CONCHO

October 22, 2018

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

Re: Work Plan
Patton 5 Fee 2H Tank Battery (1/7/18)
API #: 30-015-39815
RP#: 2RP-4572
GPS: 32.6943321, -104.4119949
Unit Letter D, Section 5, Township 19 South, Range 26 East
Eddy County, New Mexico

Mr. Bratcher and Ms. Pruitt,

COG Operating, LLC (COG) is pleased to submit the following work plan in response to a release that occurred at the Patton 5 Fee 2H Tank Battery located in Unit Letter D, Section 5, Township 19 South and Range 26 East in Eddy County, New Mexico.

BACKGROUND

The release was discovered on January 7, 2018 and a C-141 initial report was submitted and approved by the New Mexico Oil Conservation Division (NMOCD). The initial C-141 is shown in Appendix A. The release occurred when a 1-inch valve on the circulating pump failed and released fluids inside the lined facility. The liner located on the east of the tank battery breached impacting the pad area. Approximately sixty-five (65) barrels of oil were released and recovered fifty-eight (58) barrels of oil were recovered. The tanks and equipment inside the lined containment will be removed to access the impacted soils and to repair and replace the liner.

GROUNDWATER AND REGULATORY FRAMEWORK

According to the New Mexico Office of the State Engineer (NMOSE), a water well was reported in Section 5 with a depth of 100 feet below surface. In addition, the USGS showed a water well with a reported depth to water of 60 feet below surface. The Chevron Trend Map show depth to groundwater in the area approximately >100 feet below surface. The water well information is shown in Appendix B.

A risk based evaluation and site determinations were performed in accordance to the New Mexico Oil Conservation Division (NMOCD) Rule (Title 19 Chapter 15 Part 29) for releases on oil and gas development and production in New Mexico (effective August 14, 2018). According to the site characterization evaluation, no other receptors (water wells, playas, karst, water course, lake beds or ordinance boundaries) were located

within each specific boundaries or distance from the site. The groundwater data and the site characterization evaluation data is summarized in Appendix B. The delineation and closure criteria are listed below:

General Site Characterization and Groundwater:

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

Delineation and Closure Criteria:

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

PROPOSED WORK PLAN

- At the facility, AH-1 and AH-3 will be excavated to a depth of approximately 1.0' to 2.0' below surface.
- Due to the dense formation, the area of AH-3 was not vertically defined, but the area will be excavated to the appropriate depth until the TPH concentrations are below RRALs.
- The pad areas of T-1 and T-2 will be excavated to a depth of approximately 1.0' and 2.0', respectively.
- All of the excavated material will be hauled to an NMOCD approved solid waste disposal facility.
- The excavation will be backfilled with clean "like" material and contoured to match the surrounding terrain.

SAMPLING PLAN

Once the excavation is complete, soil confirmation samples will be collected from the excavated areas. To collect representative samples, composite samples (5-point composite) will be collected every 600 square feet (approximately 25' x 25') for the final confirmation sampling for the constituents of concern. Discrete soil samples will be collected from the excavation if any "hot spots" are encountered during the excavation.

REMEDIATION TIMEFRAME AND ESTIMATED VOLUME

The remediation will be performed 90 days after the work plan has been approved. Approximately 375 cubic yards of soil will be excavated and hauled offsite for proper disposal.

SITE RECLAMATION AND RESTORATION

All of the soil remained on the pad and no reclamation activities will be required at the site.

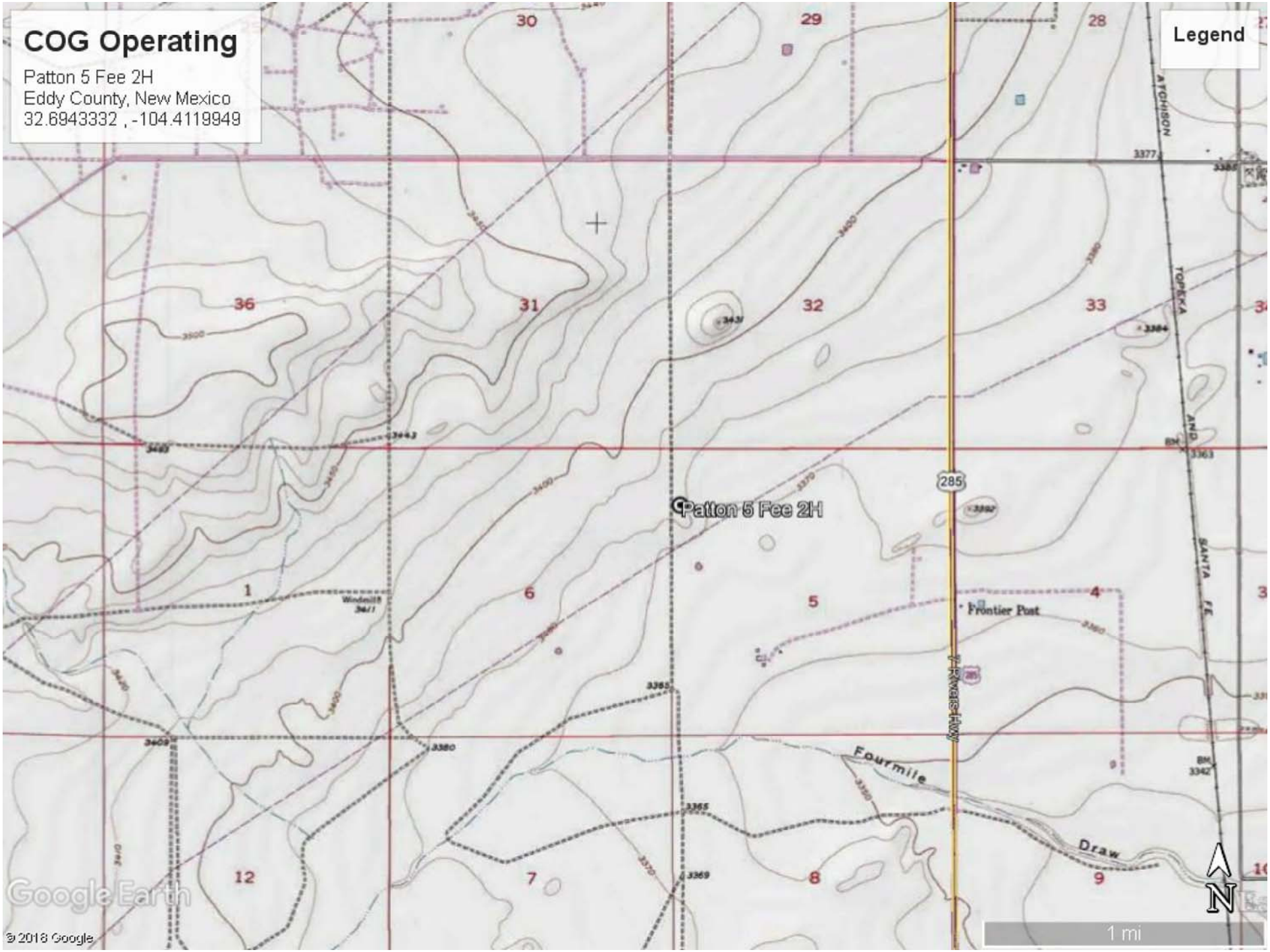
Should you have any questions or concerns on the proposed remediation activities, please do not hesitate to contact me.

Sincerely,
Concho Operating, LLC

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

CC:

Figures



Tables

Table 1
COG Operating LLC.
Patton 5 Federal 2H
Eddy County, New Mexico

Sample ID	Sample Depth (ft)	Sample Date	Soil Status		TPH (mg/kg)							Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	*Total*	GRO	DRO	*Total*			
Average Depth to Groundwater (ft)		**50' -100'**												
NMOCD RRAL Limits (mg/kg)					**-**	**-**	**-**	**2,500**	**-**	**-**	**1,000**	**10**	**50**	**10,000**
T-1	0	1/24/2018	X		1300	2530	299	**4130**	1300	2530	**3,830**	8.10	**291**	92.1
T-1	1	1/24/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	3,830	<0.0100	<0.0100	-
T-1	2	1/24/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	3,830	<0.0100	<0.0100	-
T-2	0	1/24/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	0	<0.0100	<0.0100	120
T-2	1	1/24/2018	X		40.3	2350	499	**2890**	40.3	2350	**2,390**	<0.00200	0.00324	-
T-2	2	1/24/2018	X		<14.9	<14.9	<14.9	<14.9	<14.9	<14.9	<14.9	<0.00200	<0.00200	-
T-2	3	1/24/2018	X		<14.9	<14.9	<14.9	<14.9	<14.9	<14.9	<14.9	<0.00199	<0.00199	-
T-3	0	1/24/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	3990
T-3	1	1/24/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	465
T-3	2	1/24/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	-
T-3	3	1/24/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	-
North	0-1	1/24/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	7.79
South	0-1	1/24/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	366
West	0-1	1/24/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	206
AH-1	0	3/21/2018	X		18.1	182	33.2	233.3	18.1	182	200.1	<0.050	3.06	15.2
AH-1	1	3/21/2018	X		19.4	2780	397	**3196.4**	19.4	2780	**2799.4**	**19.4**	**325**	-
AH-1	1.6	3/21/2018			68.8	682	130	880.8	68.8	682	750.8	0.241	11.8	-
AH-2	0	3/21/2018	X		<10.0	<10.0	10.1	10.1	<10.0	<10.0	0	0.086	0.369	440
AH-3	0	3/21/2018	X		271	2720	472	**3463**	271	2720	**2991**	0.068	26.4	62.7
AH-3	0.5	3/21/2018	X		114	1410	265	1789	114	1410	**1524**	<0.050	5.65	-
AH-4	0	3/21/2018	X		<10.0	<10.0	14.6	14.6	<10.0	<10.0	<10.0	<0.050	<0.300	41.9
AH-4	1	3/21/2018	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	-
AH-4	2	3/21/2018	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	-
North	0-1	3/21/2018	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	225
South	0-1	3/21/2018	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	468
East-1	0-1	3/21/2018	X		<10.0	139	14.7	153.7	<10.0	139	139	<0.050	<0.300	152
East-2	0-1	3/21/2018	X		<10.0	53.2	<10.0	53.2	<10.0	53.2	53.2	<0.050	<0.300	138
West	0-1	3/21/2018	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.050	<0.300	12.0

Proposed Excavation Depth

(-) Not Analyzed

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources

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

NM OIL CONSERVATION
ARTESIA DISTRICT
JAN 12 2018
RECEIVED

Form C-141
Revised April 3, 2017
Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: **COG Operating, LLC** (OGRID# 229137)	Contact: **Robert McNeill**
Address: **600 West Illinois Avenue, Midland TX 79701**	Telephone No.: **432-683-7443**
Facility Name: **Patton 5 Fee #002H**	Facility Type: **Tank Battery**

Surface Owner: Fee	Mineral Owner: Private	API No.: 30-015-39815

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	5	19S	26E	1040	North	330	West	Eddy

Latitude: 32.6943321 **Longitude**: -104.4119949 NAD83

NATURE OF RELEASE

Type of Release: Oil	Volume of Release: 65bbls	Volume Recovered: 58bbls
Source of Release: Valve	Date and Hour of Occurrence: 1/7/2018	Date and Hour of Discovery: 1/7/2018 11:30am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Crystal Weaver-NMOCD	
By Whom? Sheldon Hitchcock	Date and Hour: 1/7/2018 1:50pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A 1-inch valve on circulating pump failed due to fluid and sand cut. The valve was replaced.

Describe Area Affected and Cleanup Action Taken.*

All of the fluid remained on location. A vacuum truck was utilized to recover freestanding fluids. Concho will have the spill area evaluated for any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

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

Signature: Sheldon Hitchcock	OIL CONSERVATION DIVISION Approved by Environmental Specialist: Crystal Weaver
Printed Name: Sheldon L. Hitchcock	
Title: HSE Coordinator	Approval Date: 1/16/18 Expiration Date: N/A
E-mail Address: slhitchcock@concho.com	Conditions of Approval: See attached Attached ☒
Date: 1/12/2018 Phone: 575-746-2010	

* Attach Additional Sheets If Necessary

1/16/18 SAB

District I
1625 N. French Dr., Hobbs, NM 88240
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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	1RP-4572
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.6943321 Longitude -104.4119949
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Patton 5 Fee 2H	Site Type Tank Battery
Date Release Discovered 1/7/2018	API# *(if applicable) 30-025-40352*

Unit Letter	Section	Township	Range	County
D	5	19S	26E	Eddy

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 65	Volume Recovered (bbls) 58
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
1 Inch valve on a circulating pump failed due to fluid and sand cut. The valve was repaired.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP 4572
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Over 25 bbls released
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? 1/7/18 at 11:30 am: Dakota Hitchcock - COG Crystal Weaver - NMOCD	

Initial Response

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

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Ike Tavarez Title: Senior HSE Supervisor

Signature: _____ Date: 10/24/18

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP 4572
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP 4572
Facility ID	
Application ID	

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

Printed Name: Ike Tavarez Title: Senior HSE Superviser

Signature: _____ Date: 10/24/18

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP 4572
Facility ID	
Application ID	

Remediation Plan

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

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

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

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Ike Tavarez Title: Senior HSE Superviser

Signature: _____ Date: _____

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

OCD Only

Received by: _____ Date: _____

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

Signature: Brittany Hall Date: 5/2/2023

Incident ID	
District RP	2RP 4572
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 - Patton 5 Fee 2H - Eddy County, New Mexico

18 South 25 East

6	5	4 155	3 184	2 175	1 187
7	8	9	10 168	11	12
18 230	17	16	15	14	13
19	20	21	22	23 117	24 158
30	29	28	27	26 200	25
31	32	33	34	35	36 270

18 South 26 East

6 200	5 95	4 24	3 65 30	2 50 14	1 Site
7	8	9 70	10 8 40	11	12
18 56	17	16 51	15	14	13
19	20	21	22 98	23	24 19
30	29	28 85	27	26	25
31 80	32 62	33	34	35	36

18 South 27 East

6	5	4	3	2	1
7	8	9	10 50	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30 18	29 17	28 100	27	26	25
31 65	32	33 145	34	35	36

19 South 25 East

6	5 305	4	3	2 100	1 172
7	8	9 260	10	11	12
18	17 83	16	15 59	14	13
19 310	20	21	22 130	23	24
30 222	29	28	27 60	26	25 60
31 140	32	33	34	35	36

19 South 26 East

6	5 60 100	4 70	3	2	1 70
7 20	8	9 97	10 50	11	12 45
18 69	17	16	15	14 67 40	13
19	20	21	22	23 80	24
30 105	29	28	27	26	25
31 95	32 95	33	34	35	36

19 South 27 East

6	5 20	4	3	2	1
7	8 50	9	10	11	12
18	17	16 18	15	14 82.4 107.7	13 60.7
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

20 South 25 East

6	5	4	3	2	1 121
7	8 249	9	10 130	11 70	12 102
18	17 170	16 129	15 67	14	13
19	20 228	21 80	22	23	24
30	29	28	27	26	25
31 312	32 100	33	34	35	36

