



June 11, 2020

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

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

**Re: Closure Report
Stratocaster 20 Federal 4 (4/14/19)
RP#: 1RP-5650
GPS: 32.28857, -103.48573
Unit Letter I, Section 20, Township 23 South, Range 34 East
Lea County, New Mexico**

To Whom it May Concern,

COG Operating, LLC (COG) is pleased to submit the following closure report in response to a release that occurred at the Stratocaster 20 Federal 4 Tank Battery, located in Unit Letter I, Section 20, Township 23 South, Range 34 East in Lea County, New Mexico. The spill site coordinates are 32.28857°, -103.48573°.

BACKGROUND

The release was discovered on April 14, 2019 and a C-141 initial report was submitted and approved by the New Mexico Oil Conservation Division (NMOCD). The release was caused by a 3rd party leaving the load line valve partially open. The entirety of the release was on pad. Approximately twenty-two (22) barrels of produced water were released and fifteen (15) barrels of fluid recovered. The initial C-141 is shown in Appendix A.

COG assessed the impact soil and submitted a work plan to the NMOCD for approval, dated July 11, 2019. Once approved, COG implemented the work plan.

GROUNDWATER AND REGULATORY

According to the USGS groundwater data, the nearest water well in 16 and 20 has a reported depth of 345' below surface. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in the area is approximately 300' below surface. The water well information is shown in Appendix B.

An evaluation and site determinations were performed in accordance to the New Mexico Oil Conservation Division (NMOCD) Rule (Title 19 Chapter 15 Part 29) for releases on oil and gas development and production facilities in New Mexico (effective August 14, 2018). According to the site characterization evaluation a watercourse was found within 300' of the release area. No other receptors (water wells, playas, karst, lake beds or ordinance boundaries) were located within each specific boundaries or distance from the site. The groundwater data and the site characterization evaluation data are summarized in Appendix B. The delineation and closure criteria are listed below:

General Site Characterization and Groundwater:

Site Characterization	Average Groundwater Depth (ft.)
Watercourse <300' away	>100 feet

Delineation and Closure Criteria:

Remedial Action Levels (RALs)	
Chlorides	600 mg/kg
TPH (GRO and DRO and MRO)	100 mg/kg
Benzene	10 mg/kg
Total BTEX	50 mg/kg

REMEDIAL ACTIONS

- The Northeast and Center Areas were excavated to depths of approximately two (2) feet BGS and (3) feet BGS, respectively.
- The Pump Unit Area was excavated to a depth of four (4) feet BGS and installed a 20-mil liner in the bottom of the four (4) foot excavation.
- Confirmation soil samples were taken from bottom and sidewalls of the excavation per NMAC 19.15.29.
- All of the excavated material was hauled to an NMOCD approved solid waste disposal facility.
- The site was backfilled with clean "like" material.
- The analytical data shown in Table 1 show that the release area meets NMOCD closure criteria (NMAC 19.15.29.12(E) Table I).

SAMPLING, DISPOSAL AND BACKFILLING

Once excavated, soil samples were collected from the sidewalls to confirm the removal of impacted soil greater than 600 mg/kg of chlorides. Composite sidewall samples were collected every 200 square feet, to be representative of the release area, for documentation purposes. The assessment sampling did not show any BTEX concentrations above the Table 1 closure criteria. In addition, per rule 19.15.29.14, COG requested a variance and installed a 20-mil liner in the areas of T-1 and T-2 to prevent vertical migration of the deeper chloride concentrations detected.

Once completed, the excavated areas were backfilled with non-contaminated material with concentrations below 600 mg/kg of chlorides. Approximately six hundred (600) cubic yards of material was removed and hauled to an NMOCD approved solid waste disposal facility.

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 Stratocaster 20 Federal #4H release that occurred on April 14, 2019 (1RP-5650).

Should you have any questions or concerns on the closure report, please do not hesitate to contact me.
Sincerely,

Concho Operating, LLC



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

CC:

Figures

COG Operating

Stratocaster 20 Federal 3&4 Battery
Section 20, T23S, R34E
Lea County, New Mexico
32.28857 -103.48573

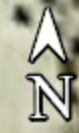
Legend

- 2' Excavation
- 3' Excavation
- 4' Excavation and Liner
- Confirmation Samples

Center Area

Northeast Area

Pumping Unit Area



Tables

Table 1
COG Operating LLC.
Stratocaster 20 Federal #004 (04/14/19) 1RP-5650
Lea County, New Mexico

Sample ID	Sample Date	Sample Location	Sample Depth (ft)	Soil Status		TPH (mg/kg)							Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	MRO	Total	GRO	DRO	Total			
Northeast Excavation Area															
S-1	1/21/2020	Bottom	2'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	-	-	240
S-3	1/21/2020	Bottom	2'	X		<10.0	27.0	<10.0	27.0	<10.0	27.0	27.0	-	-	400
S-4	1/21/2020	Bottom	2'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	-	-	160
S-5	1/21/2020	Bottom	2'	X		<10.0	14.1	<10.0	<10.0	<10.0	14.0	<10.0	-	-	288
S-6	1/22/2020	Bottom	2'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	-	-	144
													-	-	
E. SW	1/22/2020	Sidewall	2'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	-	-	48
S. SW	1/21/2020	Sidewall	2'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	-	-	112
W. SW	1/21/2020	Sidewall	2'	X		<10.0	57.0	<10.0	<10.0	<10.0	<10.0	<10.0	-	-	192
N. SW	1/23/2020	Sidewall	2'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	-	-	496
													-	-	
S-2	1/23/2020	Sidewall	2'		X	<10.0	85.0	<10.0	85.0	<10.0	85.0	85.0	-	-	624
S-2A	1/28/2020	Sidewall	2'	X		-	-	-							400
Center Excavation Area															
T-3 CS North Wall	3/9/2020	Sidewall	Composite	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	85.7
T-3 CS East Wall	3/9/2020	Sidewall	Composite	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	107
T-3 CS West Wall	3/9/2020	Sidewall	Composite	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	89.6
T-3 CS Bottom Hole 3'	3/9/2020	Bottom	3'	X		<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	86.1
Pumping Unit Excavation Area															
S-1	2/13/2020	Bottom	4'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	1060
S-2	2/13/2020	Bottom	4'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	1600
S-3	2/13/2020	Bottom	4'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	1250
S-4	2/13/2020	Bottom	4'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	1500
S-5	2/13/2020	Bottom	4'	X		<10.0	50.9	<10.0	50.9	<10.0	50.9	<10.0	<0.050	<0.300	3240
S-6	2/13/2020	Bottom	4'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	864
S-7	2/13/2020	Bottom	4'	X		<10.0	40.5	<10.0	40.5	<10.0	40.5	<10.0	<0.050	<0.300	1880
S-8	2/13/2020	Bottom	4	X		<10.0	68.1	<10.0	68.1	<10.0	68.1	<10.0	<0.050	<0.300	4400
S-9	2/13/2020	Bottom	4'	X		<10.0	42.0	<10.0	42.0	<10.0	42.0	42.0	<0.050	<0.300	2000
S-10	2/13/2020	Bottom	4'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	1170
S-11	2/13/2020	Bottom	4'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	800
S-12	2/13/2020	Bottom	4'	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	768
N. SW-1	2/13/2020	Sidewall	Composite		X	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	4400
N.SW-2	2/13/2020	Sidewall	Composite		X	<10.0	15.1	<10.0	15.1	<10.0	15.1	<10.0	<0.050	<0.300	880
N.SW-A	2/18/2020	Sidewall	Composite	X											288
E.SW	2/13/2020	Sidewall	Composite		X	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	2800
E.SW-A	2/18/2020	Sidewall	Composite	X											144
S.SW-1	2/13/2020	Sidewall	Composite		X	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	960
T-1 CS-1 South Wall	3/24/2020	Sidewall	Composite	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	290
S.SW-2	2/13/2020	Sidewall	Composite		X	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	992
N.SW-2A	2/18/2020	Sidewall	Composite	X											208
W.SW	2/13/2020	Sidewall	Composite		X	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	1060
CS-1 West Wall	2/13/2020	Sidewall	Composite	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	8.34

(-) Not Analyzed

 Areas Excavated and Removed

 Areas Excavated 4.0' and Capped with a 20 Mil L

Photos

COG Operating –Photos Stratocaster 20 Federal #4



View of Excavation



View of Excavation

COG Operating –Photos Stratocaster 20 Federal #4



View of Excavation near Pumping Unit



View of Excavation near Pumping Unit

COG Operating –Photos Stratocaster 20 Federal #4



View of Liner Installation near Pumping Unit



View of Backfilled Excavations

Appendix A

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Jennifer Knowlton	Contact Telephone	(575) 748-1570
Contact email	JKnowlton@concho.com	Incident # (assigned by OCD)	
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.28857 Longitude -103.48573
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Stratocaster 20 Federal #004H	Site Type	Tank Battery
Date Release Discovered	April 14, 2019	API# (if applicable)	30-025-27051

Unit Letter	Section	Township	Range	County
I	20	23S	34E	Lea

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 22	Volume Recovered (bbls) 15
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused by a 3rd party leaving the load line valve partially open. The valve has been closed. The release was on location. A vacuum truck was dispatched to remove all freestanding fluids. Concho will evaluate the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCDC for approval prior to any significant remediation activities.

