3		SW-4	
		Depth:	1- ft		2- ft									
		Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		Sampled:	Jan-09-19 14:30		Jan-09-19 14:35		Jan-09-19 14:40		Jan-09-19 14:45		Jan-09-19 14:50		Jan-09-19 15:00	
BTEX by EPA 8021B		Extracted:	Jan-11-19 14:00		Jan-11-19 14:00		Jan-11-19 14:00		Jan-11-19 14:00		Jan-11-19 14:00		Jan-11-19 14:00	
		Analyzed:	Jan-11-19 16:06		Jan-11-19 16:24		Jan-11-19 16:43		Jan-11-19 17:02		Jan-11-19 17:21		Jan-11-19 17:40	
		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	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Toluene			<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene			<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes			<0.00398	0.00398	<0.00400	0.00400	<0.00403	0.00403	<0.00401	0.00401	<0.00398	0.00398	<0.00399	0.00399
o-Xylene			<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes			<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Total BTEX			<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Chloride by EPA 300		Extracted:	Jan-11-19 14:30		Jan-11-19 14:30		Jan-11-19 14:30		Jan-11-19 14:30		Jan-11-19 14:30		Jan-11-19 14:30	
		Analyzed:	Jan-11-19 21:11		Jan-11-19 21:17		Jan-11-19 21:24		Jan-11-19 21:30		Jan-11-19 21:51		Jan-11-19 21:57	
		Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride			165	4.96	1290	4.99	<4.96	4.96	340	4.98	14.2	4.98	56.0	4.98
TPH By SW8015 Mod		Extracted:	Jan-14-19 08:00		Jan-14-19 08:00		Jan-14-19 08:00		Jan-14-19 08:00		Jan-14-19 08:00		Jan-14-19 08:00	
		Analyzed:	Jan-14-19 12:14		Jan-14-19 13:14		Jan-14-19 13:34		Jan-14-19 15:07		Jan-14-19 15:26		Jan-14-19 15:46	
		Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons			<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			<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)			<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	<15.0	15.0	<15.0	15.0

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

Jessica Kramer
Project Assistant

Analytical Report 611110

for

COG Operating LLC

Project Manager: Sheldon Hitchcock

BKU #963

14-JAN-19

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

14-JAN-19

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

Reference: XENCO Report No(s): **611110**
BKU #963
Project Address:

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) 611110. 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. 611110 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

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

Sample Cross Reference 611110

COG Operating LLC, Artesia, NM

BKU #963

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Bttm-2	S	01-09-19 14:30	1 ft	611110-001
Bttm-3	S	01-09-19 14:35	2 ft	611110-002
SW-1	S	01-09-19 14:40	N/A	611110-003
SW-2	S	01-09-19 14:45	N/A	611110-004
SW-3	S	01-09-19 14:50	N/A	611110-005
SW-4	S	01-09-19 15:00	N/A	611110-006

CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: BKU #963

Project ID:
Work Order Number(s): *611110*

Report Date: *14-JAN-19*
Date Received: *01/11/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3075636 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 611110-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 611110-001, -002, -003, -004, -005, -006.
The Laboratory Control Sample for o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3075713 TPH By SW8015 Mod
Surrogate 1-Chlorooctane, Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 611110-001 S,611110-001 SD.

Lab Sample ID 611110-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Diesel Range Organics recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 611110-001, -002, -003, -004, -005, -006.
The Laboratory Control Sample for Diesel Range Organics is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 611110

COG Operating LLC, Artesia, NM

BKU #963

Sample Id:	**Bttm-2**	Matrix:	Soil	Date Received:	01.11.19 13.15
Lab Sample Id:	611110-001	Date Collected:	01.09.19 14.30	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.11.19 14.30	Basis:	Wet Weight
Seq Number:	3075627				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**165**	4.96	mg/kg	01.11.19 21.11		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	01.14.19 08.00	Basis:	Wet Weight
Seq Number:	3075713				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	01.14.19 12.14	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	01.14.19 12.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.14.19 12.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.14.19 12.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	01.14.19 12.14	
o-Terphenyl	84-15-1	107	%	70-135	01.14.19 12.14	