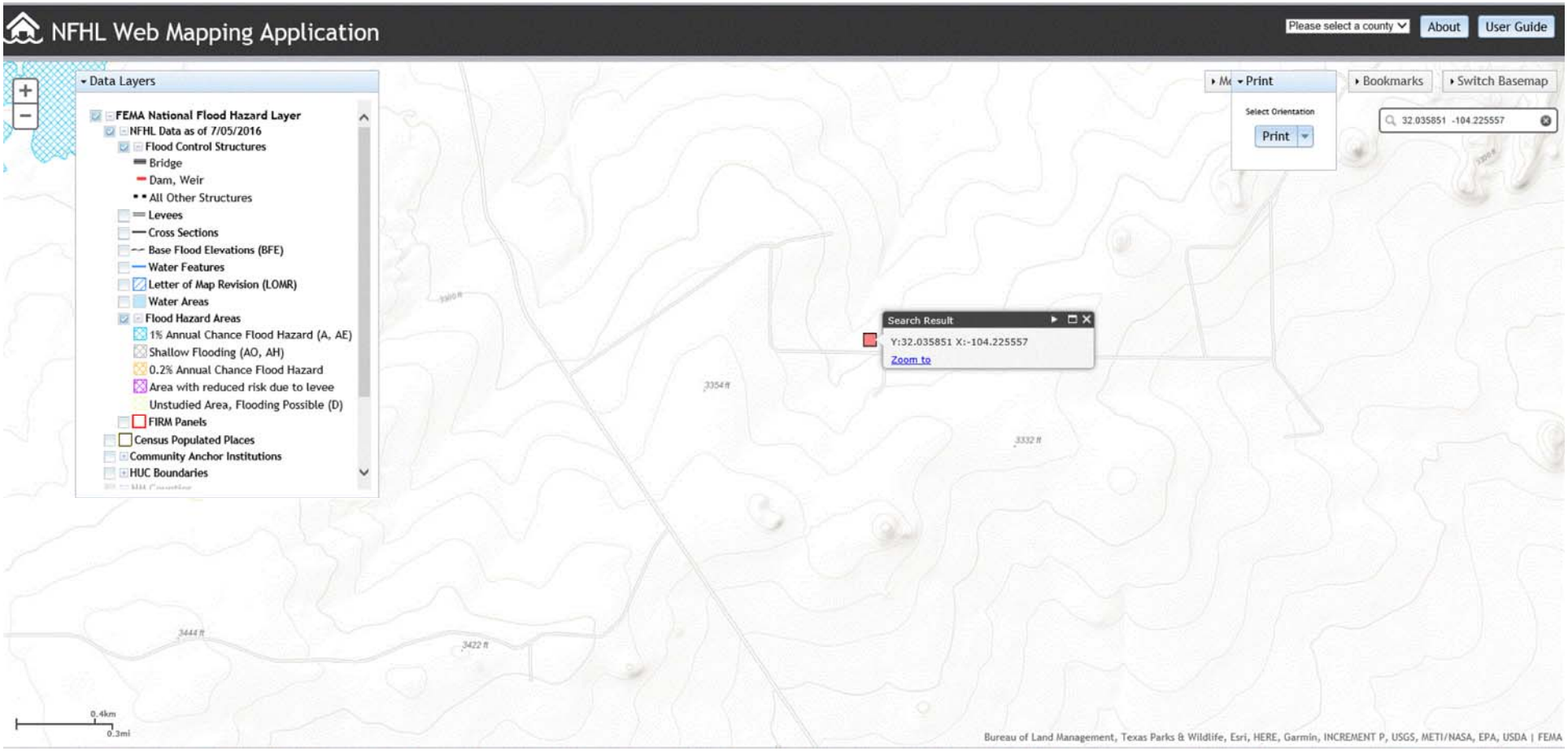
20 South 26 East

6 65	5 20	4	3	2	1
7 5 60	8	9	10	11 49	12
18	17 51	16	15	14	13
19	20	21	22	23 105	24
30 190	29	28	27	26	25
31	32 51	33	34 135	35 52	36 120

20 South 27 East

6	5 50	4	3	2	1
7 66	8	9	10	11	12
18	17	16	15	14 66 74	13
19	20	21 150	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)
34 NMOCD - Groundwater Data



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Agency code = usgs
site_no list =
- 324119104242201

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

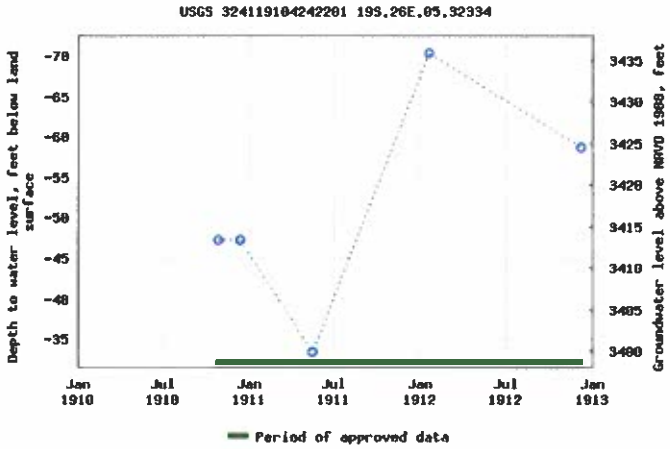
USGS 324119104242201 19S.26E.05.32334

Available data for this site: Groundwater Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code --
Latitude 32°41'19", Longitude 104°24'22" NAD27
Land-surface elevation 3,366 feet above NAVD88
The depth of the well is 938 feet below land surface.
This well is completed in the Grayburg Formation of Artesia Group (313GRBG) local aquifer.

Output formats

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



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Agency code = usgs
site_no list =
- 324025104254201

Minimum number of levels = 1
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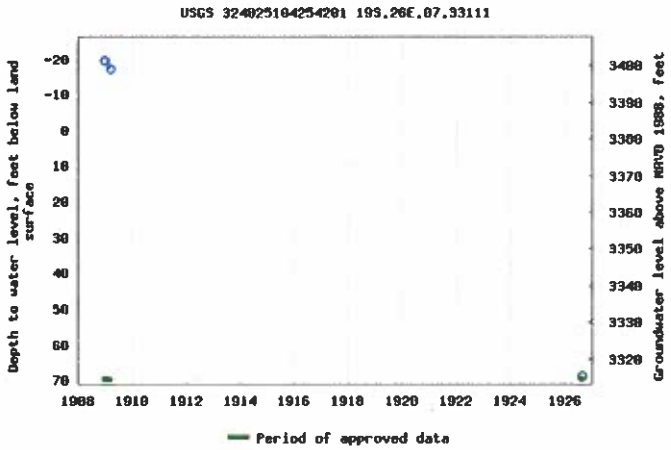
USGS 324025104254201 19S.26E.07.33111

Available data for this site: Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code --
Latitude 32°40'25", Longitude 104°25'42" NAD27
Land-surface elevation 3,383 feet above NAVD88
The depth of the well is 725 feet below land surface.
This well is completed in the Grayburg Formation of Artesia Group (313GRBG) local aquifer.

Output formats

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



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Agency code = usgs
site_no list =
- 324108104222401

Minimum number of levels = 1
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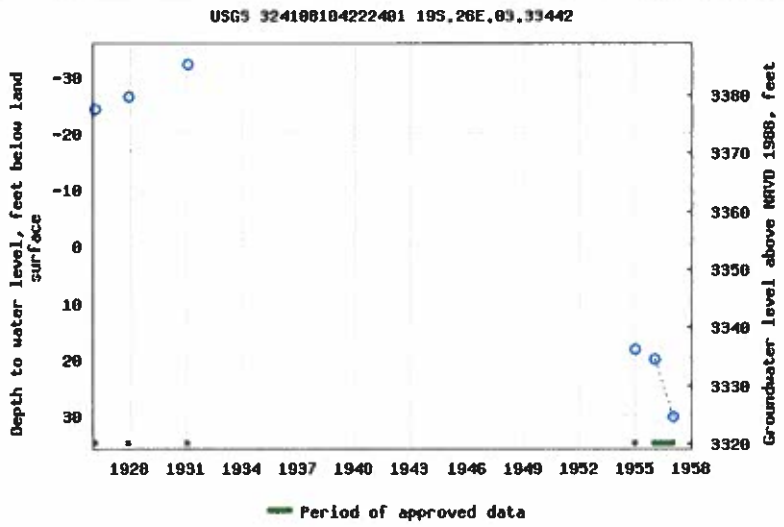
USGS 324108104222401 19S.26E.03.33442

Available data for this site | Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code --
Latitude 32°41'08", Longitude 104°22'24" NAD27
Land-surface elevation 3,354 feet above NAVD88
The depth of the well is 1,192 feet below land surface.
This well is completed in the San Andres Limestone (313SADR) local aquifer.

Output formats

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



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Agency code = usgs
site_no list =
- 324013104200301

Minimum number of levels = 1
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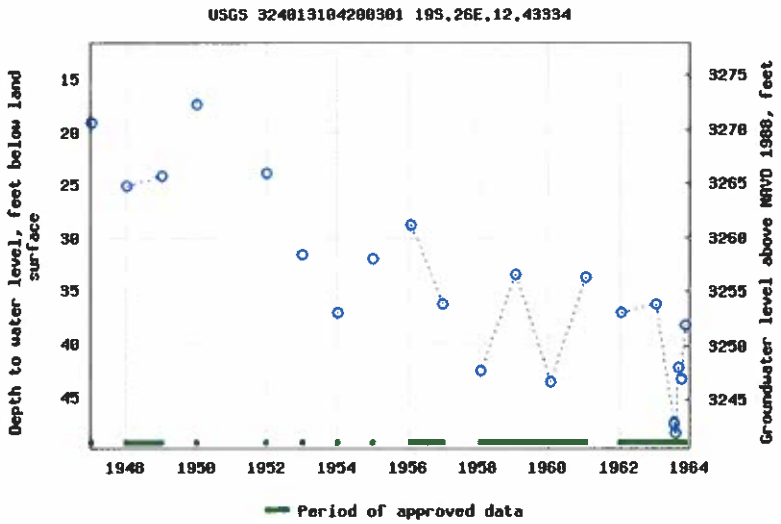
USGS 324013104200301 19S.26E.12.43334

Available data for this site | Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code --
Latitude 32°40'13", Longitude 104°20'03" NAD27
Land-surface elevation 3,290 feet above NAVD88
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



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Agency code = usgs
site_no list =
- 323929104210703

Minimum number of levels = 1
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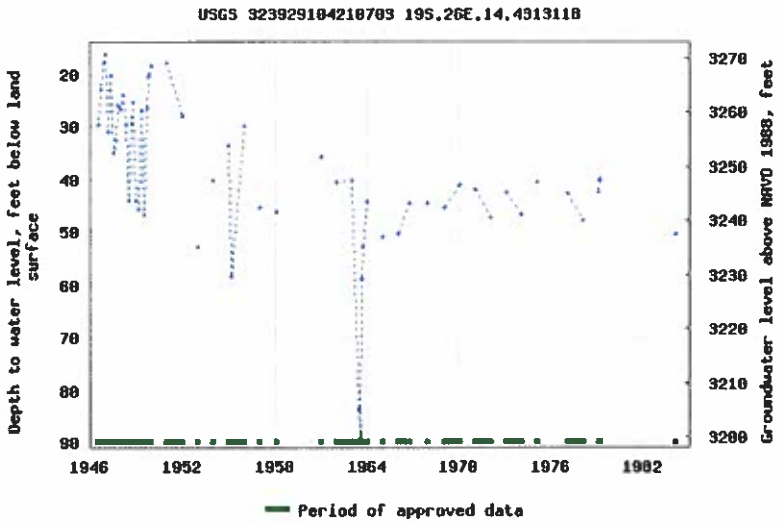
USGS 323929104210703 19S.26E.14.431311B

Available data for this site | Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code --
Latitude 32°39'29", Longitude 104°21'07" NAD27
Land-surface elevation 3,288 feet above NAVD88
The depth of the well is 132 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



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Agency code = usgs
site_no list =
- 323831104250001

Minimum number of levels = 1
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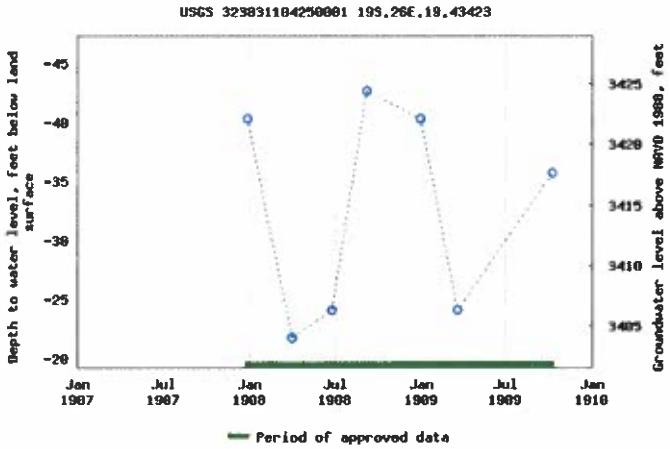
USGS 323831104250001 19S.26E.19.43423

Available data for this site: Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code --
Latitude 32°38'31", Longitude 104°25'00" NAD27
Land-surface elevation 3,382 feet above NAVD88
The depth of the well is 829 feet below land surface.
This well is completed in the Grayburg Formation of Artesia Group (313GRBG) local aquifer.

Output formats

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



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site_no list =
- 323810104221601

Minimum number of levels = 1
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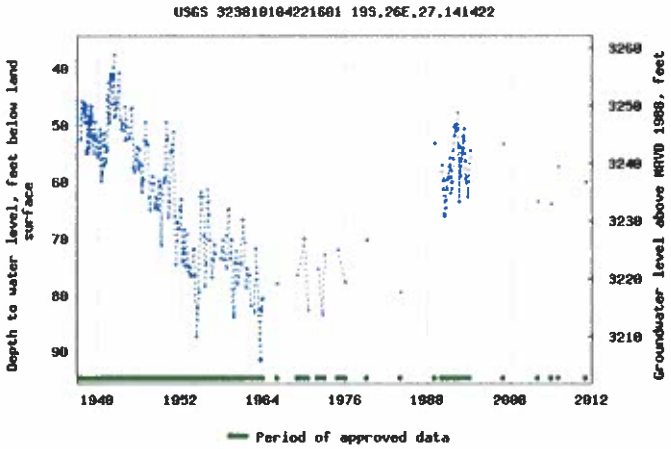
USGS 323810104221601 19S.26E.27.141422

Available data for this site | Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code --
Latitude 32°38'10", Longitude 104°22'16" NAD27
Land-surface elevation 3,297 feet above NAVD88
The depth of the well is 127 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



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New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 01230 #2	O	RA	ED	3	1	3	04	19S	26E	556774	3616766*			
RA 01230 CLW	O	RA	ED	1	1	3	04	19S	26E	556774	3616966*	705		
RA 01230 REPAR	O	RA	ED	3	1	3	04	19S	26E	556774	3616766*	800		
RA 03168		RA	ED	1	1	3	04	19S	26E	556774	3616966*	150	70	80
RA 06431		RA	ED	1	1	1	04	19S	26E	556765	3617775*	200		
RA 06995		RA	ED		1	4	04	19S	26E	557679	3616869*	150	100	50
RA 07324		RA	ED		2	4	04	19S	26E	558080	3616870*	150	105	45
RA 07526		RA	ED		4	2	04	19S	26E	558076	3617273*	140	95	45
RA 07562		RA	ED	4	4	2	04	19S	26E	558175	3617172*	161	125	36
RA 12238 POD1		RA	ED	2	4	4	04	19S	26E	558180	3616638	171	103	68

Average Depth to Water: **99 feet**

Minimum Depth: **70 feet**

Maximum Depth: **125 feet**

Record Count: 10

PLSS Search:

Section(s): 4 **Township:** 19S **Range:** 26E

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 06813		RA	CH	1	1		09	19S	26E	556883	3616056*	171	97	74

Average Depth to Water: 97 feet

Minimum Depth: 97 feet

Maximum Depth: 97 feet

Record Count: 1

PLSS Search:

Section(s): 9 **Township:** 19S **Range:** 26E

*UTM location was derived from PLSS - see Help

10/19/18 1:01 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	DepthWell	DepthWater	Water Column
RA 04136		RA	ED	1	1		32	18S	26E	555246	3619273*	152	90	62

Average Depth to Water: **90 feet**

Minimum Depth: **90 feet**

Maximum Depth: **90 feet**

Record Count: 1

PLSS Search:

Section(s): 32 **Township:** 18S **Range:** 26E

***UTM location was derived from PLSS - see Help**

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WATER COLUMN/ AVERAGE DEPTH TO WATER

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 08999		RA	ED	4	2	1	31	18S	26E	554138	3619158*	222	80	142

Average Depth to Water: **80 feet**

Minimum Depth: **80 feet**

Maximum Depth: **80 feet**

Record Count: 1

PLSS Search:

Section(s): 31 **Township:** 18S **Range:** 26E

*UTM location was derived from PLSS - see Help

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WATER COLUMN/ AVERAGE DEPTH TO WATER

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 00010		RA	ED	1	3	3	10	18S	26E	558344	3624616*	863	32	831
RA 00010 A		RA	ED	1	3	3	10	18S	26E	558344	3624616*	863	32	831
RA 00010 CLW202760	O	RA	ED	3	1	3	10	18S	26E	558343	3624821*	863	32	831
RA 00010 CLW202772	O	RA	ED	3	1	3	10	18S	26E	558343	3624821*	863	32	831
RA 00010 CLW202817	O	RA	ED	3	1	3	10	18S	26E	558343	3624821*	863	32	831
RA 00010 CLW202829	O	RA	ED	3	1	3	10	18S	26E	558343	3624821*	863	32	831
RA 00011	O	RA	ED			3	3	11	18S	26E	560054	3624529*	1100	
RA 00011 A		RA	ED			3	3	11	18S	26E	560054	3624529*	1100	
RA 00012	O	RA	ED			3	4	11	18S	26E	560858	3624531*	600	
RA 00012 A		RA	ED	3	3	4	11	18S	26E	560757	3624430*	600		
RA 00382		RA	ED	1	1	4	04	18S	26E	557526	3626639*	46	24	22
RA 00773		RA	ED			1	2	23	18S	26E	560856	3622508*		
RA 00774		RA	ED			1	2	23	18S	26E	560856	3622508*		
RA 00775		RA	ED			1	2	23	18S	26E	560856	3622508*	900	
RA 01144		RA	ED	1	1	3	10	18S	26E	558343	3625021*	697		
RA 01144 -S		RA	CH			3	1	23	18S	26E	560055	3622102*	809	
RA 01171		RA	ED	1	3	4	10	18S	26E	559149	3624622*	864	8	856
RA 01245		RA	ED	1	2	1	03	18S	26E	558733	3627449*	1102		
RA 01288		RA	ED	3	3	3	02	18S	26E	559950	3626045*	186	50	136
RA 01288 CLW319630	O	RA	ED	3	3	3	02	18S	26E	559950	3626045*	200		
RA 01296		RA	ED	3	3	1	23	18S	26E	559954	3622001*	180	80	100
RA 01296 CLW229885	O	RA	ED	1	3	1	23	18S	26E	559954	3622201*	180	70	110
RA 01296 S3		RA	ED	1	3	3	15	18S	26E	558351	3623003*	230	70	160
RA 01296 S5		RA	ED	1	3	3	15	18S	26E	558351	3623003*	223	35	188
RA 01298		RA	ED	4	3	2	07	18S	26E	554502	3625219*	150		
RA 01298 S		RA	ED	4	3	2	07	18S	26E	554502	3625219*	250	155	95
RA 01343 CLW	O	RA	CH	1	2	4	14	18S	26E	561157	3623417*	150	23	127
RA 01435		RA	ED	1	1	4	04	18S	26E	557526	3626639*	139		
RA 01446		RA	ED			1	3	15	18S	26E	558450	3623307*	175	
RA 01446 CLW		RA	ED	1	3	3	15	18S	26E	558351	3623003*	165	42	123
RA 01462		RA	ED			1	3	09	18S	26E	556828	3624924*	163	
RA 01462 #3		RA	ED			3	3	09	18S	26E	556830	3624520*	230	
RA 01462 CLW-2		RA	ED	1	1	1	09	18S	26E	556723	3625830*	120	37	83

RA 01469 2		RA	ED	2	3	3	18	18S	26E	553733	3622993*	300	150	150
RA 01469 REPAR		RA	ED	2	3	3	18	18S	26E	553733	3622993*	230	160	70
RA 01469 SUP		RA	ED	2	3	3	18	18S	26E	553733	3622993*	225	90	135
RA 01474		RA	ED	4	3	1	33	18S	26E	556956	3618775*	300		
RA 01474 CLW		RA	ED	2	3	1	33	18S	26E	556956	3618975*	225		
RA 01474 REPAR		RA	ED	1	1	1	33	18S	26E	556754	3619377*	200		
RA 01474 SUP		RA	ED	1	1	1	33	18S	26E	556754	3619377*	210		
RA 01496		RA	ED	1	3	1	09	18S	26E	556725	3625426*	300	60	240
RA 01496 CLW	O	RA	ED	1	3	1	09	18S	26E	556725	3625426*	165		
RA 01496 SUP	O	RA	ED	1	3	1	09	18S	26E	556725	3625426*	227	90	137
RA 01508		RA	ED	3	2	3	18	18S	26E	553918	3623197*	235		
RA 01508 CLW		RA	ED	2	3	3	18	18S	26E	553733	3622993*	300		
RA 01703		RA	ED	3	1	3	34	18S	26E	558367	3618370*	735		
RA 01703 CLW		RA	ED	3	1	3	34	18S	26E	558367	3618370*	871		
RA 01703 REPAR		RA	ED		1	3	34	18S	26E	558468	3618471*	735		
RA 01703 REPAR 2		RA	ED	3	1	3	34	18S	26E	558367	3618370*	754	70	684
RA 01858		RA	ED	3	1	3	34	18S	26E	558367	3618370*	735		
RA 01881		RA	ED		3	3	26	18S	26E	560060	3619681*	2450		
RA 01884		RA	ED	1	1	3	21	18S	26E	556741	3621792*	127		
RA 01895		RA	ED	3	3	2	08	18S	26E	555916	3625222*	822		
RA 01921 CLW		RA	ED	1	3	4	03	18S	26E	559144	3626242*	125		
RA 01921 S		RA	ED	1	3	4	03	18S	26E	559144	3626242*	172	65	107
RA 02013		RA	ED	2	2	2	17	18S	26E	556527	3624212*	136		
RA 02043		RA	ED				02	18S	26E	560654	3626749*			
RA 02048		RA	ED				09	18S	26E	557433	3625123*			
RA 02122		RA	ED	1	2	2	10	18S	26E	559548	3625839*	115	15	100
RA 02132 B		RA	ED	1	2	1	24	18S	26E	561958	3622611*	166		
RA 02300		RA	ED		3	1	09	18S	26E	556826	3625327*	203		
RA 02389		RA	ED	1	2	2	15	18S	26E	559551	3624221*	209		
RA 02432		RA	ED	2	3	1	12	18S	26E	561764	3625443*	100		
RA 02513 POD1		RA	ED	3	4	3	04	18S	26E	557125	3626034*	677		
RA 02566		RA	ED	2	2	2	04	18S	26E	558124	3627446*	82		
RA 02585		RA	CH	3	3	3	04	18S	26E	556721	3626033*	100		
RA 02627		RA	ED	1	2	2	35	18S	26E	561169	3619382*	75	40	35
RA 02663		RA	ED		3	3	04	18S	26E	556822	3626134*	130	130	0
RA 02786		RA	CH	1	2	1	28	18S	26E	557148	3620987*	250	60	190
RA 02800		RA	ED	1	3	3	15	18S	26E	558351	3623003*	102	30	72
RA 02804		RA	CH	3	1	3	34	18S	26E	558367	3618370	750		
RA 02804 POD2		RA	ED	3	1	3	34	18S	26E	558425	3618324	200	168	32
RA 02808		RA	ED		4	4	03	18S	26E	559648	3626145*	100	30	70
RA 02828		RA	ED	2	3	3	04	18S	26E	556921	3626233*	85	44	41

RA 02877		RA	ED	3	1	3	10	18S	26E	558343	3624821*	150		
RA 02959		RA	ED	1	1	1	10	18S	26E	558340	3625832*	136	40	96
RA 03008		RA	ED	2	1	1	04	18S	26E	556912	3627444*	120		
RA 03029		RA	ED	1	1	2	09	18S	26E	557531	3625831*	147	35	112
RA 03042		RA	ED	1	2	4	08	18S	26E	556323	3625020*	200		
RA 03049		RA	ED	1	4	4	08	18S	26E	556325	3624616*	129	60	69
RA 03055		RA	ED	1	2	1	27	18S	26E	558757	3620986*	146	85	61
RA 03116		RA	ED	1	3	3	04	18S	26E	556721	3626233*	150		
RA 03153		RA	ED	2	4	2	05	18S	26E	556511	3627039*	185	50	135
RA 03181		RA	ED	4	2	3	17	18S	26E	555726	3623199*	200		
RA 03181 CLW	O	RA	ED			1	17	18S	26E	555422	3623902*	250	92	158
RA 03181 CLW-2	O	RA	ED		2	2	18	18S	26E	554816	3624106*	258	115	143
RA 03181 CLW-3	O	RA	ED		3	2	18	18S	26E	554417	3623702*	334	134	200
RA 03181 COMB	O	RA	ED		2	3	17	18S	26E	555627	3623300*	229	55	174
RA 03181 REPAR-3	O	RA	ED	1	1	4	17	18S	26E	555929	3623401*	309	100	209
RA 03181 SUP	O	RA	ED	1	1	4	17	18S	26E	555929	3623401*	290	60	230
RA 03181 SUP REPAR	O	RA	ED	1	1	4	18	18S	26E	554320	3623397*	315	115	200
RA 03205		RA	ED		1	1	04	18S	26E	556813	3627345*	150	45	105
RA 03314		RA	ED	1	3	1	04	18S	26E	556715	3627041*	75	45	30
RA 03326		RA	ED		4	4	09	18S	26E	558041	3624518*	75	40	35
RA 03340		RA	ED		3	1	22	18S	26E	558454	3622097*	100	60	40
RA 03341		RA	ED	3	3	1	04	18S	26E	556715	3626841*	75	43	32
RA 03382		RA	ED	1	3	3	09	18S	26E	556729	3624619*	129		
RA 03409		RA	ED	1	4	2	24	18S	26E	562763	3622210*	175	18	157
RA 03409 REPAR		RA	ED	2	4	2	24	18S	26E	562963	3622210*	175	18	157
RA 03421		RA	ED	1	2	2	16	18S	26E	557942	3624213*	665	130	535
RA 03470		RA	ED	1	1	3	04	18S	26E	556718	3626637*	100	50	50
RA 03499		RA	ED		3	2	15	18S	26E	559251	3623715*	616	40	576
RA 03499 CLW261762	O	RA	ED		3	2	15	18S	26E	559251	3623715*	616	40	576
RA 03499 REPAR		RA	ED		3	2	15	18S	26E	559251	3623715*	616	40	576
RA 03517		RA	ED	1	1	3	04	18S	26E	556718	3626637*	100	60	40
RA 03580		RA	ED		3	1	22	18S	26E	558454	3622097*	1700		
RA 03585		RA	ED	4	1	4	14	18S	26E	560955	3623216*	1849		
RA 03596		RA	ED		3	4	11	18S	26E	560858	3624531*	1736		
RA 03598		RA	ED	1	3	2	22	18S	26E	559154	3622198*	1815		
RA 03599		RA	ED	2	1	1	22	18S	26E	558552	3622599*	1765		
RA 03600		RA	ED	2	3	2	14	18S	26E	560956	3623821*	955		
RA 03618		RA	ED		3	2	20	18S	26E	556037	3622093*	1838		
RA 03634		RA	ED	3	1	4	11	18S	26E	560757	3624835*	1797		
RA 03639		RA	ED	4	4	3	11	18S	26E	560555	3624429*	1710		
RA 03654		RA	ED	1	3	1	04	18S	26E	556715	3627041*	100	50	50

RA 03731	RA	ED	1	1	1	14	18S	26E	559953	3624223*	120	30	90
RA 03732	RA	ED	4	2	4	08	18S	26E	556523	3624820*	200	175	25
RA 03750	RA	ED		3	4	24	18S	26E	562465	3621299*	110	35	75
RA 03756	RA	ED	1	1	4	10	18S	26E	559147	3625027*	148	55	93
RA 03760	RA	ED	1	3	1	04	18S	26E	556715	3627041*	100	60	40
RA 03771	RA	ED	3	1	3	22	18S	26E	558354	3621592*	110	75	35
RA 03789	RA	ED	4	3	1	10	18S	26E	558541	3625227*	114	50	64
RA 03818	RA	ED		4	4	05	18S	26E	556417	3626133*	100	60	40
RA 03900	RA	ED	1	3	1	24	18S	26E	561557	3622206*	845	90	755
RA 03966	RA	ED	2	1	2	18	18S	26E	554513	3624205*	50	18	32
RA 04003	RA	ED	3	3	4	27	18S	26E	559161	3619578*	100		
RA 04004	RA	ED	3	2	2	21	18S	26E	557948	3622399*	140		
RA 04018	RA	CH	3	3	4	26	18S	26E	560762	3619581*	250		
RA 04022	RA	CH		2	1	35	18S	26E	560465	3619281*	520		
RA 04043	RA	ED	1	1	1	04	18S	26E	556712	3627444*	87	60	27
RA 04046	RA	ED			4	28	18S	26E	557859	3619879*	125		
RA 04101	RA	ED	3	3	3	08	18S	26E	555114	3624407*	210		
RA 04136	RA	ED		1	1	32	18S	26E	555246	3619273*	152	90	62
RA 04137	RA	CH	1	2	1	04	18S	26E	557116	3627445*	742		
RA 04145	RA	ED	1	1	1	06	18S	26E	553492	3627435*	201	119	82
RA 04154	RA	ED			4	05	18S	26E	556213	3626333*	200		
RA 04160	RA	ED	1	4	1	29	18S	26E	555542	3620580*	160	100	60
RA 04283	RA	LE	1	4	3	20	18S	26E	555538	3621384*	158	125	33
RA 04287	RA	ED	1	2	4	21	18S	26E	557951	3621792*	170	140	30
RA 04309	RA	ED			1	21	18S	26E	557041	3622297*	180		
RA 04479	RA	ED	2	4	4	08	18S	26E	556525	3624616*	215	120	95
RA 04552	RA	ED			3	04	18S	26E	557023	3626335*	125		
RA 04689	RA	ED	3	4	2	05	18S	26E	556311	3626839*	125	50	75
RA 04701	RA	ED		3	3	22	18S	26E	558456	3621290*	80	55	25
RA 04784	RA	ED				30	18S	26E	554252	3620259*	205	190	15
RA 04793	RA	CH	2	4	4	06	18S	26E	554897	3626228*	246		
RA 04809	RA	ED			4	05	18S	26E	556213	3626333*	145	35	110
RA 04810	RA	ED			4	05	18S	26E	556213	3626333*	136	69	67
RA 04810 REPAR	RA	ED			4	05	18S	26E	556213	3626333*	136	69	67
RA 04811	RA	ED			4	05	18S	26E	556213	3626333*	140	40	100
RA 04841	RA	ED	4	3	3	04	18S	26E	556921	3626033*	266	130	136
RA 05062	RA	ED	1	4	2	05	18S	26E	556311	3627039*	175	90	85
RA 05120	RA	ED	3	3	1	06	18S	26E	553495	3626833*	200	160	40
RA 05162	RA	ED	3	1	3	09	18S	26E	556727	3624823*	220	120	100
RA 05238	RA	ED	1	3	1	04	18S	26E	556715	3627041*	200	75	125
RA 05241	RA	ED		3	4	16	18S	26E	557644	3622903*	200	100	100