Incident ID	
District RP	
Facility ID	
Application ID	

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

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>DeAnn Grant</u>	Title: <u>HSE Administrative Assistant</u>
Signature: <u></u>	Date: <u>4/15/2019</u>
email: <u>agrانت@concho.com</u>	Telephone: <u>(432) 253-4513</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	345 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

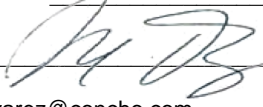
If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods,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

State of New Mexico
Oil Conservation Division

Page 4

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

Printed Name: Ike Tavaréz Title: Senior HSE Supervisor
Signature:  Date: 7-11-19
email: itavarez@concho.com Telephone: 432-701-8630

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

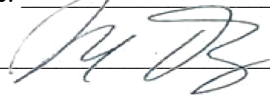
Remediation Plan Checklist: *Each of the following items must be included in the plan.*

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

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

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

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

Printed Name: Ike Tavaréz Title: Senior HSE Supervisor
Signature:  Date: 7-11-19
email: itavaréz@concho.com Telephone: 432-701-8630

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

Printed Name: _____ Title: _____

Signature:  _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG Stratocaster 20 Federal 3&4
Lea County, New Mexico

22 South			33 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

22 South			34 East		
6	5	4	3	2	1
7	8	9	10	11 30	12 50
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

22 South			35 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

23 South			33 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

23 South			34 East		
6 329	5	4	3	2	1 137
7	8 255	9	10	11	12
18	17	16 345	15	14	13
19	20	21	22 282	23 233	24
30	29	28	27 295	26 265	25
31	32 160	33	34	35	36
	130				

23 South			35 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South			33 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South			34 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South			35 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20 97	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)

90 Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 03620 POD1	CUB	LE		1	4	3	32	23S	34E	641790	3569941	480	130	350
CP 00556 POD1	CP	LE		4	4	3	08	23S	34E	641762	3576206	497	255	242
CP 00580	CP	LE		3	4	3	23	23S	34E	646524	3572948*	220		
CP 00606	CP	LE			4	1	23	23S	34E	646613	3573854*	650	265	385
CP 00618	CP	LE		1	2	4	22	23S	34E	645713	3573539*	428	295	133
CP 00637	CP	LE		3	3	4	15	23S	34E	645293	3574541*	430	430	0
CP 00872 POD1	CP	LE		1	1	1	08	23S	34E	641225	3577504*	494	305	189
CP 01075 POD1	CP	LE		1	1	1	08	23S	34E	641278	3577525	430	20	410
CP 01120 POD1	CP	LE				3	14	23S	34E	646366	3574753	397	318	79
CP 01130 POD1	CP	LE		2	1	2	07	23S	34E	640662	3577558	27		
CP 01130 POD2	CP	LE		2	1	2	07	23S	34E	640674	3577549	27		
CP 01258 POD1	CP	LE		1	4	3	22	23S	34E	645015	3573221	25		
CP 01258 POD2	CP	LE		1	4	3	22	23S	34E	644941	3572883	65		
CP 01258 POD3	CP	LE		1	4	3	22	23S	34E	644938	3573097	25		
CP 01502 POD1	CP	LE		4	3	3	05	23S	34E	641316	3577635	648	200	448
CP 01502 POD2	CP	LE		4	3	3	05	23S	34E	642074	3577676	680	300	380
CP 01730 POD1	CP	LE		2	2	1	16	23S	34E	643549	3575824	594	200	394

Average Depth to Water: **247 feet**

Minimum Depth: **20 feet**

Maximum Depth: **430 feet**

Record Count: 17

PLSS Search:

Township: 23S

Range: 34E

*UTM location was derived from PLSS - see Help

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



National Water Information System: Mapper

Sites

Map

Search

Surface-Water Sites

Groundwater Sites

Active Sites

Any data

Instantaneous data

Daily data

Water-quality data

Measurements

Annual Report

Inactive Sites

Any data

Instantaneous data

Daily data

Water-quality data

Measurements

Annual Report

Springs

Atmospheric Sites

Other Sites

0 0.3 0.6mi

-103.423, 32.317

USDA FSA

Site Information



[USGS Home](#)
[Contact USGS](#)
[Search USGS](#)

National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:


Groundwater

Geographic Area:

New Mexico

GO

Click to hide News Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

site_no list =

- 321734103290001

Minimum number of levels = 1

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

USGS 321734103290001 23S.34E.16.333312

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°17'53", Longitude 103°28'59" NAD27

Land-surface elevation 3,478.00 feet above NGVD29

The depth of the well is 400 feet below land surface.

This well is completed in the Chinle Formation (231CHNL) local aquifer.

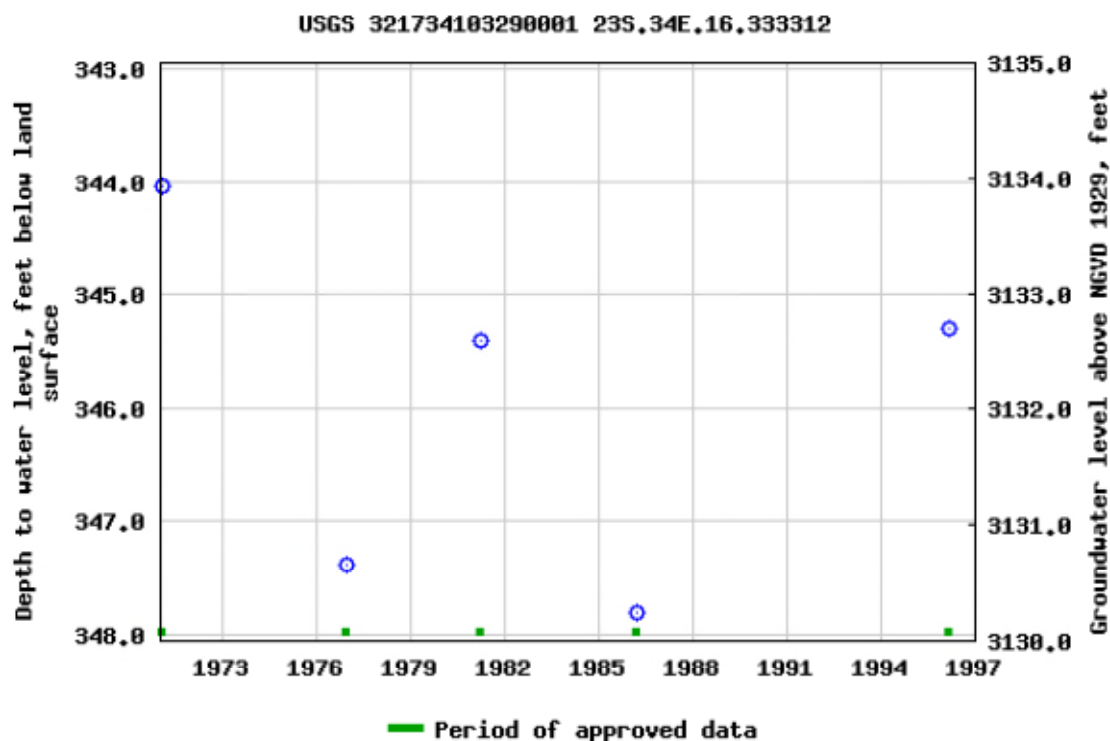
Output formats

[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)



