SITE INFORMATION

Report Type: Closure Report 1RP-5322

General Site Information:						
Site:	**Magnum Pronto State Com #4H**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit P**	**Sec. 32**	**T 19S**	**R 32E**		
Lease Number:	**API No. 30-025-39951**					
County:	**Lea County**					
GPS:	**32.61058**			**-103.78053**		
Surface Owner:	**Federal**					
Directions:	From the intersection of 243 and 126A head north on 126A for 3.34 miles, turn east onto unnamed lease rd and go 0.65 miles, turn south and go 0.36 miles, turn east and go 0.29 miles and arrive at location					

Release Data:	
Date Released:	12/21/2018
Type Release:	Produced Water
Source of Contamination:	Fire at heater
Fluid Released:	13 bbl water / 1 bbl oil
Fluids Recovered:	12 bbl water / 0.75 bbl oil

Official Communication:			
Name:	Ike Tavarez		Clair Gonzales
Company:	COG Operating, LLC		Tetra Tech
Address:	One Concho Center		901 West Wall Street
	600 W. Illinois Ave.		Suite 100
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 687-8110
Fax:	(432) 684-7137		
Email:	itavarez@concho.com		Clair.Gonzales@tetratech.com

Site Characterization	
Depth to Groundwater:	*Greater than 100' below surface*

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

TETRA TECH

March 20, 2019

Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico, 88240

Re: Closure Report for the COG Operating, LLC, Magnum Pronto State Com #4H, Unit P, Section 32, Township 19 South, Range 32 East, Lea County, New Mexico. 1RP-5322

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating, LLC (COG) to assess a release that occurred at the Magnum Pronto State Com #4H, Unit P, Section 32, Township 19 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are 32.61058°, -103.78053°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report the release was discovered on December 21, 2018 and released approximately 13 barrels of produced water and 1 barrel of oil due to a fire at a heater. A vacuum truck was dispatched to remove all freestanding fluids, recovering 12 barrels of produced water and 0.75 barrels of oil. The release occurred within the lined facility. The equipment and liner in the area was removed for replacement. The initial C-141 Forms are included in Appendix A.

Site Characterization

A site characterization was performed for the site and no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances and the site is in a low karst potential area. The nearest well is listed in the USGS National Water Information Database website in Section 31, approximately 2.35 miles northwest of the site, and has a reported depth to groundwater of 660' below ground surface. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in this area is 400' - 450' below surface. The groundwater data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and

Tetra Tech
4000 North Big Spring, Suite 401, Midland, TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the site characterization, the proposed RRAL for TPH is 1,000 mg/kg (GRO + DRO) 2,500 mg/kg (GRO + DRO + MRO). Additionally, based on the site characterization, the proposed RRAL for chlorides is 20,000 mg/kg.

Soil Assessment and Analytical Results

On January 29 and February 11, 2019, COG personnel were onsite to sample the release area. A total of four (4) auger holes (#1, #2, #3, and #4) were installed to total depths between 3.0'-3.5' and 5.0'-5.5' below surface. Soil samples were collected and submitted to the laboratory for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B, and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The sample locations are shown on Figure 3.

Referring to Table 1, the area of auger holes (#2 and #3) showed benzene, total BTEX, TPH, and chloride concentrations below the RRAL's. Additionally, the areas of auger holes (#1 and #4) showed benzene, total BTEX, and chloride concentrations below the RRAL's. However, auger holes (#1 and #4) did show TPH concentrations above the RRAL in the shallow soils which decreased with depth to below the RRAL at 3.0'-3.5' below surface.

Remediation Activities

Tetra Tech personnel were onsite from March 4th to the 6th, 2019 to supervise the remediation activities. The areas of auger holes (#1 and #4) were excavated to total depths between 3.0' to 4.0' below surface. Four (4) bottom hole composite confirmation samples and five (5) sidewall composite confirm samples were collected every 200 square feet to ensure proper removal of the impacted soils. The samples were submitted to the laboratory to be analyzed for TPH method 8015 extended, BTEX method 8021B, and Chloride by EPA Method 300.0. The sampling results are summarized in Table 2. The excavation depths and sample locations are shown in Figure 4.

Referring to Table 1, all collected confirmation samples collected showed benzene, total BTEX, TPH, and chloride concentrations below the RRAL's.

Approximately one hundred five (105) cubic yards of impacted soil was excavated and transported offsite for proper disposal. Once the excavation activities were completed, the areas were backfilled with clean material to surface grade, the new liner was installed and equipment at the facility has been replaced.