RA 05260		RA	ED	3	3	4	03	18S	26E	559144	3626042*	100	60	40
RA 05260 CLW252925	O	RA	ED	3	3	4	03	18S	26E	559144	3626042*	100	60	40
RA 05348		RA	ED	1	3	3	04	18S	26E	556721	3626233*	274	55	219
RA 05386		RA	ED	2	4	2	05	18S	26E	556511	3627039*	105	60	45
RA 05401		RA	ED	4	2	4	05	18S	26E	556513	3626436*	200	78	122
RA 05425		RA	ED		4	4	28	18S	26E	558060	3619677*	160	90	70
RA 05456		RA	ED		3	3	04	18S	26E	556822	3626134*	80	50	30
RA 05923		RA	ED	1	1	2	04	18S	26E	557520	3627445*	150	40	110
RA 05989		RA	ED	3	2	4	01	18S	26E	562774	3626466*	72	8	64
RA 06029		RA	ED		3	3	21	18S	26E	556844	3621290*	183	140	43
RA 06102		RA	ED				21	18S	26E	557447	3621893*	202	136	66
RA 06131		RA	ED		3	3	09	18S	26E	556830	3624520*	225	90	135
RA 06828		RA	CH			4	21	18S	26E	557851	3621491*	130	105	25
RA 06979		RA	ED		1	1	25	18S	26E	561660	3620896*	100		
RA 06997		RA	ED		2	2	05	18S	26E	556409	3627343*	350	180	170
RA 07219		RA	ED			4	26	18S	26E	561064	3619883*	110	50	60
RA 07242 -EXPL		RA	ED		3	4	26	18S	26E	560863	3619682*	102	55	47
RA 07242 EXP		RA	ED		3	4	26	18S	26E	560863	3619682*	102	55	47
RA 07243 -EXPL		RA	ED		3	4	26	18S	26E	560863	3619682*	110	50	60
RA 07243 EXP		RA	ED		3	4	26	18S	26E	560863	3619682*	110	50	60
RA 07243 EXPL		RA	ED		3	4	26	18S	26E	560863	3619682*	110	50	60
RA 07394		RA	ED	3	3	3	34	18S	26E	558369	3617968*	166	100	66
RA 07408		RA	ED	2	4	4	21	18S	26E	558152	3621389*	155	85	70
RA 07612		RA	ED			2	05	18S	26E	556209	3627140*	126	106	20
RA 07654		RA	ED		2	4	21	18S	26E	558052	3621693*	180	170	10
RA 07747		RA	ED	4	4	2	03	18S	26E	559743	3626851*	85	40	45
RA 07789		RA	ED	3	3	3	06	18S	26E	553503	3626029*	182	150	32
RA 07822		RA	ED			2	05	18S	26E	556209	3627140*	200	170	30
RA 07831		RA	ED	4	3	3	04	18S	26E	556921	3626033*	107	50	57
RA 08812 REPAR		RA	ED		4	4	29	18S	26E	556451	3619679*	350	150	200
RA 08857		RA	ED	2	2	2	03	18S	26E	559741	3627453*	240	70	170
RA 08976		RA	ED	2	3	3	21	18S	26E	556943	3621389*	225	120	105
RA 08989		RA	ED	3	4	4	05	18S	26E	556316	3626032*	124	80	44
RA 08991 POD1		RA	ED	1	1	2	06	18S	26E	554293	3627438	210	150	60
RA 08999		RA	ED	4	2	1	31	18S	26E	554138	3619158*	222	80	142
RA 09068		RA	ED		3	2	03	18S	26E	559240	3626949*	220	45	175
RA 09207		RA	ED	2	4	3	35	18S	26E	560574	3618175*	140	50	90
RA 09208		RA	ED	2	4	3	35	18S	26E	560574	3618175*	160	50	110
RA 09209		RA	ED	2	4	3	35	18S	26E	560574	3618175*	105	45	60
RA 09210		RA	ED	2	4	3	35	18S	26E	560574	3618175*	140	50	90
RA 09211		RA	ED	4	4	3	35	18S	26E	560574	3617975*	100	45	55

RA 09212		RA	ED	4	4	3	35	18S	26E	560574	3617975*	120	45	75
RA 09213		RA	ED	4	4	3	35	18S	26E	560574	3617975*	120	45	75
RA 09214		RA	ED	4	4	3	35	18S	26E	560574	3617975*	100	45	55
RA 09261		RA	ED	3	3	1	04	18S	26E	556715	3626841*	250	120	130
RA 09286		RA	ED	2	4	4	29	18S	26E	556550	3619778*	300		
RA 09303		RA	ED	2	1	2	06	18S	26E	554493	3627437*	230	150	80
RA 09374		RA	ED	2	1	1	25	18S	26E	561759	3620995*	101		
RA 09414		RA	ED	4	4	4	05	18S	26E	556516	3626032*	125	60	65
RA 09437		RA	ED	3	3	4	27	18S	26E	559161	3619578*	120	60	60
RA 09466		RA	ED	3	3	1	22	18S	26E	558353	3621996*	160	70	90
RA 09625		RA	ED	2	2	2	04	18S	26E	558124	3627446*	138	60	78
RA 09709		RA	ED		2	2	17	18S	26E	556428	3624113*	235	110	125
RA 09763		RA	ED	4	1	4	21	18S	26E	557748	3621592*	240	140	100
RA 09803		RA	ED	2	1	3	05	18S	26E	555300	3626632*	300		
RA 09874		RA	ED		2	1	35	18S	26E	560465	3619281*	150		
RA 10135		RA	ED	4	1	2	06	18S	26E	554493	3627237*	250	75	175
RA 10240		RA	ED		4	2	06	18S	26E	554797	3626936*	240	140	100
RA 10267		RA	ED	4	4	2	03	18S	26E	559743	3626851*	210	44	166
RA 10386	R	RA	ED	2	4	4	08	18S	26E	556525	3624616*	210	70	140
RA 10490		RA	ED		4	2	27	18S	26E	559659	3620486*	200	75	125
RA 10582		RA	ED	4	3	3	04	18S	26E	556921	3626033*	190	100	90
RA 10715		RA	ED	4	4	4	05	18S	26E	556516	3626032*	190		
RA 10763		RA	ED	3	1	3	04	18S	26E	556718	3626437*	116	66	50
RA 11047 POD1		RA	ED	1	1	2	06	18S	26E	554293	3627437*	218	153	65
RA 11179 POD1		RA	ED	2	3	2	16	18S	26E	558172	3623807	74	60	14
RA 11179 POD2		RA	ED	4	4	2	16	18S	26E	558180	3623696	71	60	11
RA 11340 POD1		RA	ED	1	2	2	05	18S	26E	556395	3627429	190	95	95
RA 11480 POD1		RA	ED	2	1	3	21	18S	26E	556958	3621808	199	175	24
RA 11506 POD1		RA	ED	1	3	3	22	18S	26E	558290	3621345	160	78	82
RA 11641 POD1		RA	ED	2	2	2	06	18S	26E	554860	3627419	237	212	25
RA 11645 POD1		RA	ED	2	4	2	06	18S	26E	554836	3627111	237	200	37
RA 11682 POD1		RA	ED	4	4	4	09	18S	26E	557428	3625421	71	51	20
RA 11682 POD2		RA	ED	4	2	2	16	18S	26E	558236	3623959	98		
RA 11682 POD3		RA	ED	3	4	2	09	18S	26E	557934	3625136	70	54	16
RA 11682 POD4		RA	ED	1	3	2	09	18S	26E	557447	3625432	85	70	15
RA 11682 POD5		RA	ED	4	2	1	16	18S	26E	558214	3624632	66	51	15
RA 11784 POD1		RA	ED	1	2	2	22	18S	26E	559480	3622632	154	98	56
RA 11857 POD1		RA	ED	1	1	2	05	18S	26E	577784	3625988	235	95	140
RA 11890 POD1		RA	ED	1	1	4	28	18S	26E	559161	3620210	175	85	90
RA 11948 POD1		RA	ED	1	1	2	09	18S	26E	557615	3625672	220	148	72
RA 11951 POD1		RA	ED	4	2	1	09	18S	26E	557325	3625696	232	40	192

RA 11952 POD1	RA	ED	4	2	2	28	18S	26E	558153	3620727	170	90	80
RA 11962 POD1	RA	ED	2	2	2	05	18S	26E	556463	3627339	280	164	116
RA 11983 POD1	RA	ED	2	2	2	04	18S	26E	557809	3627479	240	75	165
RA 11995 POD1	RA	ED		1	1	04	18S	26E	556668	3627125	260	195	65
RA 12068 POD1	RA	ED	1	2	2	04	18S	26E	557926	3627444	240	90	150
RA 12138 POD1	RA	ED	2	4	1	06	18S	26E	554080	3627067	320	135	185
RA 12265 POD1	RA	ED	2	2	2	17	18S	26E	556509	3624232	330	185	145
RA 12325 POD1	RA	ED	2	2	3	06	18S	26E	554167	3626636	350	220	130
RA 12483 POD1	RA	ED	1	4	4	14	18S	26E	561070	3623006	72	55	17
RA 12483 POD2	RA	ED	1	4	4	14	18S	26E	561084	3622999	62	51	11
RA 12483 POD3	RA	ED	1	4	4	14	18S	26E	561120	3623003	58	47	11
RA 12483 POD4	RA	ED	1	4	4	14	18S	26E	561086	3622959	60	48	12
RA 12483 POD5	RA	ED	1	4	4	14	18S	26E	561126	3622920	59	53	6
RA 12518 POD1	RA	ED	4	4	2	03	18S	26E	559830	3626909	160	50	110

Average Depth to Water: **79 feet**

Minimum Depth: **8 feet**

Maximum Depth: **220 feet**

Record Count: 252

PLSS Search:

Township: 18S **Range:** 26E

***UTM location was derived from PLSS - see Help**

10/19/18 12:43 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 04272		RA	ED	2	4	4	05	19S	26E	556576	3616561*	102	58	44
RA 06129		RA	ED		4	4	05	19S	26E	556477	3616462*	125	190	-65
RA 06588		RA	ED	4	3	4	05	19S	26E	556173	3616360*	200		
RA 06986		RA	ED		1	4	05	19S	26E	556070	3616865*	195	165	30
RA 07053		RA	ED		4	2	05	19S	26E	556468	3617271*	135	90	45
RA 07066		RA	ED	3	4	1	05	19S	26E	555561	3617166*	202	100	102
RA 07066 POD2		RA	ED	4	4	1	05	19S	26E	555761	3617166*	150		
RA 07124		RA	CH	4	2	4	05	19S	26E	556571	3616765*	133	94	39
RA 07142		RA	ED		4	2	05	19S	26E	556468	3617271*	217	98	119
RA 07165		RA	ED		3	2	05	19S	26E	556065	3617269*	193	110	83
RA 07172		RA	ED		1	4	05	19S	26E	556070	3616865*	210	95	115
RA 07239		RA	ED		2	4	05	19S	26E	556472	3616866*	191	100	91
RA 07260		RA	ED		1	2	05	19S	26E	556060	3617672*	198	100	98
RA 07448		RA	ED		4	2	05	19S	26E	556468	3617271*	207	105	102
RA 07508		RA	ED		3	2	05	19S	26E	556065	3617269*	185	150	35
RA 07954		RA	ED	3	2	3	05	19S	26E	555566	3616763*	290	175	115
RA 08097		RA	ED	3	2	2	05	19S	26E	556362	3617573*	210	120	90
RA 08098		RA	ED	3	1	2	05	19S	26E	555959	3617571*	215	100	115
RA 08315		RA	ED	3	1	2	05	19S	26E	555959	3617571*	195	100	95
RA 08557		RA	ED	2	1	4	05	19S	26E	556169	3616964*	232	100	132
RA 08567		RA	ED	1	4	4	05	19S	26E	556376	3616561*	264	80	184
RA 08875		RA	ED	1	2	2	05	19S	26E	556362	3617773*	220	150	70
RA 09276		RA	ED		4	2	05	19S	26E	556468	3617271*	265	100	165
RA 10133		RA	ED		3	2	05	19S	26E	556065	3617269*	177	138	39
RA 10318		RA	ED		4	2	05	19S	26E	556468	3617271*	240	100	140
RA 11036 POD1		RA	ED	2	4	2	05	19S	26E	556567	3617370*	210	110	100
RA 11633 POD1		RA	ED	2	1	2	05	19S	26E	556059	3617756	180	130	50
RA 11733 POD1		RA	ED	2	1	2	05	19S	26E	556153	3617740	210	143	67
RA 12324 POD1		RA	ED	3	4	2	05	19S	26E	556339	3617207	235	135	100
RA 12627 POD1		RA	ED	1	2	4	05	19S	26E	556415	3617007	220	100	120

Average Depth to Water: **115 feet**

Minimum Depth: **58 feet**

Maximum Depth: **190 feet**

Record Count: 30

PLSS Search:

Section(s): 5 **Township:** 19S **Range:** 26E

***UTM location was derived from PLSS - see Help**

10/19/18 12:40 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 00288		RA	ED	1	1	2	13	19S	26E	562440	3614544*	1085		
RA 00787		RA	ED		4	3	28	19S	26E	557319	3609992*			
RA 00797		RA	ED	3	3	3	14	19S	26E	560038	3613097*			
RA 01149		RA	ED	1	3	1	23	19S	26E	560043	3612494*	702	80	622
RA 01215		RA	ED	4	3	3	10	19S	26E	558603	3614739*	1192		
RA 01215 CLW		RA	ED	2	1	1	10	19S	26E	558590	3616159*	880	50	830
RA 01215 CLWPU		RA	ED	2	1	1	10	19S	26E	558590	3616159*	1000		
RA 01230 #2	O	RA	ED	3	1	3	04	19S	26E	556774	3616766*			
RA 01230 CLW	O	RA	ED	1	1	3	04	19S	26E	556774	3616966*	705		
RA 01230 REPAR	O	RA	ED	3	1	3	04	19S	26E	556774	3616766*	800		
RA 01309		RA	ED	1	2	3	12	19S	26E	562032	3615351*	104		
RA 01312		RA	ED	1	3	4	14	19S	26E	560847	3613309*	109		
RA 01343		RA	ED	2	1	1	18	19S	26E	553777	3614525*	440	69	371
RA 01343 -CLW-2	O	RA	CH				14	19S	26E	560742	3613801*	190		
RA 01343 -S	O	RA	CH		2	1	14	19S	26E	560529	3614429*	108	67	41
RA 01343 -S3	O	RA	ED	3	2	2	14	19S	26E	561239	3614334*	214	50	164
RA 01343 CLW-2	O	RA	CH				14	19S	26E	560742	3613801*	190		
RA 01589 D		RA	ED	2	2	2	20	19S	26E	556688	3612860	218	90	128
RA 01610		RA	ED	3	2	4	33	19S	26E	558028	3608694*	350		
RA 01680		RA	ED	2	3	4	28	19S	26E	557821	3610092*	220		
RA 01682		RA	ED	1	1	2	13	19S	26E	562440	3614544*	1085		
RA 01683		RA	ED	3	3	4	12	19S	26E	562443	3614748*	75		
RA 01728		RA	ED	2	1	1	14	19S	26E	560223	3614525*	70		
RA 01958		RA	ED	1	3	1	23	19S	26E	560043	3612494*	920		
RA 01982		RA	ED	2	2	2	20	19S	26E	556604	3612913*	110	45	65
RA 02249		RA	ED	1	3	1	23	19S	26E	560043	3612494*	920	72	848
RA 02249 CLW316634	O	RA	ED	1	3	1	23	19S	26E	560043	3612494*	1090		
RA 02391		RA	ED	2	4	3	21	19S	26E	557416	3611696*	200		
RA 03080		RA	ED	3	2	1	14	19S	26E	560428	3614328*	175		
RA 03118		RA	ED	2	1	1	10	19S	26E	558590	3616159*	195		
RA 03168		RA	ED	1	1	3	04	19S	26E	556774	3616966*	150	70	80
RA 03176		RA	ED	1	2	2	27	19S	26E	559642	3611290*	1000		
RA 03200		RA	ED	2	4	4	28	19S	26E	558225	3610093*	1000		