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

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

Title: Groundwater for New Mexico: Water Levels

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



Page Contact Information: [New Mexico Water Data Maintainer](#)

Page Last Modified: 2019-06-19 10:39:29 EDT

1.12 1 nadww01

Appendix C



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

February 20, 2020

REBECCA PONS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: STRATO CASTER 20 FED 3 & 4 B

Enclosed are the results of analyses for samples received by the laboratory on 02/19/20 13:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/19/2020	Sampling Date:	02/18/2020
Reported:	02/20/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: W. SW - A (H000522-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	02/20/2020	ND	416	104	400	0.00	

Sample ID: E. SW - A (H000522-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	02/20/2020	ND	416	104	400	0.00	

Sample ID: N. SW - 1A (H000522-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	02/20/2020	ND	416	104	400	0.00	

Sample ID: N. SW - 2A (H000522-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	02/20/2020	ND	416	104	400	0.00	

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*=Accredited Analyte

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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

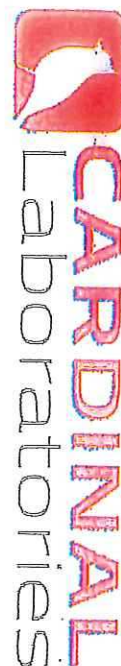
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A handwritten signature in cursive script, appearing to read "Celey D. Keene", written in black ink.

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

County Name: TALON CP		P.O. #:	
Project Manager: REBECCA PONS		Company: CONCHO	
Address: 408 W. TEXAS AVE		Attn: IRE TAVAREZ	
City: ARTESIA		State: NM Zip: 86210	
Phone #: 575-441-0980		Fax #:	
Project #: 700778-146-01		Project Owner: CONCHO	
Project Name: STRATOCASTER 20 FEB 344		City:	
Project Location: CEA COUNTY		State:	
Sampler Name: MICHAEL COLLIER		Phone #:	
FOR LAB USE ONLY		Fax #:	
MATRIX		PRESERV.	
		SAMPLING	
LORIDES			

[illegible]

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Relinquished By:

Relinquished by

Delivered By: (Circle One)

Sample - UPS - Bus - Other

Sikamplé Gonaññioma

CHECKED BY:

24 hr Rush

† Cardinal cannot accept verbal changes to (57b) 393-2326



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

January 24, 2020

REBECCA PONS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: STRATO CASTER 20 FED 3 & 4 B

Enclosed are the results of analyses for samples received by the laboratory on 01/23/20 15:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	01/23/2020	Sampling Date:	01/21/2020
Reported:	01/24/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 1 2' COMP (H000233-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	01/24/2020	ND	416	104	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	01/23/2020	ND	199	99.7	200	0.384		
DRO >C10-C28*	<10.0	10.0	01/23/2020	ND	206	103	200	1.28		
EXT DRO >C28-C36	<10.0	10.0	01/23/2020	ND						
Surrogate: 1-Chlorooctane		97.9 %	41-142							
Surrogate: 1-Chlorooctadecane		103 %	37.6-147							

Sample ID: S - 3 2' COMP (H000233-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	01/24/2020	ND	416	104	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	01/24/2020	ND	199	99.7	200	0.384	
DRO >C10-C28*	27.0	10.0	01/24/2020	ND	206	103	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	01/24/2020	ND					
Surrogate: 1-Chlorooctane		105 %	41-142						
Surrogate: 1-Chlorooctadecane		111 %	37.6-147						

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	01/23/2020	Sampling Date:	01/21/2020
Reported:	01/24/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 4 2' COMP (H000233-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	01/24/2020	ND	416	104	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	01/24/2020	ND	199	99.7	200	0.384	
DRO >C10-C28*	<10.0	10.0	01/24/2020	ND	206	103	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	01/24/2020	ND					
Surrogate: 1-Chlorooctane	109 %	41-142							
Surrogate: 1-Chlorooctadecane	114 %	37.6-147							

Sample ID: S - 5 2' COMP (H000233-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	01/24/2020	ND	416	104	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	01/24/2020	ND	199	99.7	200	0.384	
DRO >C10-C28*	14.1	10.0	01/24/2020	ND	206	103	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	01/24/2020	ND					
Surrogate: 1-Chlorooctane	106 %	41-142							
Surrogate: 1-Chlorooctadecane	111 %	37.6-147							

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	01/23/2020	Sampling Date:	01/22/2020
Reported:	01/24/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 6 2' COMP (H000233-05)

Chloride, SM4500CI-B		mg/ kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	01/24/2020	ND	416	104	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	01/24/2020	ND	199	99.7	200	0.384	
DRO >C10-C28*	<10.0	10.0	01/24/2020	ND	206	103	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	01/24/2020	ND					
Surrogate: 1-Chlorooctane	88.6 %	41-142							
Surrogate: 1-Chlorooctadecane	93.7 %	37.6-147							

Sample ID: E. SW COMP 2' (H000233-06)

Chloride, SM4500CI-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	01/24/2020	ND	416	104	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	01/24/2020	ND	199	99.7	200	0.384	
DRO >C10-C28*	<10.0	10.0	01/24/2020	ND	206	103	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	01/24/2020	ND					
Surrogate: 1-Chlorooctane	104 %	41-142							
Surrogate: 1-Chlorooctadecane	108 %	37.6-147							

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	01/23/2020	Sampling Date:	01/21/2020
Reported:	01/24/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S. SW COMP 2' (H000233-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	01/24/2020	ND	416	104	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	01/24/2020	ND	199	99.7	200	0.384	
DRO >C10-C28*	<10.0	10.0	01/24/2020	ND	206	103	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	01/24/2020	ND					
Surrogate: 1-Chlorooctane	102 %	41-142							
Surrogate: 1-Chlorooctadecane	107 %	37.6-147							

Sample ID: W. SW COMP 2' (H000233-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	01/24/2020	ND	416	104	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	01/24/2020	ND	199	99.7	200	0.384	
DRO >C10-C28*	56.9	10.0	01/24/2020	ND	206	103	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	01/24/2020	ND					
Surrogate: 1-Chlorooctane	110 %	41-142							
Surrogate: 1-Chlorooctadecane	118 %	37.6-147							

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	01/23/2020	Sampling Date:	01/23/2020
Reported:	01/24/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: N. SW COMP 2' (H000233-09)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	01/24/2020	ND	416	104	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	01/24/2020	ND	199	99.7	200	0.384	
DRO >C10-C28*	<10.0	10.0	01/24/2020	ND	206	103	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	01/24/2020	ND					
Surrogate: 1-Chlorooctane	104 %	41-142							
Surrogate: 1-Chlorooctadecane	108 %	37.6-147							

Sample ID: S - 2 2' COMP (H000233-10)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	01/24/2020	ND	416	104	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	01/24/2020	ND	199	99.7	200	0.384	
DRO >C10-C28*	85.0	10.0	01/24/2020	ND	206	103	200	1.28	
EXT DRO >C28-C36	<10.0	10.0	01/24/2020	ND					
Surrogate: 1-Chlorooctane	104 %	41-142							
Surrogate: 1-Chlorooctadecane	121 %	37.6-147							

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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

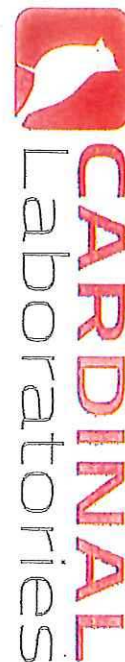
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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: TALON UTE		P.O. #:		BUREAU		ANALYSIS REQUEST	
Project Manager: REBECCA PONS		Company: CONCHO					
Address: 408 W. TEXAS AVE		Attn: KE TAVAREZ					
City: ARTESIA		Address:					
Phone #: 575-746-8768		City:					
Fax #: Project Owner: CONCHO		State:					
Project #: 700778, 146.01		Zip:					
Project Name: STRATO CASTER 20 FEB 344 B		Phone #:					
Project Location: LEA COUNTY		Fax #:					
Sampler Name: MICHAEL COLLIER							