Certificate of Analytical Results 611110

COG Operating LLC, Artesia, NM

BKU #963

Sample Id:	**Bttm-2**	Matrix:	Soil	Date Received:	01.11.19 13.15
Lab Sample Id:	611110-001	Date Collected:	01.09.19 14.30	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.11.19 14.00	Basis:	Wet Weight
Seq Number:	3075636				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.11.19 16.06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.11.19 16.06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.11.19 16.06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.11.19 16.06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.11.19 16.06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.11.19 16.06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.11.19 16.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	01.11.19 16.06	
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.11.19 16.06	

Certificate of Analytical Results 611110

COG Operating LLC, Artesia, NM

BKU #963

Sample Id:	**Bttm-3**	Matrix:	Soil	Date Received:	01.11.19 13.15
Lab Sample Id:	611110-002	Date Collected:	01.09.19 14.35	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.11.19 14.30	Basis:	Wet Weight
Seq Number:	3075627				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1290**	4.99	mg/kg	01.11.19 21.17		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	01.14.19 08.00	Basis:	Wet Weight
Seq Number:	3075713				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	01.14.19 13.14	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	01.14.19 13.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.14.19 13.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.14.19 13.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	01.14.19 13.14	
o-Terphenyl	84-15-1	96	%	70-135	01.14.19 13.14	

Certificate of Analytical Results 611110

COG Operating LLC, Artesia, NM

BKU #963

Sample Id:	**Bttm-3**	Matrix:	Soil	Date Received:	01.11.19 13.15
Lab Sample Id:	611110-002	Date Collected:	01.09.19 14.35	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.11.19 14.00	Basis:	Wet Weight
Seq Number:	3075636				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.11.19 16.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.11.19 16.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.11.19 16.24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.11.19 16.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.11.19 16.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.11.19 16.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.11.19 16.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	117	%	70-130	01.11.19 16.24	
4-Bromofluorobenzene	460-00-4	101	%	70-130	01.11.19 16.24	

Certificate of Analytical Results 611110

COG Operating LLC, Artesia, NM

BKU #963

Sample Id:	**SW-1**	Matrix:	Soil	Date Received:	01.11.19 13.15
Lab Sample Id:	611110-003	Date Collected:	01.09.19 14.40		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.11.19 14.30	Basis:	Wet Weight
Seq Number:	3075627				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	01.11.19 21.24	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	01.14.19 08.00	Basis:	Wet Weight
Seq Number:	3075713				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	01.14.19 13.34	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	01.14.19 13.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.14.19 13.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.14.19 13.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	01.14.19 13.34	
o-Terphenyl	84-15-1	97	%	70-135	01.14.19 13.34	

Certificate of Analytical Results 611110

COG Operating LLC, Artesia, NM

BKU #963

Sample Id:	**SW-1**	Matrix:	Soil	Date Received:	01.11.19 13.15
Lab Sample Id:	611110-003	Date Collected:	01.09.19 14.40		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.11.19 14.00	Basis:	Wet Weight
Seq Number:	3075636				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.11.19 16.43	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.11.19 16.43	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.11.19 16.43	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	01.11.19 16.43	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.11.19 16.43	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.11.19 16.43	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.11.19 16.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.11.19 16.43	
1,4-Difluorobenzene	540-36-3	116	%	70-130	01.11.19 16.43	

Certificate of Analytical Results 611110

COG Operating LLC, Artesia, NM

BKU #963

Sample Id: **SW-2** Matrix: Soil Date Received:01.11.19 13.15

Lab Sample Id: 611110-004 Date Collected: 01.09.19 14.45

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.11.19 14.30 Basis: Wet Weight