RA 03333	RA	ED		3	2	14	19S	26E	560939	3614025*	115		
RA 03564	RA	ED		1	1	10	19S	26E	558491	3616060*	200	70	130
RA 03810	RA	ED	2	1	3	27	19S	26E	558628	3610493*	128	45	83
RA 04141	RA	ED	1	3	2	14	19S	26E	560838	3614124*	200		
RA 04272	RA	ED	2	4	4	05	19S	26E	556576	3616561*	102	58	44
RA 04411	RA	ED		1	4	27	19S	26E	559340	3610389*	140	15	125
RA 04421	RA	ED	3	4	1	27	19S	26E	558833	3610691*	150	49	101
RA 04425	RA	ED		4	3	15	19S	26E	558923	3613208*	117	80	37
RA 04581	RA	ED				27	19S	26E	559132	3610598*	70	20	50
RA 04799	RA	ED	4	3	1	27	19S	26E	558628	3610692*	106	52	54
RA 05037	RA	ED		1	2	17	19S	26E	556091	3614436*	475	132	343
RA 05550	RA	ED	3	1	3	32	19S	26E	555209	3608679*	185	95	90
RA 05556	RA	ED	2	2	1	34	19S	26E	559034	3609694*	130	22	108
RA 05916	RA	ED		2	2	20	19S	26E	556505	3612814*	102	25	77
RA 06129	RA	ED		4	4	05	19S	26E	556477	3616462*	125	190	-65
RA 06431	RA	ED	1	1	1	04	19S	26E	556765	3617775*	200		
RA 06533	RA	ED		2	1	34	19S	26E	558935	3609595*	250		
RA 06588	RA	ED	4	3	4	05	19S	26E	556173	3616360*	200		
RA 06813	RA	CH		1	1	09	19S	26E	556883	3616056*	171	97	74
RA 06986	RA	ED		1	4	05	19S	26E	556070	3616865*	195	165	30
RA 06995	RA	ED		1	4	04	19S	26E	557679	3616869*	150	100	50
RA 07026	RA	ED		3	3	30	19S	26E	553699	3609975*	135	105	30
RA 07053	RA	ED		4	2	05	19S	26E	556468	3617271*	135	90	45
RA 07066	RA	ED	3	4	1	05	19S	26E	555561	3617166*	202	100	102
RA 07066 POD2	RA	ED	4	4	1	05	19S	26E	555761	3617166*	150		
RA 07124	RA	CH	4	2	4	05	19S	26E	556571	3616765*	133	94	39
RA 07128	RA	ED	1	2	2	20	19S	26E	556404	3612913*	134	100	34
RA 07142	RA	ED		4	2	05	19S	26E	556468	3617271*	217	98	119
RA 07148	RA	ED	2	2	2	28	19S	26E	558224	3611292*	160	115	45
RA 07150	RA	ED			4	27	19S	26E	559542	3610189*	108	40	68
RA 07165	RA	ED		3	2	05	19S	26E	556065	3617269*	193	110	83
RA 07172	RA	ED		1	4	05	19S	26E	556070	3616865*	210	95	115
RA 07239	RA	ED		2	4	05	19S	26E	556472	3616866*	191	100	91
RA 07260	RA	ED		1	2	05	19S	26E	556060	3617672*	198	100	98
RA 07324	RA	ED		2	4	04	19S	26E	558080	3616870*	150	105	45
RA 07448	RA	ED		4	2	05	19S	26E	556468	3617271*	207	105	102
RA 07503	RA	ED		2	1	22	19S	26E	558925	3612804*	118	83	35
RA 07508	RA	ED		3	2	05	19S	26E	556065	3617269*	185	150	35
RA 07526	RA	ED		4	2	04	19S	26E	558076	3617273*	140	95	45
RA 07562	RA	ED	4	4	2	04	19S	26E	558175	3617172*	161	125	36
RA 07667	RA	ED	1	3	2	14	19S	26E	560838	3614124*	150	95	55

RA 07817		RA	ED	2	1	2	19	19S	26E	554592	3612915*	224	145	79
RA 07817 CLW		RA	ED	2	1	2	19	19S	26E	554592	3612915*	275	130	145
RA 07954		RA	ED	3	2	3	05	19S	26E	555566	3616763*	290	175	115
RA 08074		RA	ED	2	2	2	20	19S	26E	556604	3612913*	218		
RA 08097		RA	ED	3	2	2	05	19S	26E	556362	3617573*	210	120	90
RA 08098		RA	ED	3	1	2	05	19S	26E	555959	3617571*	215	100	115
RA 08315		RA	ED	3	1	2	05	19S	26E	555959	3617571*	195	100	95
RA 08557		RA	ED	2	1	4	05	19S	26E	556169	3616964*	232	100	132
RA 08567		RA	ED	1	4	4	05	19S	26E	556376	3616561*	264	80	184
RA 08611		RA	ED	1	1	1	19	19S	26E	553583	3612909*	235	90	145
RA 08612		RA	ED	1	2	1	19	19S	26E	553989	3612912*	221	80	141
RA 08858		RA	ED	1	2	1	28	19S	26E	557216	3611294*	197	80	117
RA 08875		RA	ED	1	2	2	05	19S	26E	556362	3617773*	220	150	70
RA 08962		RA	ED	2	2	1	32	19S	26E	555810	3609680*	300	180	120
RA 09050		RA	ED	1	1	2	20	19S	26E	556001	3612916*	160	105	55
RA 09077		RA	ED	2	1	2	19	19S	26E	554592	3612915*	200		
RA 09276		RA	ED		4	2	05	19S	26E	556468	3617271*	265	100	165
RA 09317		RA	ED	4	3	3	22	19S	26E	558629	3611489*	175	70	105
RA 09451		RA	ED	1	3	4	20	19S	26E	556006	3611701*	200		
RA 09549		RA	ED	1	1	2	10	19S	26E	559195	3616159*	189	90	99
RA 09683		RA	ED	2	2	3	27	19S	26E	559034	3610491*	120	50	70
RA 09702		RA	ED	1	1	4	27	19S	26E	559239	3610488*	125	60	65
RA 09838		RA	ED		4	1	27	19S	26E	558934	3610792*	150		
RA 09950		RA	ED	4	2	1	22	19S	26E	559024	3612703*	145	72	73
RA 09988		RA	ED	2	4	1	19	19S	26E	554190	3612507*	100	65	35
RA 10002		RA	ED	2	2	1	31	19S	26E	554208	3609675*	200	95	105
RA 10133		RA	ED		3	2	05	19S	26E	556065	3617269*	177	138	39
RA 10246		RA	ED	3	4	2	02	19S	26E	561189	3617174*	220	50	170
RA 10262		RA	ED	2	2	2	19	19S	26E	554994	3612917*	200	85	115
RA 10318		RA	ED		4	2	05	19S	26E	556468	3617271*	240	100	140
RA 10531		RA	ED	4	3	4	21	19S	26E	557820	3611493*	140	90	50
RA 10917 POD1		RA	ED	1	4	3	28	19S	26E	557218	3610091*	1003	89	914
RA 10973 POD1		RA	ED	4	3	1	33	19S	26E	557013	3609073*	995	98	897
RA 11018 POD1		RA	ED	3	4	2	17	19S	26E	556396	3613928*	260	100	160
RA 11036 POD1		RA	ED	2	4	2	05	19S	26E	556567	3617370*	210	110	100
RA 11333 POD1		RA	ED	1	4	1	27	19S	26E	558262	3721747	160		
RA 11482 POD1		RA	ED	4	4	1	27	19S	26E	559121	3610765	159	138	21
RA 11633 POD1		RA	ED	2	1	2	05	19S	26E	556059	3617756	180	130	50
RA 11733 POD1		RA	ED	2	1	2	05	19S	26E	556153	3617740	210	143	67
RA 11874 POD1	R	RA	ED	3	1	2	02	19S	26E	560707	3617638	140	40	100
RA 11874 POD2		RA	ED	3	1	2	02	19S	26E	560710	3617630	125	58	67

RA 12145 POD1	RA	ED	2	2	1	22	19S	26E	559008	3612852	200	75	125
RA 12156 POD1	RA	ED	1	2	1	22	19S	26E	558808	3612789	160	85	75
RA 12176 POD1	RA	ED	2	2	1	22	19S	26E	558994	3612829	160	76	84
RA 12206 POD1	RA	ED	2	2	1	22	19S	26E	559105	3612988	160	67	93
RA 12238 POD1	RA	ED	2	4	4	04	19S	26E	558180	3616638	171	103	68
RA 12324 POD1	RA	ED	3	4	2	05	19S	26E	556339	3617207	235	135	100
RA 12339 POD1	RA	ED	1	3	2	22	19S	26E	559212	3612509	120	72	48
RA 12362 POD1	RA	ED	1	2	1	22	19S	26E	558838	3612975	140	79	61
RA 12364 POD1	RA	ED	1	3	2	03	19S	26E	559177	3617411	195	155	40
RA 12555 POD1	RA	ED	2	2	1	22	19S	26E	558975	3612926	126	98	28
RA 12572 POD1	RA	ED	4	4	1	02	19S	26E	560592	3617171	159		
RA 12627 POD1	RA	ED	1	2	4	05	19S	26E	556415	3617007	220	100	120

Average Depth to Water: **91 feet**

Minimum Depth: **15 feet**

Maximum Depth: **190 feet**

Record Count: 127

PLSS Search:

Township: 19S **Range:** 26E

***UTM location was derived from PLSS - see Help**

10/19/18 12:40 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Appendix C

CARDINAL Laboratories

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

March 28, 2018

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: PATTON 5 FEE #2H

Enclosed are the results of analyses for samples received by the laboratory on 03/21/18 12:00.

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

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

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

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

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

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

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH - 1 0'	H800813-01	Soil	20-Mar-18 00:00	21-Mar-18 12:00
AH - 1 1'	H800813-02	Soil	20-Mar-18 00:00	21-Mar-18 12:00
AH - 1 1.6'	H800813-03	Soil	20-Mar-18 00:00	21-Mar-18 12:00
AH - 2 0'	H800813-04	Soil	20-Mar-18 00:00	21-Mar-18 12:00
AH - 3 0'	H800813-05	Soil	20-Mar-18 00:00	21-Mar-18 12:00
AH - 3 6 INCH	H800813-06	Soil	20-Mar-18 00:00	21-Mar-18 12:00
AH - 4 0'	H800813-07	Soil	20-Mar-18 00:00	21-Mar-18 12:00
AH - 4 1'	H800813-08	Soil	20-Mar-18 00:00	21-Mar-18 12:00
AH - 4 2'	H800813-09	Soil	20-Mar-18 00:00	21-Mar-18 12:00
NORTH 0'	H800813-10	Soil	20-Mar-18 00:00	21-Mar-18 12:00
SOUTH 0'	H800813-11	Soil	20-Mar-18 00:00	21-Mar-18 12:00
EAST -1 0'	H800813-12	Soil	20-Mar-18 00:00	21-Mar-18 12:00
EAST - 2 0'	H800813-13	Soil	20-Mar-18 00:00	21-Mar-18 12:00
WEST 0'	H800813-14	Soil	20-Mar-18 00:00	21-Mar-18 12:00

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

AH - 1 0'

H800813-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Toluene*	**0.628**		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	**0.381**		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	**2.05**		0.150	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total BTEX	**3.06**		0.300	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*100 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	**18.1**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
DRO >C10-C28*	**182**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	**33.2**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*79.9 %*	*41-142*		*8032102*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*96.1 %*	*37.6-147*		*8032102*	MS	*22-Mar-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**15.2**		10.0	mg/kg wet	10	B803170	JDA	23-Mar-18	EPA300.0	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

AH - 1 1'

H800813-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	**19.4**		0.500	mg/kg	500	8032201	MS	22-Mar-18	8021B	
Toluene*	**117**		0.500	mg/kg	500	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	**70.6**		0.500	mg/kg	500	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	**119**		1.50	mg/kg	500	8032201	MS	22-Mar-18	8021B	
Total BTEX	**325**		3.00	mg/kg	500	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*105 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	**941**		50.0	mg/kg	5	8032102	MS	22-Mar-18	8015B	
DRO >C10-C28*	**2780**		50.0	mg/kg	5	8032102	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	**397**		50.0	mg/kg	5	8032102	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*97.9 %*	*41-142*		*8032102*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*124 %*	*37.6-147*		*8032102*	MS	*22-Mar-18*	*8015B*	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

AH - 1 1.6'

H800813-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	**0.241**		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Toluene*	**2.99**		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	**1.65**		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	**6.88**		0.150	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total BTEX	**11.8**		0.300	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*116 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	**68.8**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
DRO >C10-C28*	**682**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	**130**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*91.2 %*	*41-142*		*8032102*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*131 %*	*37.6-147*		*8032102*	MS	*22-Mar-18*	*8015B*	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

AH - 2 0'

H800813-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	**0.086**		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Toluene*	**0.215**		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	**0.068**		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total BTEX	**0.369**		0.300	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*94.7 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	**10.1**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*75.5 %*	*41-142*		*8032102*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*79.9 %*	*37.6-147*		*8032102*	MS	*22-Mar-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**440**		100	mg/kg wet	100	B803170	JDA	23-Mar-18	EPA300.0	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

AH - 3 0'

H800813-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										**S-04**
Benzene*	**0.068**		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Toluene*	**3.69**		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	**4.42**		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	**18.2**		0.150	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total BTEX	**26.4**		0.300	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*158 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	**271**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
DRO >C10-C28*	**2720**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	**472**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*113 %*	*41-142*		*8032102*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*132 %*	*37.6-147*		*8032102*	MS	*22-Mar-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**62.7**		10.0	mg/kg wet	10	B803170	JDA	23-Mar-18	EPA300.0	

Cardinal Laboratories *=Accredited Analyte

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CARDINAL Laboratories

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Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

AH - 3 6 INCH

H800813-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Toluene*	**0.079**		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	**5.57**		0.150	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total BTEX	**5.65**		0.300	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*137 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										**S-04**
GRO C6-C10*	**114**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
DRO >C10-C28*	**1410**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	**265**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*96.7 %*	*41-142*		*8032102*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*170 %*	*37.6-147*		*8032102*	MS	*22-Mar-18*	*8015B*	

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Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

AH - 4 0'

H800813-07 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*96.3 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	**14.6**		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*81.3 %*	*41-142*		*8032102*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*81.8 %*	*37.6-147*		*8032102*	MS	*22-Mar-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**41.9**		10.0	mg/kg wet	10	B803170	JDA	24-Mar-18	EPA300.0	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

AH - 4 1'

H800813-08 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*98.5 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*80.7 %*	*41-142*		*8032102*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*81.2 %*	*37.6-147*		*8032102*	MS	*22-Mar-18*	*8015B*	

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Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

AH - 4 2'

H800813-09 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*96.9 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*80.5 %*	*41-142*		*8032102*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*82.6 %*	*37.6-147*		*8032102*	MS	*22-Mar-18*	*8015B*	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

NORTH 0'

H800813-10 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*98.1 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*70.6 %*	*41-142*		*8032102*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*78.3 %*	*37.6-147*		*8032102*	MS	*22-Mar-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**225**		50.0	mg/kg wet	50	B803170	JDA	24-Mar-18	EPA300.0	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

SOUTH 0'

H800813-11 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*98.6 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8032102	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*66.8 %*	*41-142*		*8032102*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*73.9 %*	*37.6-147*		*8032102*	MS	*22-Mar-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**468**		50.0	mg/kg wet	50	B803170	JDA	24-Mar-18	EPA300.0	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

EAST -1 0'