Lab I.D.	Sample I.D.	(G) GRAB OR (C) COMP.	# CONTAINERS	MATRIX								DATE	TIME	TPH	TOTAL CHLORIDES
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL				
H000233	5-1 2' COMP	C	1									1-21-20	10:00am	✓	✓
	5-3 2' COMP											1-21-20	10:15am		
	5-4 2' COMP											1-21-20	11:00am		
	5-5 2' COMP											1-22-20	11:05am		
	5-6 2' COMP											1-22-20	9:30am		
	5-6 2' COMP											1-21-20	9:55am		
	5-6 2' COMP											1-22-20	10:10am		
	5-6 2' COMP											1-22-20	10:40am		
	5-6 2' COMP											1-23-20	12:30pm	✓	✓
	5-6 2' COMP											1-23-20	12:35pm		

Relinquished By: <u>MLL</u>	Received By: <u>Michael Collier</u>
Time: <u>1:30</u>	Time: <u>1:30</u>
Date: <u>6/12/20</u>	Date: <u>6/12/20</u>
Time: <u>1:30</u>	Time: <u>1:30</u>

Delivered By: (Circle One)	Sample Condition	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other: <u>#113</u>	Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	<u>MLL</u>
	No <input type="checkbox"/> Yes <input checked="" type="checkbox"/>	

Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:

24 hr RUSH

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



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

January 28, 2020

REBECCA PONS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: STRATO CASTER 20 FED 3 & 4 B

Enclosed are the results of analyses for samples received by the laboratory on 01/28/20 12:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 accredited 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

Lab Director/Quality Manager



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

Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	01/28/2020	Sampling Date:	01/28/2020
Reported:	01/28/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Jodi Henson
Project Location:	COG - LEA COUNTY		

Sample ID: S-2A 2.5' COMP (H000260-01)**Chloride, SM4500Cl-B****mg/kg****Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	01/28/2020	ND	432	108	400	0.00	

Cardinal Laboratories

*=Accredited Analyte

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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

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A handwritten signature in cursive script, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



ANALYSIS REQUEST

Page 4 of 4



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

February 17, 2020

REBECCA PONS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: STRATO CASTER 20 FED 3 & 4 B

Enclosed are the results of analyses for samples received by the laboratory on 02/14/20 12:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: N. SW - 1 4' (H000459-01)

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	02/14/2020	ND	1.73	86.6	2.00	7.88		
Toluene*	<0.050	0.050	02/14/2020	ND	1.79	89.6	2.00	7.48		
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.81	90.3	2.00	8.68		
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.23	87.2	6.00	8.78		
Total BTEX	<0.300	0.300	02/14/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 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	4400	16.0	02/14/2020	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	02/14/2020	ND	205	102	200	0.331	
DRO >C10-C28*	<10.0	10.0	02/14/2020	ND	192	96.2	200	4.27	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 83.4 % 41-142

Surrogate: 1-Chlorooctadecane 86.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: N. SW - 2 4' (H000459-02)

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	02/14/2020	ND	1.73	86.6	2.00	7.88		
Toluene*	<0.050	0.050	02/14/2020	ND	1.79	89.6	2.00	7.48		
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.81	90.3	2.00	8.68		
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.23	87.2	6.00	8.78		
Total BTEX	<0.300	0.300	02/14/2020	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	880	16.0	02/14/2020	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	02/14/2020	ND	205	102	200	0.331		
DRO >C10-C28*	15.1	10.0	02/14/2020	ND	192	96.2	200	4.27		
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND						

Surrogate: 1-Chlorooctane 82.1 % 41-142

Surrogate: 1-Chlorooctadecane 87.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: E. SW 4' (H000459-03)

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	02/14/2020	ND	1.73	86.6	2.00	7.88		
Toluene*	<0.050	0.050	02/14/2020	ND	1.79	89.6	2.00	7.48		
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.81	90.3	2.00	8.68		
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.23	87.2	6.00	8.78		
Total BTEX	<0.300	0.300	02/14/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 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	2800	16.0	02/14/2020	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	02/14/2020	ND	205	102	200	0.331		
DRO >C10-C28*	<10.0	10.0	02/14/2020	ND	192	96.2	200	4.27		
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND						

Surrogate: 1-Chlorooctane 91.6 % 41-142

Surrogate: 1-Chlorooctadecane 98.0 % 37.6-147

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S. SW - 1 4' (H000459-04)

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	02/14/2020	ND	1.73	86.6	2.00	7.88		
Toluene*	<0.050	0.050	02/14/2020	ND	1.79	89.6	2.00	7.48		
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.81	90.3	2.00	8.68		
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.23	87.2	6.00	8.78		
Total BTEX	<0.300	0.300	02/14/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 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	960	16.0	02/14/2020	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	02/14/2020	ND	205	102	200	0.331		
DRO >C10-C28*	<10.0	10.0	02/14/2020	ND	192	96.2	200	4.27		
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND						

Surrogate: 1-Chlorooctane 89.4 % 41-142

Surrogate: 1-Chlorooctadecane 94.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S. SW - 2 4' (H000459-05)

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	02/14/2020	ND	1.73	86.6	2.00	7.88		
Toluene*	<0.050	0.050	02/14/2020	ND	1.79	89.6	2.00	7.48		
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.81	90.3	2.00	8.68		
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.23	87.2	6.00	8.78		
Total BTEX	<0.300	0.300	02/14/2020	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	992	16.0	02/14/2020	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	02/14/2020	ND	205	102	200	0.331		
DRO >C10-C28*	<10.0	10.0	02/14/2020	ND	192	96.2	200	4.27		
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND						

Surrogate: 1-Chlorooctane 90.5 % 41-142

Surrogate: 1-Chlorooctadecane 95.2 % 37.6-147

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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: W. SW 4' (H000459-06)

BTX 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	02/14/2020	ND	1.81	90.6	2.00	6.38	
Toluene*	<0.050	0.050	02/14/2020	ND	1.88	93.8	2.00	6.12	
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.93	96.6	2.00	6.96	
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.63	93.8	6.00	7.07	
Total BTX	<0.300	0.300	02/14/2020	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	1060	16.0	02/14/2020	ND	416	104	400	0.00	QM-07	

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	02/14/2020	ND	205	102	200	0.331	
DRO >C10-C28*	<10.0	10.0	02/14/2020	ND	192	96.2	200	4.27	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 83.4 % 41-142

Surrogate: 1-Chlorooctadecane 87.6 % 37.6-147

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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 1 4' (H000459-07)

BTX 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	02/14/2020	ND	1.81	90.6	2.00	6.38	
Toluene*	<0.050	0.050	02/14/2020	ND	1.88	93.8	2.00	6.12	
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.93	96.6	2.00	6.96	
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.63	93.8	6.00	7.07	
Total BTX	<0.300	0.300	02/14/2020	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	1060	16.0	02/14/2020	ND	416	104	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	02/14/2020	ND	209	104	200	0.923	
DRO >C10-C28*	<10.0	10.0	02/14/2020	ND	216	108	200	0.863	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 95.0 % 41-142

Surrogate: 1-Chlorooctadecane 99.0 % 37.6-147

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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 2 4' (H000459-08)

BTX 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	02/14/2020	ND	1.81	90.6	2.00	6.38	
Toluene*	<0.050	0.050	02/14/2020	ND	1.88	93.8	2.00	6.12	
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.93	96.6	2.00	6.96	
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.63	93.8	6.00	7.07	
Total BTX	<0.300	0.300	02/14/2020	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	1600	16.0	02/14/2020	ND	416	104	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	02/14/2020	ND	209	104	200	0.923	
DRO >C10-C28*	<10.0	10.0	02/14/2020	ND	216	108	200	0.863	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 92.1 % 41-142

Surrogate: 1-Chlorooctadecane 96.7 % 37.6-147

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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 3 4' (H000459-09)

BTX 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	02/14/2020	ND	1.81	90.6	2.00	6.38	
Toluene*	<0.050	0.050	02/14/2020	ND	1.88	93.8	2.00	6.12	
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.93	96.6	2.00	6.96	
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.63	93.8	6.00	7.07	
Total BTX	<0.300	0.300	02/14/2020	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1250	16.0	02/14/2020	ND	416	104	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	02/14/2020	ND	209	104	200	0.923	
DRO >C10-C28*	<10.0	10.0	02/14/2020	ND	216	108	200	0.863	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 95.8 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 4 4' (H000459-10)