Seq Number: 3075627

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**340**	4.98	mg/kg	01.11.19 21.30		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 01.14.19 08.00 Basis: Wet Weight

Seq Number: 3075713

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	01.14.19 15.07	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	01.14.19 15.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.14.19 15.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.14.19 15.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	01.14.19 15.07	
o-Terphenyl	84-15-1	93	%	70-135	01.14.19 15.07	

Certificate of Analytical Results 611110

COG Operating LLC, Artesia, NM

BKU #963

Sample Id:	**SW-2**	Matrix:	Soil	Date Received:	01.11.19 13.15
Lab Sample Id:	611110-004	Date Collected:	01.09.19 14.45		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.11.19 14.00	Basis:	Wet Weight
Seq Number:	3075636				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.11.19 17.02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.11.19 17.02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.11.19 17.02	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.11.19 17.02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.11.19 17.02	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.11.19 17.02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.11.19 17.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	01.11.19 17.02	
1,4-Difluorobenzene	540-36-3	118	%	70-130	01.11.19 17.02	

Certificate of Analytical Results 611110

COG Operating LLC, Artesia, NM

BKU #963

Sample Id: **SW-3** Matrix: Soil Date Received:01.11.19 13.15

Lab Sample Id: 611110-005 Date Collected: 01.09.19 14.50

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 01.11.19 14.30 Basis: Wet Weight

Seq Number: 3075627

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14.2**	4.98	mg/kg	01.11.19 21.51		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 01.14.19 08.00 Basis: Wet Weight

Seq Number: 3075713

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	01.14.19 15.26	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	01.14.19 15.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.14.19 15.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.14.19 15.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	01.14.19 15.26	
o-Terphenyl	84-15-1	97	%	70-135	01.14.19 15.26	

Certificate of Analytical Results 611110

COG Operating LLC, Artesia, NM

BKU #963

Sample Id:	**SW-3**	Matrix:	Soil	Date Received:	01.11.19 13.15
Lab Sample Id:	611110-005	Date Collected:	01.09.19 14.50		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.11.19 14.00	Basis:	Wet Weight
Seq Number:	3075636				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.11.19 17.21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.11.19 17.21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.11.19 17.21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.11.19 17.21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.11.19 17.21	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.11.19 17.21	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.11.19 17.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	118	%	70-130	01.11.19 17.21	
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.11.19 17.21	

Certificate of Analytical Results 611110

COG Operating LLC, Artesia, NM

BKU #963

Sample Id:	**SW-4**	Matrix:	Soil	Date Received:	01.11.19 13.15
Lab Sample Id:	611110-006	Date Collected:	01.09.19 15.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.11.19 14.30	Basis:	Wet Weight
Seq Number:	3075627				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**56.0**	4.98	mg/kg	01.11.19 21.57		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	01.14.19 08.00	Basis:	Wet Weight
Seq Number:	3075713				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	01.14.19 15.46	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	01.14.19 15.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.14.19 15.46	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.14.19 15.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	01.14.19 15.46	
o-Terphenyl	84-15-1	96	%	70-135	01.14.19 15.46	

Certificate of Analytical Results 611110

COG Operating LLC, Artesia, NM

BKU #963

Sample Id:	**SW-4**	Matrix:	Soil	Date Received:	01.11.19 13.15
Lab Sample Id:	611110-006	Date Collected:	01.09.19 15.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.11.19 14.00	Basis:	Wet Weight
Seq Number:	3075636				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.11.19 17.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.11.19 17.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.11.19 17.40	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.11.19 17.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.11.19 17.40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.11.19 17.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.11.19 17.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	117	%	70-130	01.11.19 17.40	
4-Bromofluorobenzene	460-00-4	102	%	70-130	01.11.19 17.40	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 611110