H800813-12 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*97.4 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8032204	MS	22-Mar-18	8015B	
DRO >C10-C28*	**139**		10.0	mg/kg	1	8032204	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	**14.7**		10.0	mg/kg	1	8032204	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*79.2 %*	*41-142*		*8032204*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*90.1 %*	*37.6-147*		*8032204*	MS	*22-Mar-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**152**		10.0	mg/kg wet	10	B803170	JDA	24-Mar-18	EPA300.0	

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CARDINAL Laboratories

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Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

EAST - 2 0'

H800813-13 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*95.4 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8032204	MS	22-Mar-18	8015B	
DRO >C10-C28*	**53.6**		10.0	mg/kg	1	8032204	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8032204	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*76.4 %*	*41-142*		*8032204*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*81.6 %*	*37.6-147*		*8032204*	MS	*22-Mar-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**138**		50.0	mg/kg wet	50	B803170	JDA	24-Mar-18	EPA300.0	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

WEST 0'

H800813-14 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8032201	MS	22-Mar-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*99.9 %*	*72-148*		*8032201*	MS	*22-Mar-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8032204	MS	22-Mar-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8032204	MS	22-Mar-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8032204	MS	22-Mar-18	8015B	
Surrogate: 1-Chlorooctane			*80.4 %*	*41-142*		*8032204*	MS	*22-Mar-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*76.4 %*	*37.6-147*		*8032204*	MS	*22-Mar-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**12.0**		10.0	mg/kg wet	10	B803170	JDA	24-Mar-18	EPA300.0	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8032201 - Volatiles										
Blank (8032201-BLK1)				Prepared & Analyzed: 22-Mar-18						
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	*0.0928*		mg/kg	*0.100*		*92.8*	*72-148*			
LCS (8032201-BS1)				Prepared & Analyzed: 22-Mar-18						
Benzene	1.94	0.050	mg/kg	2.00		97.1	79.5-124			
Toluene	2.14	0.050	mg/kg	2.00		107	75.5-127			
Ethylbenzene	2.15	0.050	mg/kg	2.00		108	77.7-125			
Total Xylenes	6.63	0.150	mg/kg	6.00		111	70.9-124			
Surrogate: 4-Bromofluorobenzene (PID)	*0.0914*		mg/kg	*0.100*		*91.4*	*72-148*			
LCS Dup (8032201-BSD1)				Prepared & Analyzed: 22-Mar-18						
Benzene	1.93	0.050	mg/kg	2.00		96.3	79.5-124	0.862	6.5	
Toluene	2.10	0.050	mg/kg	2.00		105	75.5-127	1.53	7.02	
Ethylbenzene	2.16	0.050	mg/kg	2.00		108	77.7-125	0.164	7.83	
Total Xylenes	6.65	0.150	mg/kg	6.00		111	70.9-124	0.207	7.78	
Surrogate: 4-Bromofluorobenzene (PID)	*0.0922*		mg/kg	*0.100*		*92.2*	*72-148*			

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CARDINAL Laboratories

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Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8032102 - General Prep - Organics										
Blank (8032102-BLK1)				Prepared: 21-Mar-18 Analyzed: 22-Mar-18						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	*49.5*		mg/kg	*50.0*		*99.1*	*41-142*			
Surrogate: 1-Chlorooctadecane	*51.1*		mg/kg	*50.0*		*102*	*37.6-147*			
LCS (8032102-BS1)				Prepared: 21-Mar-18 Analyzed: 22-Mar-18						
GRO C6-C10	197	10.0	mg/kg	200		98.4	76.5-133			
DRO >C10-C28	208	10.0	mg/kg	200		104	72.9-138			
Total TPH C6-C28	405	10.0	mg/kg	400		101	78-132			
Surrogate: 1-Chlorooctane	*51.1*		mg/kg	*50.0*		*102*	*41-142*			
Surrogate: 1-Chlorooctadecane	*53.4*		mg/kg	*50.0*		*107*	*37.6-147*			
LCS Dup (8032102-BSD1)				Prepared: 21-Mar-18 Analyzed: 22-Mar-18						
GRO C6-C10	195	10.0	mg/kg	200		97.3	76.5-133	1.10	20.6	
DRO >C10-C28	210	10.0	mg/kg	200		105	72.9-138	0.803	20.6	
Total TPH C6-C28	404	10.0	mg/kg	400		101	78-132	0.117	18	
Surrogate: 1-Chlorooctane	*50.3*		mg/kg	*50.0*		*101*	*41-142*			
Surrogate: 1-Chlorooctadecane	*52.7*		mg/kg	*50.0*		*105*	*37.6-147*			
Batch 8032204 - General Prep - Organics										
Blank (8032204-BLK1)				Prepared & Analyzed: 22-Mar-18						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	*51.1*		mg/kg	*50.0*		*102*	*41-142*			
Surrogate: 1-Chlorooctadecane	*49.3*		mg/kg	*50.0*		*98.5*	*37.6-147*			

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8032204 - General Prep - Organics										
LCS (8032204-BS1)				Prepared & Analyzed: 22-Mar-18						
GRO C6-C10	195	10.0	mg/kg	200		97.7	76.5-133			
DRO >C10-C28	214	10.0	mg/kg	200		107	72.9-138			
Total TPH C6-C28	410	10.0	mg/kg	400		102	78-132			
Surrogate: 1-Chlorooctane	*49.8*		mg/kg	*50.0*		*99.6*	*41-142*			
Surrogate: 1-Chlorooctadecane	*52.3*		mg/kg	*50.0*		*105*	*37.6-147*			
LCS Dup (8032204-BSD1)				Prepared & Analyzed: 22-Mar-18						
GRO C6-C10	191	10.0	mg/kg	200		95.4	76.5-133	2.35	20.6	
DRO >C10-C28	203	10.0	mg/kg	200		102	72.9-138	5.24	20.6	
Total TPH C6-C28	394	10.0	mg/kg	400		98.5	78-132	3.85	18	
Surrogate: 1-Chlorooctane	*48.7*		mg/kg	*50.0*		*97.4*	*41-142*			
Surrogate: 1-Chlorooctadecane	*49.9*		mg/kg	*50.0*		*99.7*	*37.6-147*			

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING P. O. BOX 1630 ARTESIA NM, 88210	Project: PATTON 5 FEE #2H Project Number: NONE GIVEN Project Manager: SHELDON HITCHCOCK Fax To: NONE	Reported: 28-Mar-18 15:41

Soluble (DI Water Extraction) - Quality Control

Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B803170 - General Prep - Wet Chem										
Blank (B803170-BLK1)				Prepared & Analyzed: 23-Mar-18						
Chloride	ND	10.0	mg/kg wet							
LCS (B803170-BS1)				Prepared & Analyzed: 23-Mar-18						
Chloride	234	10.0	mg/kg wet	250		93.6	85-115			
LCS Dup (B803170-BSD1)				Prepared & Analyzed: 23-Mar-18						
Chloride	236	10.0	mg/kg wet	250		94.6	85-115	1.06	20	

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CARDINAL Laboratories

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Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Concho Resources	BILL TO
Project Manager: Sheldon Hitchcock	P.O. #:
Address: 2407 Pecos Avenue	Company: COG
City: Artesia State: NM Zip: 88210	Attn: Robert McNeill
Phone #: 575-703-6475 Fax #:	Address:
Project #: Project Owner: Concho	City:
Project Name: Patton 5 Fee 2 H	State: Zip:
Project Location: Eddy County	Phone #:
Sampler Name: Christopher Gray	Fax #:

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: TPH EXTENDED	BTEX	CHLORIDES 300
H800813																	
1	AH-1 0'	G	1			✓					✓		3/20/18		✓	✓	⊗
2	AH-1 1'	G	1			✓					✓				✓	✓	✓
3	AH-1 1.6'	G	1			✓					✓				✓	✓	✓
4	AH-2 0'	G	1			✓					✓				✓	✓	⊗
5	AH-3 0'	G	1			✓					✓				✓	✓	⊗
6	AH-3 6' inch	G	1			✓					✓				✓	✓	⊗
7	AH-4 0'	G	1			✓					✓				✓	✓	⊗
8	AH-4 1'	G	1			✓					✓				✓	✓	✓
9	AH-4 2'	G	1			✓					✓				✓	✓	✓

Relinquished By: Christopher Gray	Date: 3-21-18 Time: 12:00	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) 2.9°c	Sample Condition: Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials) TO-HT5	REMARKS: Stop if chlorides below 600
Sampler - UPS - Bus - Other: Corrected 2.8°c			

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

2-2

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Concho Resources
Project Manager:	Sheldon Hitchcock
Address:	2407 Pecos Avenue
City:	Artesia State: NM Zip: 88210
Phone #:	575-703-6475 Fax #:
Project #:	Project Owner: Concho
Project Name:	Patton 5 Fee 2 H
Project Location:	EDDY County
Sampler Name:	Christopher Gray

BILL TO

P.O. #:	
Company:	COG
Attn:	Robert McNeill
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	TPH Extended	BTEX	Chlorides 300
H6CC813																	
10	North 0'	6				✓					✓		3/20/18		✓	✓	✓
11	South 0'	6				✓					✓						
12	East - 1 0'	6				✓					✓						
13	East - 2 0'	6				✓					✓						
14	West 0'	6				✓					✓						

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

Relinquished By:	Date: 3-21-18	Received By:	
Christopher Gray	Time: 12:00		
Relinquished By:	Date:	Received By:	
	Time:		

Delivered By: (Circle One) 2.9°c
Sampler - UPS - Bus - Other: Corrected 2.8°c

Sample Condition: Cool: Yes / No; Intact: Yes / No

CHECKED BY: (Initials) TO #15

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS: Stop if Chlorides are below 600

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

Certificate of Analysis Summary 574885

COG Operating LLC, Artesia, NM

Project Name: Patton 5 Fee #002H

Project Id:
Contact: Dakota Neel
Project Location: Eddy County, NM

Date Received in Lab: Mon Jan-29-18 03:00 pm
Report Date: 05-FEB-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	574885-001		574885-002		574885-003		574885-004		574885-005		574885-006	
	Field Id:	T-1		T-1		T-1		T-2		T-2		T-2	
	Depth:	0- ft		1- ft		2- ft		3- ft		0- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-24-18 00:00		Jan-24-18 00:00		Jan-24-18 00:00		Jan-24-18 00:00		Jan-24-18 00:00		Jan-24-18 00:00	
BTEX by EPA 8021B	***Extracted:***	Feb-01-18 17:00		Jan-31-18 16:30		Jan-31-18 16:30		Jan-31-18 16:30		Feb-01-18 17:00		Feb-01-18 16:15	
	Analyzed:	Feb-02-18 13:43		Jan-31-18 21:11		Jan-31-18 21:31		Jan-31-18 21:50		Feb-02-18 08:17		Feb-01-18 22:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		8.10	0.498	<0.0100	0.0100	<0.0100	0.0100	<0.0100	0.0100	<0.00200	0.00200	<0.00200	0.00200
Toluene		80.9	0.498	<0.0100	0.0100	<0.0100	0.0100	<0.0100	0.0100	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		71.9	0.498	<0.0100	0.0100	<0.0100	0.0100	<0.0100	0.0100	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		93.2	0.996	<0.0200	0.0200	<0.0200	0.0200	<0.0200	0.0200	<0.00399	0.00399	<0.00401	0.00401
o-Xylene		36.6	0.498	<0.0100	0.0100	<0.0100	0.0100	<0.0100	0.0100	0.00324	0.00200	<0.00200	0.00200
Total Xylenes		130	0.498	<0.0100	0.0100	<0.0100	0.0100	<0.0100	0.0100	0.00324	0.00200	<0.00200	0.00200
Total BTEX		291	0.498	<0.0100	0.0100	<0.0100	0.0100	<0.0100	0.0100	0.00324	0.00200	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	Feb-01-18 12:00						Feb-01-18 12:00					
	Analyzed:	Feb-01-18 14:34						Feb-01-18 15:09					
	Units/RL:	mg/kg	RL					mg/kg	RL				
Chloride		92.1	4.93					120	4.98				
TPH By SW8015 Mod	***Extracted:***	Jan-30-18 11:00		Jan-30-18 11:00		Jan-30-18 11:00		Jan-30-18 11:00		Jan-30-18 11:00		Jan-30-18 11:00	
	Analyzed:	Jan-30-18 14:54		Jan-30-18 15:15		Jan-30-18 16:18		Jan-30-18 16:38		Jan-30-18 16:59		Jan-30-18 17:21	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		1300	74.7	<15.0	15.0	<15.0	15.0	<15.0	15.0	40.3	15.0	<14.9	14.9
Diesel Range Organics (DRO)		2530	74.7	<15.0	15.0	<15.0	15.0	<15.0	15.0	2350	15.0	<14.9	14.9
Oil Range Hydrocarbons (ORO)		299	74.7	<15.0	15.0	<15.0	15.0	<15.0	15.0	499	15.0	<14.9	14.9
Total TPH		4130	74.7	<15.0	15.0	<15.0	15.0	<15.0	15.0	2890	15.0	<14.9	14.9

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.%

Kelsey Brooks
Project Manager

Final 1.000

Certificate of Analysis Summary 574885

COG Operating LLC, Artesia, NM

Project Name: Patton 5 Fee #002H

Project Id:

Contact: Dakota Neel

Project Location: Eddy County, NM

Date Received in Lab: Mon Jan-29-18 03:00 pm

Report Date: 05-FEB-18

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	574885-007		574885-008		574885-009		574885-010		574885-011		574885-012	
	Field Id:	T-2		T-3		T-3		T-3		T-3		North	
	Depth:	2- ft		0- ft		1- ft		2- ft		3- ft		6- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-24-18 00:00		Jan-24-18 00:00		Jan-24-18 00:00		Jan-24-18 00:00		Jan-24-18 00:00		Jan-24-18 00:00	
BTEX by EPA 8021B	***Extracted:***	Feb-01-18 07:00		Feb-01-18 07:00		Feb-01-18 07:00		Feb-01-18 07:00		Feb-01-18 07:00		Feb-01-18 16:15	
	Analyzed:	Feb-01-18 12:46		Feb-01-18 13:06		Feb-01-18 13:25		Feb-01-18 14:21		Feb-01-18 14:40		Feb-01-18 23:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199
m,p-Xylenes		<0.00398	0.00398	<0.00399	0.00399	<0.00402	0.00402	<0.00401	0.00401	<0.00398	0.00398	<0.00398	0.00398
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***			Feb-01-18 12:00		Feb-01-18 12:00						Feb-01-18 12:00	
	Analyzed:			Feb-01-18 15:50		Feb-01-18 15:57						Feb-01-18 16:32	
	Units/RL:			mg/kg	RL	mg/kg	RL					mg/kg	RL
Chloride				3990	24.5	465	4.97					7.79	4.97
TPH By SW8015 Mod	***Extracted:***	Jan-30-18 11:00		Jan-30-18 11:00		Jan-30-18 11:00		Jan-30-18 11:00		Jan-30-18 11:00		Jan-30-18 11:00	
	Analyzed:	Jan-30-18 17:42		Jan-30-18 18:03		Jan-30-18 18:25		Jan-30-18 18:48		Jan-30-18 19:52		Jan-30-18 20:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.%

Kelsey Brooks
Project Manager

Final 1.000

Certificate of Analysis Summary 574885

COG Operating LLC, Artesia, NM

Project Name: Patton 5 Fee #002H

Project Id:

Contact: Dakota Neel

Project Location: Eddy County, NM

Date Received in Lab: Mon Jan-29-18 03:00 pm

Report Date: 05-FEB-18

Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	574885-013		574885-014					
	Field Id:	South		West					
	Depth:	6- ft		6- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Jan-24-18 00:00		Jan-24-18 00:00					
BTEX by EPA 8021B	***Extracted:***	Feb-01-18 17:00		Feb-01-18 16:15					
	Analyzed:	Feb-02-18 07:22		Feb-01-18 20:15					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00201	0.00201	<0.00200	0.00200				
Toluene		<0.00201	0.00201	<0.00200	0.00200				
Ethylbenzene		<0.00201	0.00201	<0.00200	0.00200				
m,p-Xylenes		<0.00402	0.00402	<0.00399	0.00399				
o-Xylene		<0.00201	0.00201	<0.00200	0.00200				
Total Xylenes		<0.00201	0.00201	<0.00200	0.00200				
Total BTEX		<0.00201	0.00201	<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	Feb-01-18 12:00		Feb-01-18 12:00					
	Analyzed:	Feb-01-18 16:39		Feb-01-18 16:46					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		366	4.92	206	4.92				
TPH By SW8015 Mod	***Extracted:***	Jan-30-18 11:00		Feb-01-18 09:00					
	Analyzed:	Jan-30-18 20:34		Feb-01-18 12:53					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0				
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0				

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.%

Kelsey Brooks
Project Manager

Final 1.000

Analytical Report 574885

for

COG Operating LLC

Project Manager: Dakota Neel

Patton 5 Fee #002H

05-FEB-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

05-FEB-18

Project Manager: **Dakota Neel**
COG Operating LLC
2407 Pecos Avenue
Artesia, NM 88210

Reference: XENCO Report No(s): **574885**
Patton 5 Fee #002H
Project Address: Eddy County, NM

Dakota Neel:

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) 574885. 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. 574885 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 574885

COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1	S	01-24-18 00:00	0 ft	574885-001
T-1	S	01-24-18 00:00	1 ft	574885-002
T-1	S	01-24-18 00:00	2 ft	574885-003
T-2	S	01-24-18 00:00	3 ft	574885-004
T-2	S	01-24-18 00:00	0 ft	574885-005
T-2	S	01-24-18 00:00	1 ft	574885-006
T-2	S	01-24-18 00:00	2 ft	574885-007
T-3	S	01-24-18 00:00	0 ft	574885-008
T-3	S	01-24-18 00:00	1 ft	574885-009
T-3	S	01-24-18 00:00	2 ft	574885-010
T-3	S	01-24-18 00:00	3 ft	574885-011
North	S	01-24-18 00:00	6 ft	574885-012
South	S	01-24-18 00:00	6 ft	574885-013
West	S	01-24-18 00:00	6 ft	574885-014

Version: 1.%

CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Patton 5 Fee #002H

Project ID:
Work Order Number(s): *574885*

Report Date: *05-FEB-18*
Date Received: *01/29/2018*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3039842 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3039856 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3039915 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3040007 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 574885

COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-1**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-001	Date Collected:	01.24.18 00.00	Sample Depth:	0 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.01.18 12.00	Basis:	Wet Weight
Seq Number:	3040180				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**92.1**	4.93	mg/kg	02.01.18 14.34		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.30.18 11.00	Basis:	Wet Weight
Seq Number:	3039740				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1300**	74.7	mg/kg	01.30.18 14.54		5
Diesel Range Organics (DRO)	C10C28DRO	**2530**	74.7	mg/kg	01.30.18 14.54		5
Oil Range Hydrocarbons (ORO)	PHCG2835	**299**	74.7	mg/kg	01.30.18 14.54		5
Total TPH	PHC635	**4130**	74.7	mg/kg	01.30.18 14.54		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	01.30.18 14.54	
o-Terphenyl	84-15-1	100	%	70-135	01.30.18 14.54	

Certificate of Analytical Results 574885

COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-1**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-001	Date Collected:	01.24.18 00.00	Sample Depth:	0 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.01.18 17.00	Basis:	Wet Weight
Seq Number:	3040007				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**8.10**	0.498	mg/kg	02.02.18 13.43		250
Toluene	108-88-3	**80.9**	0.498	mg/kg	02.02.18 13.43		250
Ethylbenzene	100-41-4	**71.9**	0.498	mg/kg	02.02.18 13.43		250
m,p-Xylenes	179601-23-1	**93.2**	0.996	mg/kg	02.02.18 13.43		250
o-Xylene	95-47-6	**36.6**	0.498	mg/kg	02.02.18 13.43		250
Total Xylenes	1330-20-7	**130**	0.498	mg/kg	02.02.18 13.43		250
Total BTEX		**291**	0.498	mg/kg	02.02.18 13.43		250

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	82	%	80-120	02.02.18 13.43	
4-Bromofluorobenzene	460-00-4	107	%	80-120	02.02.18 13.43	

Certificate of Analytical Results 574885

COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-1**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-002	Date Collected:	01.24.18 00.00	Sample Depth:	1 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.30.18 11.00	Basis:	Wet Weight
Seq Number:	3039740				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.30.18 15.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.30.18 15.15	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	01.30.18 15.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.30.18 15.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	01.30.18 15.15	
o-Terphenyl	84-15-1	105	%	70-135	01.30.18 15.15	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	01.31.18 16.30	Basis:	Wet Weight
Seq Number:	3039842				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	01.31.18 21.11	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	01.31.18 21.11	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	01.31.18 21.11	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	01.31.18 21.11	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	01.31.18 21.11	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	01.31.18 21.11	U	1
Total BTEX		<0.0100	0.0100	mg/kg	01.31.18 21.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	80-120	01.31.18 21.11	
1,4-Difluorobenzene	540-36-3	88	%	80-120	01.31.18 21.11	

Certificate of Analytical Results 574885

COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-1**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-003	Date Collected:	01.24.18 00.00	Sample Depth:	2 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.30.18 11.00	Basis:	Wet Weight
Seq Number:	3039740				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.30.18 16.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.30.18 16.18	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	01.30.18 16.18	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.30.18 16.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	01.30.18 16.18	
o-Terphenyl	84-15-1	99	%	70-135	01.30.18 16.18	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	01.31.18 16.30	Basis:	Wet Weight
Seq Number:	3039842				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	01.31.18 21.31	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	01.31.18 21.31	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	01.31.18 21.31	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	01.31.18 21.31	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	01.31.18 21.31	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	01.31.18 21.31	U	1
Total BTEX		<0.0100	0.0100	mg/kg	01.31.18 21.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	80-120	01.31.18 21.31	
4-Bromofluorobenzene	460-00-4	95	%	80-120	01.31.18 21.31	

Certificate of Analytical Results 574885

COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-2**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-004	Date Collected:	01.24.18 00.00	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.01.18 12.00	Basis:	Wet Weight
Seq Number:	3040180				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**120**	4.98	mg/kg	02.01.18 15.09		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.30.18 11.00	Basis:	Wet Weight
Seq Number:	3039740				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.30.18 16.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.30.18 16.38	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	01.30.18 16.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.30.18 16.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	01.30.18 16.38	
o-Terphenyl	84-15-1	96	%	70-135	01.30.18 16.38	

Certificate of Analytical Results 574885

COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-2**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-004	Date Collected:	01.24.18 00.00	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	01.31.18 16.30	Basis:	Wet Weight
Seq Number:	3039842				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0100	0.0100	mg/kg	01.31.18 21.50	U	1
Toluene	108-88-3	<0.0100	0.0100	mg/kg	01.31.18 21.50	U	1
Ethylbenzene	100-41-4	<0.0100	0.0100	mg/kg	01.31.18 21.50	U	1
m,p-Xylenes	179601-23-1	<0.0200	0.0200	mg/kg	01.31.18 21.50	U	1
o-Xylene	95-47-6	<0.0100	0.0100	mg/kg	01.31.18 21.50	U	1
Total Xylenes	1330-20-7	<0.0100	0.0100	mg/kg	01.31.18 21.50	U	1
Total BTEX		<0.0100	0.0100	mg/kg	01.31.18 21.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	80-120	01.31.18 21.50	
1,4-Difluorobenzene	540-36-3	83	%	80-120	01.31.18 21.50	

Certificate of Analytical Results 574885

COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-2**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-005	Date Collected:	01.24.18 00.00	Sample Depth:	0 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.30.18 11.00	Basis:	Wet Weight
Seq Number:	3039740				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**40.3**	15.0	mg/kg	01.30.18 16.59		1
Diesel Range Organics (DRO)	C10C28DRO	**2350**	15.0	mg/kg	01.30.18 16.59		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**499**	15.0	mg/kg	01.30.18 16.59		1
Total TPH	PHC635	**2890**	15.0	mg/kg	01.30.18 16.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	01.30.18 16.59	
o-Terphenyl	84-15-1	86	%	70-135	01.30.18 16.59	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.01.18 17.00	Basis:	Wet Weight
Seq Number:	3040007				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.02.18 08.17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.02.18 08.17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.02.18 08.17	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.02.18 08.17	U	1
o-Xylene	95-47-6	**0.00324**	0.00200	mg/kg	02.02.18 08.17		1
Total Xylenes	1330-20-7	**0.00324**	0.00200	mg/kg	02.02.18 08.17		1
Total BTEX		**0.00324**	0.00200	mg/kg	02.02.18 08.17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	80-120	02.02.18 08.17	
1,4-Difluorobenzene	540-36-3	95	%	80-120	02.02.18 08.17	

Certificate of Analytical Results 574885

COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-2**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-006	Date Collected:	01.24.18 00.00	Sample Depth:	1 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.30.18 11.00	Basis:	Wet Weight
Seq Number:	3039740				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	01.30.18 17.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	01.30.18 17.21	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	01.30.18 17.21	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	01.30.18 17.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	01.30.18 17.21	
o-Terphenyl	84-15-1	95	%	70-135	01.30.18 17.21	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.01.18 16.15	Basis:	Wet Weight
Seq Number:	3039915				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.01.18 22.47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.01.18 22.47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.01.18 22.47	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.01.18 22.47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.01.18 22.47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.01.18 22.47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.01.18 22.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	84	%	80-120	02.01.18 22.47	
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.01.18 22.47	

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COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-2**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-007	Date Collected:	01.24.18 00.00	Sample Depth:	2 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.30.18 11.00	Basis:	Wet Weight
Seq Number:	3039740				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	01.30.18 17.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	01.30.18 17.42	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	01.30.18 17.42	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	01.30.18 17.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	01.30.18 17.42	
o-Terphenyl	84-15-1	100	%	70-135	01.30.18 17.42	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.01.18 07.00	Basis:	Wet Weight
Seq Number:	3039856				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.01.18 12.46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.01.18 12.46	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.01.18 12.46	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.01.18 12.46	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.01.18 12.46	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.01.18 12.46	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.01.18 12.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83	%	80-120	02.01.18 12.46	
4-Bromofluorobenzene	460-00-4	109	%	80-120	02.01.18 12.46	

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COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-3**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-008	Date Collected:	01.24.18 00.00	Sample Depth:	0 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.01.18 12.00	Basis:	Wet Weight
Seq Number:	3040180				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3990**	24.5	mg/kg	02.01.18 15.50		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.30.18 11.00	Basis:	Wet Weight
Seq Number:	3039740				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.30.18 18.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.30.18 18.03	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	01.30.18 18.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.30.18 18.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	01.30.18 18.03	
o-Terphenyl	84-15-1	97	%	70-135	01.30.18 18.03	

Certificate of Analytical Results 574885

COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-3**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-008	Date Collected:	01.24.18 00.00	Sample Depth:	0 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.01.18 07.00	Basis:	Wet Weight
Seq Number:	3039856				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.01.18 13.06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.01.18 13.06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.01.18 13.06	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.01.18 13.06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.01.18 13.06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.01.18 13.06	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.01.18 13.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	80-120	02.01.18 13.06	
1,4-Difluorobenzene	540-36-3	89	%	80-120	02.01.18 13.06	

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COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-3**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-009	Date Collected:	01.24.18 00.00	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.01.18 12.00	Basis:	Wet Weight
Seq Number:	3040180				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**465**	4.97	mg/kg	02.01.18 15.57		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.30.18 11.00	Basis:	Wet Weight
Seq Number:	3039740				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.30.18 18.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.30.18 18.25	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	01.30.18 18.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.30.18 18.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	01.30.18 18.25	
o-Terphenyl	84-15-1	94	%	70-135	01.30.18 18.25	

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COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-3**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-009	Date Collected:	01.24.18 00.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.01.18 07.00	Basis:	Wet Weight
Seq Number:	3039856				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.01.18 13.25	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.01.18 13.25	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.01.18 13.25	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.01.18 13.25	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.01.18 13.25	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.01.18 13.25	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.01.18 13.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.01.18 13.25	
4-Bromofluorobenzene	460-00-4	101	%	80-120	02.01.18 13.25	

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COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-3**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-010	Date Collected:	01.24.18 00.00	Sample Depth:	2 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.30.18 11.00	Basis:	Wet Weight
Seq Number:	3039740				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.30.18 18.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.30.18 18.48	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	01.30.18 18.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.30.18 18.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	01.30.18 18.48	
o-Terphenyl	84-15-1	92	%	70-135	01.30.18 18.48	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.01.18 07.00	Basis:	Wet Weight
Seq Number:	3039856				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.01.18 14.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.01.18 14.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.01.18 14.21	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.01.18 14.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.01.18 14.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.01.18 14.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.01.18 14.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	80-120	02.01.18 14.21	
1,4-Difluorobenzene	540-36-3	83	%	80-120	02.01.18 14.21	

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COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**T-3**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-011	Date Collected:	01.24.18 00.00	Sample Depth:	3 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.30.18 11.00	Basis:	Wet Weight
Seq Number:	3039740				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.30.18 19.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.30.18 19.52	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	01.30.18 19.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.30.18 19.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	01.30.18 19.52	
o-Terphenyl	84-15-1	102	%	70-135	01.30.18 19.52	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.01.18 07.00	Basis:	Wet Weight
Seq Number:	3039856				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.01.18 14.40	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.01.18 14.40	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.01.18 14.40	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.01.18 14.40	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.01.18 14.40	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.01.18 14.40	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.01.18 14.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	87	%	80-120	02.01.18 14.40	
4-Bromofluorobenzene	460-00-4	95	%	80-120	02.01.18 14.40	

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COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**North**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-012	Date Collected:	01.24.18 00.00	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.01.18 12.00	Basis:	Wet Weight
Seq Number:	3040180				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.79**	4.97	mg/kg	02.01.18 16.32		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.30.18 11.00	Basis:	Wet Weight
Seq Number:	3039740				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.30.18 20.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.30.18 20.13	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	01.30.18 20.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.30.18 20.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	01.30.18 20.13	
o-Terphenyl	84-15-1	103	%	70-135	01.30.18 20.13	

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COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**North**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-012	Date Collected:	01.24.18 00.00	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.01.18 16.15	Basis:	Wet Weight
Seq Number:	3039915				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.01.18 23.07	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.01.18 23.07	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.01.18 23.07	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.01.18 23.07	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.01.18 23.07	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.01.18 23.07	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.01.18 23.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	84	%	80-120	02.01.18 23.07	
4-Bromofluorobenzene	460-00-4	93	%	80-120	02.01.18 23.07	

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COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**South**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-013	Date Collected:	01.24.18 00.00	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.01.18 12.00	Basis:	Wet Weight
Seq Number:	3040180				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**366**	4.92	mg/kg	02.01.18 16.39		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	01.30.18 11.00	Basis:	Wet Weight
Seq Number:	3039740				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.30.18 20.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.30.18 20.34	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	01.30.18 20.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.30.18 20.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	01.30.18 20.34	
o-Terphenyl	84-15-1	102	%	70-135	01.30.18 20.34	

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COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**South**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-013	Date Collected:	01.24.18 00.00	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.01.18 17.00	Basis:	Wet Weight
Seq Number:	3040007				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.02.18 07.22	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.02.18 07.22	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.02.18 07.22	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.02.18 07.22	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.02.18 07.22	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.02.18 07.22	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.02.18 07.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	80-120	02.02.18 07.22	
4-Bromofluorobenzene	460-00-4	98	%	80-120	02.02.18 07.22	

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COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**West**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-014	Date Collected:	01.24.18 00.00	Sample Depth:	6 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.01.18 12.00	Basis:	Wet Weight
Seq Number:	3040180				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**206**	4.92	mg/kg	02.01.18 16.46		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.01.18 09.00	Basis:	Wet Weight
Seq Number:	3040013				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.01.18 12.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.01.18 12.53	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.01.18 12.53	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.01.18 12.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	02.01.18 12.53	
o-Terphenyl	84-15-1	95	%	70-135	02.01.18 12.53	

Certificate of Analytical Results 574885

COG Operating LLC, Artesia, NM

Patton 5 Fee #002H

Sample Id:	**West**	Matrix:	Soil	Date Received:	01.29.18 15.00
Lab Sample Id:	574885-014	Date Collected:	01.24.18 00.00	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.01.18 16.15	Basis:	Wet Weight
Seq Number:	3039915				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.01.18 20.15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.01.18 20.15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.01.18 20.15	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.01.18 20.15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.01.18 20.15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.01.18 20.15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.01.18 20.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	80-120	02.01.18 20.15	
4-Bromofluorobenzene	460-00-4	99	%	80-120	02.01.18 20.15	

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

+ NELAC certification not offered for this compound.