BTX 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	02/14/2020	ND	1.81	90.6	2.00	6.38	
Toluene*	<0.050	0.050	02/14/2020	ND	1.88	93.8	2.00	6.12	
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.93	96.6	2.00	6.96	
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.63	93.8	6.00	7.07	
Total BTX	<0.300	0.300	02/14/2020	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	1500	16.0	02/14/2020	ND	416	104	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	02/14/2020	ND	209	104	200	0.923	
DRO >C10-C28*	<10.0	10.0	02/14/2020	ND	216	108	200	0.863	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 96.9 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 5 4' (H000459-11)

BTX 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	02/14/2020	ND	1.81	90.6	2.00	6.38	
Toluene*	<0.050	0.050	02/14/2020	ND	1.88	93.8	2.00	6.12	
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.93	96.6	2.00	6.96	
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.63	93.8	6.00	7.07	
Total BTX	<0.300	0.300	02/14/2020	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3240	16.0	02/14/2020	ND	416	104	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	02/14/2020	ND	209	104	200	0.923	
DRO >C10-C28*	50.9	10.0	02/14/2020	ND	216	108	200	0.863	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 86.4 % 41-142

Surrogate: 1-Chlorooctadecane 93.8 % 37.6-147

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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 6 4' (H000459-12)

BTX 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	02/14/2020	ND	1.81	90.6	2.00	6.38	
Toluene*	<0.050	0.050	02/14/2020	ND	1.88	93.8	2.00	6.12	
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.93	96.6	2.00	6.96	
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.63	93.8	6.00	7.07	
Total BTX	<0.300	0.300	02/14/2020	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	864	16.0	02/14/2020	ND	416	104	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	02/14/2020	ND	209	104	200	0.923	
DRO >C10-C28*	<10.0	10.0	02/14/2020	ND	216	108	200	0.863	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 93.0 % 41-142

Surrogate: 1-Chlorooctadecane 98.1 % 37.6-147

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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 7 4' (H000459-13)

BTX 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	02/14/2020	ND	1.81	90.6	2.00	6.38	
Toluene*	<0.050	0.050	02/14/2020	ND	1.88	93.8	2.00	6.12	
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.93	96.6	2.00	6.96	
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.63	93.8	6.00	7.07	
Total BTX	<0.300	0.300	02/14/2020	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1880	16.0	02/14/2020	ND	416	104	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	02/14/2020	ND	209	104	200	0.923	
DRO >C10-C28*	40.5	10.0	02/14/2020	ND	216	108	200	0.863	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 95.7 % 41-142

Surrogate: 1-Chlorooctadecane 99.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 8 4' (H000459-14)

BTX 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	02/14/2020	ND	1.81	90.6	2.00	6.38	
Toluene*	<0.050	0.050	02/14/2020	ND	1.88	93.8	2.00	6.12	
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.93	96.6	2.00	6.96	
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.63	93.8	6.00	7.07	
Total BTX	<0.300	0.300	02/14/2020	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4400	16.0	02/14/2020	ND	416	104	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	02/14/2020	ND	209	104	200	0.923	
DRO >C10-C28*	68.1	10.0	02/14/2020	ND	216	108	200	0.863	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 95.0 % 41-142

Surrogate: 1-Chlorooctadecane 98.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 9 4' (H000459-15)

BTX 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	02/14/2020	ND	1.81	90.6	2.00	6.38	
Toluene*	<0.050	0.050	02/14/2020	ND	1.88	93.8	2.00	6.12	
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.93	96.6	2.00	6.96	
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.63	93.8	6.00	7.07	
Total BTX	<0.300	0.300	02/14/2020	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	2000	16.0	02/14/2020	ND	416	104	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	02/14/2020	ND	209	104	200	0.923	
DRO >C10-C28*	42.0	10.0	02/14/2020	ND	216	108	200	0.863	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 95.9 % 41-142

Surrogate: 1-Chlorooctadecane 99.1 % 37.6-147

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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 10 4' (H000459-16)

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	02/14/2020	ND	1.81	90.6	2.00	6.38		
Toluene*	<0.050	0.050	02/14/2020	ND	1.88	93.8	2.00	6.12		
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.93	96.6	2.00	6.96		
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.63	93.8	6.00	7.07		
Total BTEx	<0.300	0.300	02/14/2020	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1170	16.0	02/14/2020	ND	416	104	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	02/14/2020	ND	209	104	200	0.923	
DRO >C10-C28*	<10.0	10.0	02/14/2020	ND	216	108	200	0.863	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 99.4 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 11 4' (H000459-17)

BTX 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	02/14/2020	ND	1.81	90.6	2.00	6.38	
Toluene*	<0.050	0.050	02/14/2020	ND	1.88	93.8	2.00	6.12	
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.93	96.6	2.00	6.96	
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.63	93.8	6.00	7.07	
Total BTX	<0.300	0.300	02/14/2020	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	800	16.0	02/14/2020	ND	416	104	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	02/14/2020	ND	209	104	200	0.923	
DRO >C10-C28*	<10.0	10.0	02/14/2020	ND	216	108	200	0.863	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 91.5 % 41-142

Surrogate: 1-Chlorooctadecane 93.4 % 37.6-147

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Analytical Results For:

TALON LPE
 REBECCA PONS
 408 W. TEXAS AVE.
 ARTESIA NM, 88210
 Fax To: (575) 745-8905

Received:	02/14/2020	Sampling Date:	02/13/2020
Reported:	02/17/2020	Sampling Type:	Soil
Project Name:	STRATO CASTER 20 FED 3 & 4 B	Sampling Condition:	Cool & Intact
Project Number:	700778.146.01	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA COUNTY		

Sample ID: S - 12 4' (H000459-18)

BTX 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	02/14/2020	ND	1.81	90.6	2.00	6.38	
Toluene*	<0.050	0.050	02/14/2020	ND	1.88	93.8	2.00	6.12	
Ethylbenzene*	<0.050	0.050	02/14/2020	ND	1.93	96.6	2.00	6.96	
Total Xylenes*	<0.150	0.150	02/14/2020	ND	5.63	93.8	6.00	7.07	
Total BTX	<0.300	0.300	02/14/2020	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	768	16.0	02/14/2020	ND	416	104	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	02/14/2020	ND	209	104	200	0.923	
DRO >C10-C28*	<10.0	10.0	02/14/2020	ND	216	108	200	0.863	
EXT DRO >C28-C36	<10.0	10.0	02/14/2020	ND					

Surrogate: 1-Chlorooctane 80.1 % 41-142

Surrogate: 1-Chlorooctadecane 83.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

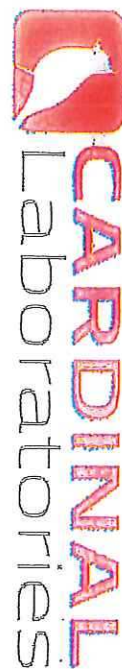
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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: TALON CPE		P.O. #:
Project Manager: REBECCA PONS	Company: CONCHO	
Address: 408 W. TEXAS	Attn: JKE TAVAREZ	
City: ARTESIA	State: NM	Zip: 88210
Phone #: 575-441-0980	Fax #:	
Project #: 700TB.146.01	Project Owner: CONCHO	
Project Name: STRATOCASTER RD FGD 3+4	City:	
Project Location: LEA COUNTY	State:	Zip:
Sampler Name: MICHAEL COUER	Phone #:	
FOR LAB USE ONLY	Fax #:	

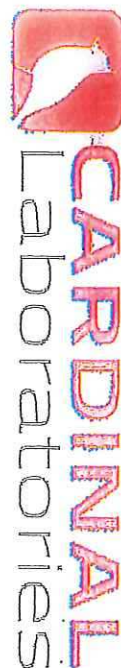
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.	SAMPLING DATE	TIME	TPH	BTEx	TOTAL CHLORIDES
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE						
ADD04589	N.S.W.-1 4'	C	1	V					V	2-13-20	9:00am	V	V	V
	N.S.W.-2 4'										9:10am			
	E.S.W.-2 4'										9:20am			
	S.S.W.-1 4'										9:30am			
	S.S.W.-2 4'										9:40am			
	U.S.W. 4'										9:50am			
	S-1 4'										10:00am			
	S-2 4'										10:10am			
	S-3 4'										10:20am			
	S-4 4'	C	1	V					V	2-13-20	10:30am	V	V	V