COG Operating LLC

BKU #963

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3075627 — Matrix: Solid — Date Prep: 01.11.19
MB Sample Id: 7669643-1-BLK — LCS Sample Id: 7669643-1-BKS — LCSD Sample Id: 7669643-1-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	232	93	90-110	6	20	mg/kg	01.11.19 20:40	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3075627 — Matrix: Soil — Date Prep: 01.11.19
Parent Sample Id: 611109-018 — MS Sample Id: 611109-018 S — MSD Sample Id: 611109-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	243	97	233	93	90-110	4	20	mg/kg	01.11.19 20:59	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3075627 — Matrix: Soil — Date Prep: 01.11.19
Parent Sample Id: 611112-004 — MS Sample Id: 611112-004 S — MSD Sample Id: 611112-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	940	249	1150	84	1170	92	90-110	2	20	mg/kg	01.11.19 22:28	X

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3075713 — Matrix: Solid — Date Prep: 01.14.19
MB Sample Id: 7669707-1-BLK — LCS Sample Id: 7669707-1-BKS — LCSD Sample Id: 7669707-1-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	<7.99	999	907	91	932	93	70-135	3	20	mg/kg	01.14.19 11:13	
Diesel Range Organics	<8.12	999	1020	102	1060	106	70-135	4	20	mg/kg	01.14.19 11:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		124		128		70-135	%	01.14.19 11:13
o-Terphenyl	104		131		123		70-135	%	01.14.19 11:13

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 611110

COG Operating LLC

BKU #963

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3075713 — Matrix: Soil — Date Prep: 01.14.19
Parent Sample Id: 611110-001 — MS Sample Id: 611110-001 S — MSD Sample Id: 611110-001 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	<7.98	997	1240	124	1240	124	70-135	0	20	mg/kg	01.14.19 12:34	
Diesel Range Organics	<8.10	997	1360	136	1350	135	70-135	1	20	mg/kg	01.14.19 12:34	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	140	**	142	**	70-135	%	01.14.19 12:34
o-Terphenyl	137	**	139	**	70-135	%	01.14.19 12:34

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3075636 — Matrix: Solid — Date Prep: 01.11.19
MB Sample Id: 7669654-1-BLK — LCS Sample Id: 7669654-1-BKS — LCSD Sample Id: 7669654-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.115	115	0.112	112	70-130	3	35	mg/kg	01.11.19 14:13	
Toluene	<0.000457	0.100	0.105	105	0.103	103	70-130	2	35	mg/kg	01.11.19 14:13	
Ethylbenzene	<0.000566	0.100	0.0967	97	0.0948	95	70-130	2	35	mg/kg	01.11.19 14:13	
m,p-Xylenes	<0.00102	0.200	0.192	96	0.188	94	70-130	2	35	mg/kg	01.11.19 14:13	
o-Xylene	<0.000345	0.100	0.0934	93	0.0925	93	70-130	1	35	mg/kg	01.11.19 14:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		106		108		70-130	%	01.11.19 14:13
4-Bromofluorobenzene	87		88		93		70-130	%	01.11.19 14:13

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3075636 — Matrix: Soil — Date Prep: 01.11.19
Parent Sample Id: 611110-001 — MS Sample Id: 611110-001 S — MSD Sample Id: 611110-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0996	0.116	116	0.0884	88	70-130	27	35	mg/kg	01.11.19 14:51	
Toluene	<0.000454	0.0996	0.101	101	0.0789	79	70-130	25	35	mg/kg	01.11.19 14:51	
Ethylbenzene	<0.000563	0.0996	0.0915	92	0.0705	71	70-130	26	35	mg/kg	01.11.19 14:51	
m,p-Xylenes	<0.00101	0.199	0.180	90	0.141	71	70-130	24	35	mg/kg	01.11.19 14:51	
o-Xylene	<0.000343	0.0996	0.0879	88	0.0688	69	70-130	24	35	mg/kg	01.11.19 14:51	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		109		70-130	%	01.11.19 14:51
4-Bromofluorobenzene	95		97		70-130	%	01.11.19 14:51