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

QC Summary 574885

COG Operating LLC

Patton 5 Fee #002H

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3040180 — Matrix: Solid — Date Prep: 02.01.18
MB Sample Id: 7638469-1-BLK — LCS Sample Id: 7638469-1-BKS — LCSD Sample Id: 7638469-1-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	249	100	254	102	90-110	2	20	mg/kg	02.01.18 13:38	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3040180 — Matrix: Soil — Date Prep: 02.01.18
Parent Sample Id: 574884-006 — MS Sample Id: 574884-006 S — MSD Sample Id: 574884-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	151	247	393	98	386	95	90-110	2	20	mg/kg	02.01.18 13:59	

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3039740 — Matrix: Solid — Date Prep: 01.30.18
MB Sample Id: 7638354-1-BLK — LCS Sample Id: 7638354-1-BKS — LCSD Sample Id: 7638354-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	844	84	849	85	70-135	1	35	mg/kg	01.30.18 14:06	
Diesel Range Organics (DRO)	<15.0	1000	928	93	883	88	70-135	5	35	mg/kg	01.30.18 14:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		114		93		70-135	%	01.30.18 14:06
o-Terphenyl	104		103		96		70-135	%	01.30.18 14:06

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3040013 — Matrix: Solid — Date Prep: 02.01.18
MB Sample Id: 7638497-1-BLK — LCS Sample Id: 7638497-1-BKS — LCSD Sample Id: 7638497-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	858	86	841	84	70-135	2	35	mg/kg	02.01.18 10:47	
Diesel Range Organics (DRO)	<15.0	1000	925	93	925	93	70-135	0	35	mg/kg	02.01.18 10:47	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	88		115		114		70-135	%	02.01.18 10:47
o-Terphenyl	93		118		100		70-135	%	02.01.18 10:47

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

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

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

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

QC Summary 574885

COG Operating LLC

Patton 5 Fee #002H

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3039740 — Matrix: Soil — Date Prep: 01.30.18
Parent Sample Id: 574885-002 — MS Sample Id: 574885-002 S — MSD Sample Id: 574885-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	891	89	941	94	70-135	5	35	mg/kg	01.30.18 15:35	
Diesel Range Organics (DRO)	<15.0	999	1030	103	1050	105	70-135	2	35	mg/kg	01.30.18 15:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		127		70-135	%	01.30.18 15:35
o-Terphenyl	94		105		70-135	%	01.30.18 15:35

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3040013 — Matrix: Soil — Date Prep: 02.01.18
Parent Sample Id: 574884-007 — MS Sample Id: 574884-007 S — MSD Sample Id: 574884-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	799	80	886	89	70-135	10	35	mg/kg	02.01.18 11:51	
Diesel Range Organics (DRO)	<15.0	997	884	89	970	97	70-135	9	35	mg/kg	02.01.18 11:51	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		103		70-135	%	02.01.18 11:51
o-Terphenyl	93		102		70-135	%	02.01.18 11:51

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3039842 — Matrix: Solid — Date Prep: 01.31.18
MB Sample Id: 7638381-1-BLK — LCS Sample Id: 7638381-1-BKS — LCSD Sample Id: 7638381-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0100	0.500	0.444	89	0.453	91	70-130	2	35	mg/kg	01.31.18 18:20	
Toluene	<0.0100	0.500	0.490	98	0.494	99	70-130	1	35	mg/kg	01.31.18 18:20	
Ethylbenzene	<0.0100	0.500	0.512	102	0.533	107	71-129	4	35	mg/kg	01.31.18 18:20	
m,p-Xylenes	<0.0200	1.00	1.01	101	0.996	100	70-135	1	35	mg/kg	01.31.18 18:20	
o-Xylene	<0.0100	0.500	0.505	101	0.516	103	71-133	2	35	mg/kg	01.31.18 18:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	84		89		84		80-120	%	01.31.18 18:20
4-Bromofluorobenzene	92		101		92		80-120	%	01.31.18 18:20

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

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

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

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

QC Summary 574885

COG Operating LLC

Patton 5 Fee #002H

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3039856 — Matrix: Solid — Date Prep: 02.01.18
MB Sample Id: 7638412-1-BLK — LCS Sample Id: 7638412-1-BKS — LCSD Sample Id: 7638412-1-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	0.0856	86	0.0860	86	70-130	0	35	mg/kg	02.01.18 04:27	
Toluene	<0.00200	0.100	0.0890	89	0.0901	90	70-130	1	35	mg/kg	02.01.18 04:27	
Ethylbenzene	<0.00200	0.100	0.0947	95	0.0950	95	71-129	0	35	mg/kg	02.01.18 04:27	
m,p-Xylenes	<0.00401	0.200	0.186	93	0.187	94	70-135	1	35	mg/kg	02.01.18 04:27	
o-Xylene	<0.00200	0.100	0.0933	93	0.0935	94	71-133	0	35	mg/kg	02.01.18 04:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	84		89		89		80-120	%	02.01.18 04:27
4-Bromofluorobenzene	83		95		98		80-120	%	02.01.18 04:27

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3039915 — Matrix: Solid — Date Prep: 02.01.18
MB Sample Id: 7638449-1-BLK — LCS Sample Id: 7638449-1-BKS — LCSD Sample Id: 7638449-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0907	91	0.0926	93	70-130	2	35	mg/kg	02.01.18 16:45	
Toluene	<0.00201	0.100	0.0960	96	0.0972	97	70-130	1	35	mg/kg	02.01.18 16:45	
Ethylbenzene	<0.00201	0.100	0.104	104	0.108	108	71-129	4	35	mg/kg	02.01.18 16:45	
m,p-Xylenes	<0.00402	0.201	0.205	102	0.212	106	70-135	3	35	mg/kg	02.01.18 16:45	
o-Xylene	<0.00201	0.100	0.101	101	0.104	104	71-133	3	35	mg/kg	02.01.18 16:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		88		90		80-120	%	02.01.18 16:45
4-Bromofluorobenzene	88		97		100		80-120	%	02.01.18 16:45

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3040007 — Matrix: Solid — Date Prep: 02.01.18
MB Sample Id: 7638501-1-BLK — LCS Sample Id: 7638501-1-BKS — LCSD Sample Id: 7638501-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0895	90	0.0845	85	70-130	6	35	mg/kg	02.02.18 02:16	
Toluene	<0.00199	0.0994	0.0939	94	0.0892	89	70-130	5	35	mg/kg	02.02.18 02:16	
Ethylbenzene	<0.00199	0.0994	0.103	104	0.0964	97	71-129	7	35	mg/kg	02.02.18 02:16	
m,p-Xylenes	<0.00398	0.199	0.201	101	0.190	95	70-135	6	35	mg/kg	02.02.18 02:16	
o-Xylene	<0.00199	0.0994	0.101	102	0.0943	94	71-133	7	35	mg/kg	02.02.18 02:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		87		90		80-120	%	02.02.18 02:16
4-Bromofluorobenzene	87		99		99		80-120	%	02.02.18 02:16

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]

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

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

QC Summary 574885

COG Operating LLC

Patton 5 Fee #002H

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3039842 — Matrix: Soil — Date Prep: 01.31.18
Parent Sample Id: 575068-002 — MS Sample Id: 575068-002 S — MSD Sample Id: 575068-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0100	0.500	0.295	59	0.299	60	70-130	1	35	mg/kg	01.31.18 18:58	X
Toluene	<0.0100	0.500	0.243	49	0.246	49	70-130	1	35	mg/kg	01.31.18 18:58	X
Ethylbenzene	0.0209	0.500	0.216	39	0.212	38	71-129	2	35	mg/kg	01.31.18 18:58	X
m,p-Xylenes	0.0319	1.00	0.389	36	0.383	35	70-135	2	35	mg/kg	01.31.18 18:58	X
o-Xylene	<0.0100	0.500	0.200	40	0.203	41	71-133	1	35	mg/kg	01.31.18 18:58	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		90		80-120	%	01.31.18 18:58
4-Bromofluorobenzene	102		97		80-120	%	01.31.18 18:58

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3039856 — Matrix: Soil — Date Prep: 02.01.18
Parent Sample Id: 574885-007 — MS Sample Id: 574885-007 S — MSD Sample Id: 574885-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0739	74	0.0754	75	70-130	2	35	mg/kg	02.01.18 05:05	
Toluene	<0.00201	0.100	0.0770	77	0.0781	77	70-130	1	35	mg/kg	02.01.18 05:05	
Ethylbenzene	<0.00201	0.100	0.0785	79	0.0799	79	71-129	2	35	mg/kg	02.01.18 05:05	
m,p-Xylenes	<0.00402	0.201	0.153	76	0.156	77	70-135	2	35	mg/kg	02.01.18 05:05	
o-Xylene	<0.00201	0.100	0.0777	78	0.0783	78	71-133	1	35	mg/kg	02.01.18 05:05	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		89		80-120	%	02.01.18 05:05
4-Bromofluorobenzene	108		93		80-120	%	02.01.18 05:05

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3039915 — Matrix: Soil — Date Prep: 02.01.18
Parent Sample Id: 574886-008 — MS Sample Id: 574886-008 S — MSD Sample Id: 574886-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0762	77	0.0792	80	70-130	4	35	mg/kg	02.01.18 17:23	
Toluene	<0.00198	0.0992	0.0785	79	0.0825	83	70-130	5	35	mg/kg	02.01.18 17:23	
Ethylbenzene	<0.00198	0.0992	0.0837	84	0.0879	88	71-129	5	35	mg/kg	02.01.18 17:23	
m,p-Xylenes	<0.00397	0.198	0.164	83	0.171	86	70-135	4	35	mg/kg	02.01.18 17:23	
o-Xylene	<0.00198	0.0992	0.0823	83	0.0853	86	71-133	4	35	mg/kg	02.01.18 17:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		92		80-120	%	02.01.18 17:23
4-Bromofluorobenzene	107		103		80-120	%	02.01.18 17:23

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

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

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

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

Final 1.000

QC Summary 574885

COG Operating LLC

Patton 5 Fee #002H

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3040007 Matrix: Soil Date Prep: 02.01.18

Parent Sample Id: 574954-006 MS Sample Id: 574954-006 S MSD Sample Id: 574954-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0515	52	0.0525	53	70-130	2	35	mg/kg	02.02.18 02:53	X
Toluene	<0.00199	0.0996	0.0517	52	0.0545	55	70-130	5	35	mg/kg	02.02.18 02:53	X
Ethylbenzene	<0.00199	0.0996	0.0512	51	0.0533	53	71-129	4	35	mg/kg	02.02.18 02:53	X
m,p-Xylenes	<0.00398	0.199	0.102	51	0.106	53	70-135	4	35	mg/kg	02.02.18 02:53	X
o-Xylene	<0.00199	0.0996	0.0533	54	0.0535	54	71-133	0	35	mg/kg	02.02.18 02:53	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		88		80-120	%	02.02.18 02:53
4-Bromofluorobenzene	105		101		80-120	%	02.02.18 02:53

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

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

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

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

CHAIN OF CUSTODY

Page 1 Of 2

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Client / Reporting Information

Company Name / Branch: COG Operating LLC
Company Address: 2407 Pecos Ave. Artesia NM 88210
Email: dneel2@concho.com; slhitchcock@concho.com; cgray@concho.com; rhaskell@concho.com
Phone No: 575-746-2010
Project Contact:
Samplers's Name: Christopher Gray

Project Information

Project Name/Number: Patton 5 Fee 2H
Project Location: Eddy County
Invoice To: COG Operating LLC, Attn: Robert Mcneill, 600 W. Illinois Ave., Midland TX, 79701
PO Number:

Analytical Information

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH Extended	BTEX	CHLORIDES	Field Comments
1	T-1	0	1/24/18		S	1								X	X	X	X	
2	T-1	1																
3	T-1	2																
4	T-1	3																
5	T-2	0																
6	T-2	1																
7	T-2	2																
8	T-3	0																
9	T-3	1																
10	T-3	2																

Temp: 2.9 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.7

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes: Stop running if below 600 Chlorides

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Christopher Gray	1/24/18 10:00A	Sid Butler 1-29-18 1:00 p	Sid Butler	1-29-18 3:00 p	Rhaskell Smith 01-30-18 10:50
2	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
4						
5						

CHAIN OF CUSTODY

Page 2 Of 2

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
www.xenco.com
Phoenix, Arizona (480-355-0900)

Xenco Quote #
Xenco Job # 574885

Client / Reporting Information

Company Name / Branch: COG Operating LLC
Company Address: 2407 Pecos Ave. Artesia NM 88210
Email: dneel2@concho.com; slhitchcock@concho.com; cgray@concho.com; rhaskell@concho.com
Phone No: 575-746-2010
Project Contact:
Samplers's Name: Christopher Gray

Project Information

Project Name/Number: Potion 5 Fee # 2H
Project Location: EDDY County
Invoice To: COG Operating LLC, Attn: Robert Mcneill, 600 W. Illinois Ave., Midland TX, 79701
PO Number:

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: TPH Extended	BTEX	CHLORIDES	Field Comments
1	C-3	3	1/24/18		S	1								X	X	X	X	
2	North	6"																
3	South	6"																
4	West	6"																
5																		
6																		
7																		
8																		
9																		
10																		

Temp: 2.9 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.7

Turnaround Time (Business days)

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

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

Data Deliverable Information

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- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

Stop running if below 600 Chlorides

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Christopher Gray	1/29/18 10:00a	Sid Butler 1-29-18 1:00 p	2 Sid Butler	1-29-18 3:00 p	2 Robert Mcneill 01.30.18 10:50
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice: X — Cooler Temp. — Thermo. Corr. Factor

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 01/29/2018 03:00:00 PM

Work Order #: 574885

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.7
#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)?	**No**
#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: Shawnee Smith Date: 01/30/2018
Shawnee Smith

Checklist reviewed by: Kelsey Brooks Date: 01/30/2018
Kelsey Brooks

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

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

CONDITIONS

Action 205965

CONDITIONS

Operator:	OGRID:
Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	328947
	Action Number: 205965
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	Composite confirmation samples representative of 600 square feet denied. OCD approved confirmation sample representative of no more than 400 square feet.	5/2/2023
bhall	Base and side wall samples will need to be analyzed for all the constituents of Table 1 in 19.15.29 NMAC.	5/2/2023
bhall	Submit a complete report though the OCD Permitting website by 8/2/2023.	5/2/2023
bhall	2RP-4572 closed. Refer to incident #NAB1801851398 in all futre communication.	5/2/2023