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Relinquished By: M.C.E.L.	Date: 2-14-20	Received By: [Signature]
Time: 12:15	Days:	Received By: [Signature]
Time:		

Delivered By: (Circle One)	Sample Condition	CHECKED BY:
Sampler - UPS - Bus - Other: 4.4c #113	GPI <input type="checkbox"/> Intact <input checked="" type="checkbox"/> No Yes No	(Initials) P.G. 1 OF 2

24 hr RUSH



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Confidentiality Name: TAYLOR CRE										P.O. #:									
Project Manager: REBECCA PONS										Company: CONCHO									
Address: 408 W. TEXAS										Attn: JKE THWAZER									
City: ARTESIA										State: NM Zip: 88210									
Phone #: 575-441-0780										Fax #:									
Project #: 7007TB.146.01										Project Owner: CONCHO									
Project Name: STRATOCASTER 20 FEB 344										City:									
Project Location: LEA COUNTY										State: Zip:									
Sampler Name: MICHAEL COOPER										Phone #:									
FOR LAB USE ONLY										Fed #:									
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.	SAMPLING							
						GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	TPH	BTEX	TOTAL CHLORIDES
H0004589	11	S-5	4'	C	1			✓							2-13-20	10:40am	✓	✓	✓
	12	S-6	4'													10:50am			
	13	S-7	4'													10:50am			
	14	S-8	4'													11:10am			
	15	S-9	4'													11:30am			
	16	S-10	4'													11:40am			
	17	S-11	4'													11:50am			
	18	S-12	4'																

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Relinquished By:		Date: 2-14-20		Received By:		Date: 2-14-20	
Relinquished By:		Time: 12:15		Received By:		Time:	
Delivered By: (Circle One)		Sample Condition		CHECKED BY:		REMARKS:	
Sampler - UPS - Bus - Other:		Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Pg. 2 of 2	
A. 4c #113		No <input type="checkbox"/> Yes <input type="checkbox"/>		No <input type="checkbox"/> Yes <input type="checkbox"/>		24 hr RUSH	



Certificate of Analysis Summary 654137

COG Operating LLC, Artesia, NM



Project Id:

Contact: Ike Tavarez

Project Location: Lea County, NM

Project Name: Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Date Received in Lab: Fri Feb-28-20 02:58 pm

Report Date: 02-MAR-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id: 654137-001 Field Id: CS-1 West Wall Depth: Matrix: SOIL Sampled: Feb-27-20 00:00					
BTEX by EPA 8021B	Extracted: Feb-28-20 15:00 Analyzed: Feb-28-20 19:17 Units/RL: mg/kg RL					
Benzene	<0.00199 0.00199					
Toluene	<0.00199 0.00199					
Ethylbenzene	<0.00199 0.00199					
m,p-Xylenes	<0.00398 0.00398					
o-Xylene	<0.00199 0.00199					
Total Xylenes	<0.00199 0.00199					
Total BTEX	<0.00199 0.00199					
Chloride by EPA 300	Extracted: Feb-28-20 17:05 Analyzed: Feb-29-20 04:40 Units/RL: mg/kg RL					
Chloride	8.34 5.05					
TPH By SW8015 Mod	Extracted: Feb-29-20 10:00 Analyzed: Mar-01-20 06:03 Units/RL: mg/kg RL					
Gasoline Range Hydrocarbons	<50.0 50.0					
Diesel Range Organics	<50.0 50.0					
Motor Oil Range Hydrocarbons (MRO)	<50.0 50.0					
Total TPH	<50.0 50.0					

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

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

Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant

Analytical Report 654137

for
COG Operating LLC

Project Manager: Ike Tavaréz
Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

02-MAR-20

Collected By: Client



1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



02-MAR-20

Project Manager: **Ike Tavaréz**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: XENCO Report No(s): **654137**

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Project Address: Lea County, NM

Ike Tavaréz:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 654137. 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. 654137 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

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 654137****COG Operating LLC, Artesia, NM**

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CS-1 West Wall	S	02-27-20 00:00		654137-001



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Stratocaster 20 Federal #004 (04/14/19) IRP-5650

Project ID:

Work Order Number(s): 654137

Report Date: 02-MAR-20

Date Received: 02/28/2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3118107 BTEX by EPA 8021B

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



Certificate of Analytical Results 654137



COG Operating LLC, Artesia, NM

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Sample Id: **CS-1 West Wall**

Matrix: Soil

Date Received: 02.28.20 14.58

Lab Sample Id: 654137-001

Date Collected: 02.27.20 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 02.28.20 17.05

Basis: Wet Weight

Seq Number: 3118133

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.34	5.05	mg/kg	02.29.20 04.40		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 02.29.20 10.00

Basis: Wet Weight

Seq Number: 3118190

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	03.01.20 06.03	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	03.01.20 06.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.01.20 06.03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	03.01.20 06.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	03.01.20 06.03	
o-Terphenyl	84-15-1	99	%	70-135	03.01.20 06.03	



Certificate of Analytical Results 654137

COG Operating LLC, Artesia, NM

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Sample Id: **CS-1 West Wall**Matrix: **Soil**

Date Received: 02.28.20 14.58

Lab Sample Id: 654137-001

Date Collected: 02.27.20 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: **KTL**

% Moisture:

Analyst: **KTL**

Date Prep: 02.28.20 15.00

Basis: **Wet Weight**

Seq Number: 3118107

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.28.20 19.17	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.28.20 19.17	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.28.20 19.17	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.28.20 19.17	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.28.20 19.17	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.28.20 19.17	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.28.20 19.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	70-130	02.28.20 19.17		
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.28.20 19.17		



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



COG Operating LLC

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Analytical Method: Chloride by EPA 300

Seq Number: 3118133

MB Sample Id: 7697761-1-BLK

Matrix: Solid

LCS Sample Id: 7697761-1-BKS

Prep Method: E300P

Date Prep: 02.28.20

LCSD Sample Id: 7697761-1-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	252	101	249	100	90-110	1	20	mg/kg	02.29.20 02:18	

Analytical Method: Chloride by EPA 300

Seq Number: 3118133

Parent Sample Id: 654118-002

Matrix: Soil

MS Sample Id: 654118-002 S

Prep Method: E300P

Date Prep: 02.28.20

MSD Sample Id: 654118-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1040	199	1220	90	1230	95	90-110	1	20	mg/kg	02.29.20 02:33	

Analytical Method: Chloride by EPA 300

Seq Number: 3118133

Parent Sample Id: 654118-010

Matrix: Soil

MS Sample Id: 654118-010 S

Prep Method: E300P

Date Prep: 02.28.20

MSD Sample Id: 654118-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	444	250	667	89	668	90	90-110	0	20	mg/kg	02.29.20 03:47	X

Analytical Method: TPH By SW8015 Mod

Seq Number: 3118190

MB Sample Id: 7697820-1-BLK

Matrix: Solid

LCS Sample Id: 7697820-1-BKS

Prep Method: SW8015P

Date Prep: 02.29.20

LCSD Sample Id: 7697820-1-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	<15.0	1000	1050	105	1080	108	70-135	3	20	mg/kg	02.29.20 23:26	
Diesel Range Organics	<15.0	1000	1160	116	1200	120	70-135	3	20	mg/kg	02.29.20 23:26	

Surrogate

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		104		111		70-135	%	02.29.20 23:26
o-Terphenyl	98		108		106		70-135	%	02.29.20 23:26

Analytical Method: TPH By SW8015 Mod

Seq Number: 3118190

Matrix: Solid

MB Sample Id: 7697820-1-BLK

Prep Method: SW8015P

Date Prep: 02.29.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.29.20 23:04	

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

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

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

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



COG Operating LLC

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Analytical Method: TPH By SW8015 Mod

Seq Number: 3118190

Parent Sample Id: 654090-021

Matrix: Soil

MS Sample Id: 654090-021 S

Prep Method: SW8015P

Date Prep: 02.29.20

MSD Sample Id: 654090-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	17.3	999	931	91	980	96	70-135	5	20	mg/kg	03.01.20 00:28	
Diesel Range Organics	109	999	1160	105	1190	108	70-135	3	20	mg/kg	03.01.20 00:28	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		103		70-135	%	03.01.20 00:28
o-Terphenyl	104		107		70-135	%	03.01.20 00:28