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

CHAIN OF CUSTODY

Page 1 Of 1

Revision 2016.1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford, TX (281) 240-4200 | El Paso, TX (915) 585-3443 | Midland, TX (432) 704-5440 | Phoenix, AZ (480) 355-0900 | Service Center- Amarillo, TX (806)678-4514
Dallas, TX (214) 902-0300 | Lubbock, TX (806) 794-1296 | San Antonio, TX (210) 509-3334 | Service Center - Baton Rouge, LA (832) 712-8143 | Service Center- Hobbs, NM (575) 392-7550

www.xenco.com

Xenco Quote # | Xenco Job # 601110

Client / Reporting Information

Company Name / Branch: COG Artesia
Company Address:
Email: Phone No:
Project Contact: Sheldon Hitchcock
Samplers's Name: Sheldon Hitchcock

Project Information

Project Name/Number: BKU #963
Project Location:
Invoice To:
PO Number:

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW = Ground Water
DW = Drinking Water
P = Product
SW = Surface Water
SL - Sludge
OW = Ocean/Sea Water
WI = Wipe
O = Oil
WW = Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: TPH	BTEX	Chlorides	Field Comments
1	Bkt-2	1'	1/9/19	2:30	S	1								/	X	X	X	
2	Bkt-3	2'		2:35	S	1								/	X	X	X	
3	SW-1	N/A		2:40	S	1								/	X	X	X	
4	SW-2	N/A		2:45	S	1								/	X	X	X	
5	SW-3	N/A		2:50	S	1								/	X	X	X	
6	SW-4	N/A		3:00	S	1								/	X	X	X	
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [x] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] Level II Report with TRRP checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Sheldon Hitchcock	1/9/19 3:47	Timothy R. Echols	2	1/10/19 15:30	2 Brad 1/11/19 13:15
3	Relinquished by:	Date Time:	Received By:	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: X Cooler Temp. 0.3/0.2 Therm. Corr. Factor -0.1

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 01/11/2019 01:15:00 PM

Work Order #: 611110

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 01/11/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 01/11/2019

Jessica Kramer

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

January 22, 2019

DAKOTA NEEL

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: BKU #963

Enclosed are the results of analyses for samples received by the laboratory on 01/21/19 10:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/21/2019	Sampling Date:	01/17/2019
Reported:	01/22/2019	Sampling Type:	Soil
Project Name:	BKU #963	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: BTTM - 3 (H900188-01)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.93	96.6	2.00	0.384	
Toluene*	<0.050	0.050	01/22/2019	ND	1.86	92.8	2.00	0.183	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.85	92.3	2.00	0.340	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.61	93.4	6.00	0.489	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/22/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	191	95.7	200	1.13	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	208	104	200	0.114	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane *97.4 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.9 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/21/2019	Sampling Date:	01/17/2019
Reported:	01/22/2019	Sampling Type:	Soil
Project Name:	BKU #963	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: BTTM - 5 (H900188-02)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.93	96.6	2.00	0.384	
Toluene*	<0.050	0.050	01/22/2019	ND	1.86	92.8	2.00	0.183	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.85	92.3	2.00	0.340	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.61	93.4	6.00	0.489	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/22/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	191	95.7	200	1.13	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	208	104	200	0.114	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane *98.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *98.0 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/21/2019	Sampling Date:	01/17/2019
Reported:	01/22/2019	Sampling Type:	Soil
Project Name:	BKU #963	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: BTTM - 6 (H900188-03)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.93	96.6	2.00	0.384	
Toluene*	<0.050	0.050	01/22/2019	ND	1.86	92.8	2.00	0.183	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.85	92.3	2.00	0.340	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.61	93.4	6.00	0.489	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	01/22/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	191	95.7	200	1.13	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	208	104	200	0.114	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane *95.0 %* *41-142*