Analytical Method: BTEX by EPA 8021B

Seq Number: 3118107

MB Sample Id: 7697773-1-BLK

Matrix: Solid

LCS Sample Id: 7697773-1-BKS

Prep Method: SW5030B

Date Prep: 02.28.20

LCSD Sample Id: 7697773-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.109	109	0.109	109	70-130	0	35	mg/kg	02.28.20 16:45	
Toluene	<0.00200	0.100	0.102	102	0.105	105	70-130	3	35	mg/kg	02.28.20 16:45	
Ethylbenzene	<0.00200	0.100	0.105	105	0.110	110	70-130	5	35	mg/kg	02.28.20 16:45	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.214	107	70-130	6	35	mg/kg	02.28.20 16:45	
o-Xylene	<0.00200	0.100	0.101	101	0.106	106	70-130	5	35	mg/kg	02.28.20 16:45	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		95		92		70-130	%	02.28.20 16:45
4-Bromofluorobenzene	97		101		103		70-130	%	02.28.20 16:45

Analytical Method: BTEX by EPA 8021B

Seq Number: 3118107

Parent Sample Id: 654137-001

Matrix: Soil

MS Sample Id: 654137-001 S

Prep Method: SW5030B

Date Prep: 02.28.20

MSD Sample Id: 654137-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.101	102	0.101	100	70-130	0	35	mg/kg	02.28.20 17:26	
Toluene	<0.00199	0.0994	0.0931	94	0.0946	94	70-130	2	35	mg/kg	02.28.20 17:26	
Ethylbenzene	<0.00199	0.0994	0.0893	90	0.0950	94	70-130	6	35	mg/kg	02.28.20 17:26	
m,p-Xylenes	<0.00398	0.199	0.168	84	0.182	91	70-130	8	35	mg/kg	02.28.20 17:26	
o-Xylene	<0.00199	0.0994	0.0837	84	0.0912	90	70-130	9	35	mg/kg	02.28.20 17:26	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		95		70-130	%	02.28.20 17:26
4-Bromofluorobenzene	90		98		70-130	%	02.28.20 17:26

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

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

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

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



1054137

Final 1.000



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

Date/ Time Received: 02/28/2020 02:58:07 PM

Work Order #: 654137

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist**Comments**

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 02/28/2020

Checklist reviewed by:

Jessica Kramer

Date: 02/28/2020



Certificate of Analysis Summary 655207

COG Operating LLC, Artesia, NM



Project Name: Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Project Id:

Date Received in Lab: Tue Mar-10-20 03:47 pm

Contact: Ike Tavaréz

Report Date: 13-MAR-20

Project Location: Lea County, NM

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	655207-001	655207-002	655207-003	655207-004		
	<i>Field Id:</i>	T-3 CS East Wall	T-3 CS West Wall	T-3 CS North Wall	T-3 CS Bottom Hole 3'		
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Mar-09-20 00:00	Mar-09-20 00:00	Mar-09-20 00:00	Mar-09-20 00:00		
BTEX by EPA 8021B	<i>Extracted:</i>	Mar-11-20 16:30	Mar-11-20 16:30	Mar-11-20 16:30	Mar-11-20 16:30		
	<i>Analyzed:</i>	Mar-12-20 10:21	Mar-12-20 16:18	Mar-12-20 16:38	Mar-12-20 16:58		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200		
Toluene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200		
Ethylbenzene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200		
m,p-Xylenes		<0.00402 0.00402	<0.00398 0.00398	<0.00399 0.00399	<0.00400 0.00400		
o-Xylene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200		
Total Xylenes		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200		
Total BTEX		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200		
Chloride by EPA 300	<i>Extracted:</i>	Mar-10-20 16:50	Mar-10-20 16:50	Mar-10-20 16:50	Mar-10-20 16:50		
	<i>Analyzed:</i>	Mar-10-20 23:12	Mar-10-20 23:19	Mar-10-20 23:25	Mar-10-20 23:31		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		107 5.04	89.6 5.00	85.7 4.99	86.1 5.01		
TPH By SW8015 Mod	<i>Extracted:</i>	Mar-10-20 16:30	Mar-10-20 16:30	Mar-10-20 16:30	Mar-10-20 16:30		
	<i>Analyzed:</i>	Mar-11-20 07:10	Mar-11-20 07:29	Mar-11-20 07:47	Mar-11-20 08:06		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8		
Diesel Range Organics		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8		
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8		
Total TPH		<50.0 50.0	<49.9 49.9	<49.9 49.9	<49.8 49.8		

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

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

Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Manager

Analytical Report 655207

for COG Operating LLC

Project Manager: Ike Tavaréz

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

13-MAR-20

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

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

Xenco-Tampa: Florida (E87429), North Carolina (483)



13-MAR-20

Project Manager: **Ike Tavaréz**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: XENCO Report No(s): **655207**

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Project Address: Lea County, NM

Ike Tavaréz:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 655207. 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. 655207 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

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 655207****COG Operating LLC, Artesia, NM**

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-3 CS East Wall	S	03-09-20 00:00		655207-001
T-3 CS West Wall	S	03-09-20 00:00		655207-002
T-3 CS North Wall	S	03-09-20 00:00		655207-003
T-3 CS Bottom Hole 3'	S	03-09-20 00:00		655207-004



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Stratocaster 20 Federal #004 (04/14/19) IRP-5650

Project ID:

Work Order Number(s): 655207

Report Date: 13-MAR-20

Date Received: 03/10/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3119397 BTEX by EPA 8021B

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



Certificate of Analytical Results 655207



COG Operating LLC, Artesia, NM

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Sample Id: **T-3 CS East Wall**

Matrix: Soil

Date Received: 03.10.20 15.47

Lab Sample Id: 655207-001

Date Collected: 03.09.20 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.10.20 16.50

Basis: Wet Weight

Seq Number: 3119162

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	107	5.04	mg/kg	03.10.20 23.12		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 03.10.20 16.30

Basis: Wet Weight

Seq Number: 3119216

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	03.11.20 07.10	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	03.11.20 07.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.11.20 07.10	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	03.11.20 07.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	03.11.20 07.10	
o-Terphenyl	84-15-1	84	%	70-135	03.11.20 07.10	



Certificate of Analytical Results 655207

COG Operating LLC, Artesia, NM

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Sample Id: **T-3 CS East Wall**Matrix: **Soil**

Date Received: 03.10.20 15.47

Lab Sample Id: 655207-001

Date Collected: 03.09.20 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: **KTL**

% Moisture:

Analyst: **KTL**

Date Prep: 03.11.20 16.30

Basis: **Wet Weight**

Seq Number: 3119397

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.12.20 10.21	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.12.20 10.21	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.12.20 10.21	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.12.20 10.21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.12.20 10.21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.12.20 10.21	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.12.20 10.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	03.12.20 10.21		
4-Bromofluorobenzene	460-00-4	90	%	70-130	03.12.20 10.21		



Certificate of Analytical Results 655207



COG Operating LLC, Artesia, NM

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Sample Id: **T-3 CS West Wall** Matrix: Soil Date Received: 03.10.20 15.47
 Lab Sample Id: 655207-002 Date Collected: 03.09.20 00.00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 03.10.20 16.50 Basis: Wet Weight
 Seq Number: 3119162

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	89.6	5.00	mg/kg	03.10.20 23.19		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 03.10.20 16.30 Basis: Wet Weight
 Seq Number: 3119216

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	03.11.20 07.29	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	03.11.20 07.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.11.20 07.29	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.11.20 07.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	81	%	70-135	03.11.20 07.29		
o-Terphenyl	84-15-1	84	%	70-135	03.11.20 07.29		



Certificate of Analytical Results 655207

COG Operating LLC, Artesia, NM

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Sample Id: **T-3 CS West Wall** Matrix: **Soil** Date Received: 03.10.20 15.47
 Lab Sample Id: 655207-002 Date Collected: 03.09.20 00.00
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL % Moisture:
 Analyst: KTL Date Prep: 03.11.20 16.30 Basis: Wet Weight
 Seq Number: 3119397

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.12.20 16.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.12.20 16.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.12.20 16.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.12.20 16.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.12.20 16.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.12.20 16.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.12.20 16.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.12.20 16.18		
4-Bromofluorobenzene	460-00-4	86	%	70-130	03.12.20 16.18		



Certificate of Analytical Results 655207



COG Operating LLC, Artesia, NM

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Sample Id: T-3 CS North Wall

Matrix: Soil

Date Received: 03.10.20 15.47

Lab Sample Id: 655207-003

Date Collected: 03.09.20 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.10.20 16.50

Basis: Wet Weight

Seq Number: 3119162

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	85.7	4.99	mg/kg	03.10.20 23.25		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 03.10.20 16.30

Basis: Wet Weight

Seq Number: 3119216

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	03.11.20 07.47	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	03.11.20 07.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.11.20 07.47	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.11.20 07.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	84	%	70-135	03.11.20 07.47		
o-Terphenyl	84-15-1	87	%	70-135	03.11.20 07.47		



Certificate of Analytical Results 655207

COG Operating LLC, Artesia, NM

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Sample Id: **T-3 CS North Wall**

Matrix: Soil

Date Received: 03.10.20 15.47

Lab Sample Id: 655207-003

Date Collected: 03.09.20 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 03.11.20 16.30

Basis: Wet Weight

Seq Number: 3119397

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.12.20 16.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.12.20 16.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.12.20 16.38	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.12.20 16.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.12.20 16.38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.12.20 16.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.12.20 16.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	03.12.20 16.38		
1,4-Difluorobenzene	540-36-3	112	%	70-130	03.12.20 16.38		



Certificate of Analytical Results 655207

COG Operating LLC, Artesia, NM

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Sample Id: **T-3 CS Bottom Hole 3'**

Matrix: Soil

Date Received: 03.10.20 15.47

Lab Sample Id: 655207-004

Date Collected: 03.09.20 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 03.10.20 16.50

Basis: Wet Weight

Seq Number: 3119162

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	86.1	5.01	mg/kg	03.10.20 23.31		1

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DVM

% Moisture:

Analyst: ARM

Date Prep: 03.10.20 16.30

Basis: Wet Weight

Seq Number: 3119216

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.8	49.8	mg/kg	03.11.20 08.06	U	1
Diesel Range Organics	C10C28DRO	<49.8	49.8	mg/kg	03.11.20 08.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	03.11.20 08.06	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	03.11.20 08.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	03.11.20 08.06	
o-Terphenyl	84-15-1	85	%	70-135	03.11.20 08.06	



Certificate of Analytical Results 655207



COG Operating LLC, Artesia, NM

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Sample Id: **T-3 CS Bottom Hole 3'**

Matrix: Soil

Date Received: 03.10.20 15.47

Lab Sample Id: 655207-004

Date Collected: 03.09.20 00.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: KTL

Date Prep: 03.11.20 16.30

Basis: Wet Weight

Seq Number: 3119397

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.12.20 16.58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.12.20 16.58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.12.20 16.58	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.12.20 16.58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.12.20 16.58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.12.20 16.58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.12.20 16.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	03.12.20 16.58		
1,4-Difluorobenzene	540-36-3	109	%	70-130	03.12.20 16.58		



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



COG Operating LLC

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Analytical Method: Chloride by EPA 300

Seq Number: 3119162

MB Sample Id: 7698520-1-BLK

Matrix: Solid

LCS Sample Id: 7698520-1-BKS

Prep Method: E300P

Date Prep: 03.10.20

LCSD Sample Id: 7698520-1-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	259	104	259	104	90-110	0	20	mg/kg	03.10.20 22:41	

Analytical Method: Chloride by EPA 300

Seq Number: 3119162

Parent Sample Id: 655105-012

Matrix: Soil

MS Sample Id: 655105-012 S

Prep Method: E300P

Date Prep: 03.10.20

MSD Sample Id: 655105-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	602	250	847	98	843	96	90-110	0	20	mg/kg	03.10.20 23:00	

Analytical Method: Chloride by EPA 300

Seq Number: 3119162

Parent Sample Id: 655216-005

Matrix: Soil

MS Sample Id: 655216-005 S

Prep Method: E300P

Date Prep: 03.10.20

MSD Sample Id: 655216-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	541	253	785	96	779	94	90-110	1	20	mg/kg	03.11.20 00:27	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3119216

MB Sample Id: 7698502-1-BLK

Matrix: Solid

LCS Sample Id: 7698502-1-BKS

Prep Method: SW8015P

Date Prep: 03.10.20

LCSD Sample Id: 7698502-1-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	<15.0	1000	927	93	913	91	70-135	2	20	mg/kg	03.10.20 09:01	
Diesel Range Organics	<15.0	1000	1020	102	991	99	70-135	3	20	mg/kg	03.10.20 09:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		104		103		70-135	%	03.10.20 09:01
o-Terphenyl	89		98		100		70-135	%	03.10.20 09:01

Analytical Method: TPH By SW8015 Mod

Seq Number: 3119216

Matrix: Solid

MB Sample Id: 7698502-1-BLK

Prep Method: SW8015P

Date Prep: 03.10.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.10.20 08:42	

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

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

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

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



COG Operating LLC

Stratocaster 20 Federal #004 (04/14/19) 1RP-5650

Analytical Method: TPH By SW8015 Mod

Seq Number: 3119216

Parent Sample Id: 655065-001

Matrix: Soil

MS Sample Id: 655065-001 S

Prep Method: SW8015P

Date Prep: 03.10.20

MSD Sample Id: 655065-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<15.0	997	910	91	912	92	70-135	0	20	mg/kg	03.10.20 09:56	
Diesel Range Organics	22.5	997	986	97	1000	98	70-135	1	20	mg/kg	03.10.20 09:56	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		103		70-135	%	03.10.20 09:56
o-Terphenyl	98		100		70-135	%	03.10.20 09:56

Analytical Method: BTEX by EPA 8021B

Seq Number: 3119397

MB Sample Id: 7698719-1-BLK

Matrix: Solid

LCS Sample Id: 7698719-1-BKS

Prep Method: SW5030B

Date Prep: 03.11.20

LCSD Sample Id: 7698719-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.103	103	0.0896	90	70-130	14	35	mg/kg	03.12.20 07:47	
Toluene	<0.000456	0.100	0.104	104	0.0911	91	70-130	13	35	mg/kg	03.12.20 07:47	
Ethylbenzene	<0.000565	0.100	0.0988	99	0.0865	87	70-130	13	35	mg/kg	03.12.20 07:47	
m,p-Xylenes	<0.00101	0.200	0.196	98	0.171	86	70-130	14	35	mg/kg	03.12.20 07:47	
o-Xylene	<0.000344	0.100	0.0999	100	0.0877	88	70-130	13	35	mg/kg	03.12.20 07:47	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		103		101		70-130	%	03.12.20 07:47
4-Bromofluorobenzene	84		96		93		70-130	%	03.12.20 07:47

Analytical Method: BTEX by EPA 8021B

Seq Number: 3119397

Parent Sample Id: 655207-001

Matrix: Soil

MS Sample Id: 655207-001 S

Prep Method: SW5030B

Date Prep: 03.11.20

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Benzene	0.000413	0.0994	0.0905	91	70-130	mg/kg	03.12.20 08:42	
Toluene	0.000644	0.0994	0.0875	87	70-130	mg/kg	03.12.20 08:42	
Ethylbenzene	<0.000561	0.0994	0.0801	81	70-130	mg/kg	03.12.20 08:42	
m,p-Xylenes	<0.00101	0.199	0.159	80	70-130	mg/kg	03.12.20 08:42	
o-Xylene	0.000443	0.0994	0.0841	84	70-130	mg/kg	03.12.20 08:42	

Surrogate

	MS %Rec	MS Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		70-130	%	03.12.20 08:42
4-Bromofluorobenzene	106		70-130	%	03.12.20 08:42

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

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

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

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

Analysis Request of Chain of Custody Record



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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 03.10.2020 03.47.00 PM

Work Order #: 655207

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R9

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.9
#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: 03.10.2020

Checklist reviewed by:



Jessica Kramer

Date: 03.10.2020