Surrogate: 1-Chlorooctadecane *94.7 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/21/2019	Sampling Date:	01/17/2019
Reported:	01/22/2019	Sampling Type:	Soil
Project Name:	BKU #963	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: BTTM - 7 (H900188-04)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.93	96.6	2.00	0.384	
Toluene*	<0.050	0.050	01/22/2019	ND	1.86	92.8	2.00	0.183	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.85	92.3	2.00	0.340	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.61	93.4	6.00	0.489	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	01/22/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	191	95.7	200	1.13	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	208	104	200	0.114	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane *97.2 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.2 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/21/2019	Sampling Date:	01/17/2019
Reported:	01/22/2019	Sampling Type:	Soil
Project Name:	BKU #963	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: BTTM - 8 (H900188-05)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.93	96.6	2.00	0.384	
Toluene*	<0.050	0.050	01/22/2019	ND	1.86	92.8	2.00	0.183	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.85	92.3	2.00	0.340	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.61	93.4	6.00	0.489	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	01/22/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	191	95.7	200	1.13	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	208	104	200	0.114	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane *99.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *99.9 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/21/2019	Sampling Date:	01/17/2019
Reported:	01/22/2019	Sampling Type:	Soil
Project Name:	BKU #963	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: BTTM - 9 (H900188-06)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.93	96.6	2.00	0.384	
Toluene*	<0.050	0.050	01/22/2019	ND	1.86	92.8	2.00	0.183	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.85	92.3	2.00	0.340	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.61	93.4	6.00	0.489	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/22/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	191	95.7	200	1.13	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	208	104	200	0.114	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane *102 %* *41-142*

Surrogate: 1-Chlorooctadecane *101 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/21/2019	Sampling Date:	01/17/2019
Reported:	01/22/2019	Sampling Type:	Soil
Project Name:	BKU #963	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: BTTM - 10 (H900188-07)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.93	96.6	2.00	0.384	
Toluene*	<0.050	0.050	01/22/2019	ND	1.86	92.8	2.00	0.183	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.85	92.3	2.00	0.340	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.61	93.4	6.00	0.489	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	01/22/2019	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	191	95.7	200	1.13	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	208	104	200	0.114	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane *98.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.9 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	COG Operating LLC	**BILL TO**	
Project Manager:	Dakota Neel	**P.O. #:**	
Address:	2208 West Main	**Company:**	COG Operating LLC
City:	Artesia **State:** NM **Zip** 88210	**Attn:**	Robert McNeill
Phone #:	(575) 746-2010 **Fax #:**	**Address:**	600 W Illinois
Project #:	**Project Owner:**	**City:**	Midland
Project Name:	BKV #963	**State:** TX **Zip:** 79701	
Project Location:		**Phone #:**	(432) 221-0388
Sampler Name:	Dakota Neel	**Fax #:**	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING DATE	SAMPLING TIME	BTEX	TPH	Chloride
H900188																	
1	BTTM-3	C	1			X					X		1-17-19	8:30AM	X	X	X
2	BTTM-5	G	1			X					X			8:35AM	X	X	X
3	BTTM-6	G	1			X					X			8:40AM	X	X	X
4	BTTM-7	G	1			X					X			8:45AM	X	X	X
5	BTTM-8	G	1			X					X			8:50AM	X	X	X
6	BTTM-9	G	1			X					X			8:55AM	X	X	X
7	BTTM-10	G	1			X					X			9:00AM	X	X	X

Relinquished By:	**Date:** 1-21-19	**Received By:**	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 10:45		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	**Date:**	**Received By:**	REMARKS: Rush!
	Time:		

Delivered By: (Circle One) Sampler - UPS - Bus - Other: -4.5°C #197

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

CHECKED BY: (Initials) TO

FORM-006 R 2.0

s. Please fax written changes to 575-393-2476

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 206313

CONDITIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 206313
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	4/18/2023