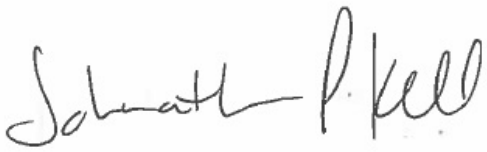
TETRA TECH

Conclusion

Based on the laboratory results and remediation activities performed COG requests closure of this spill issue. The final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment or remediation activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

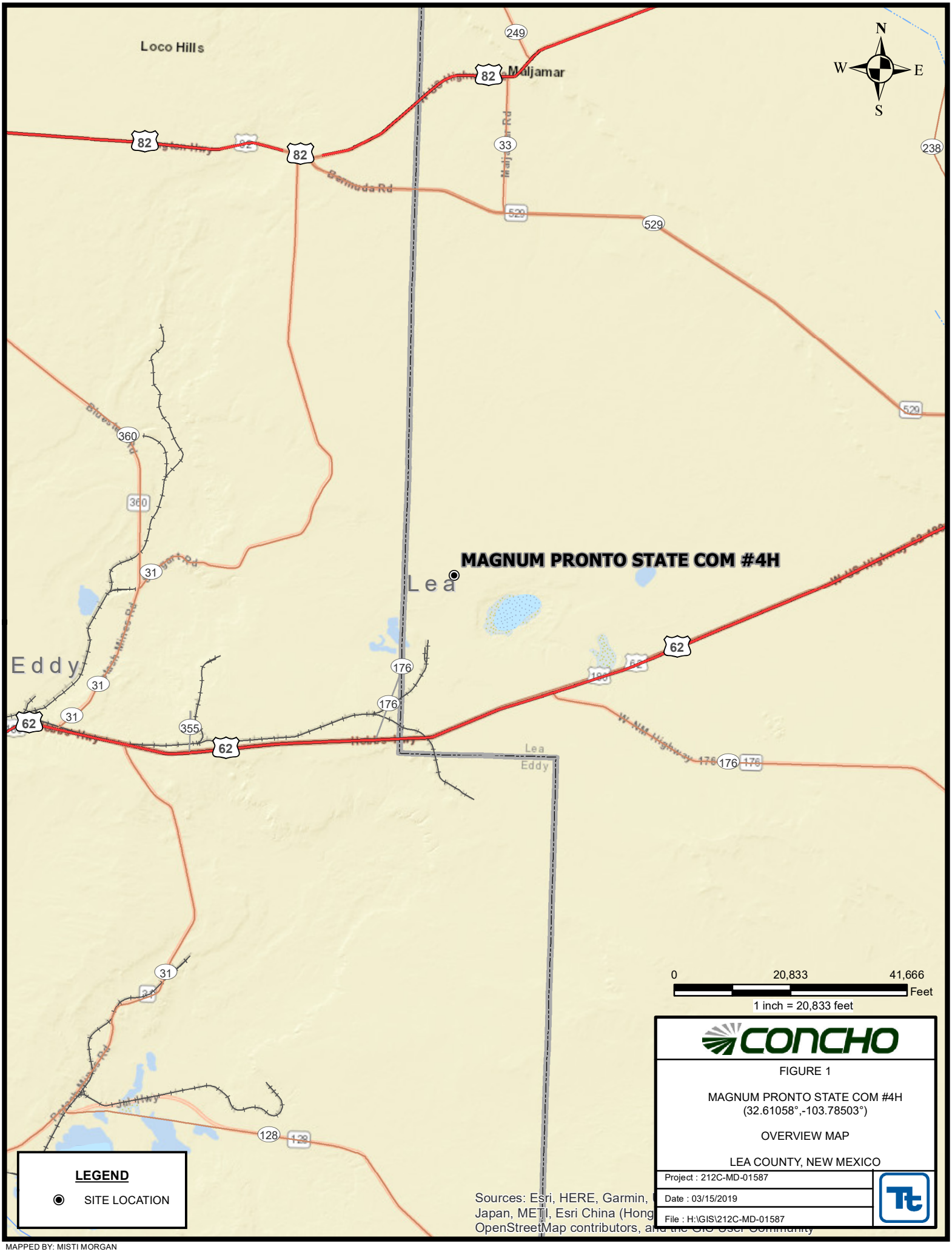
Clair Gonzales,
Project Manager



Johnathon Kell,
Geologist

cc: Ike Tavarez – COG
Dakota Neel - COG
Rebecca Haskell - COG
Sheldon Hitchcock - COG
DeAnn Grant - COG

Figures



CONCHO

FIGURE 1

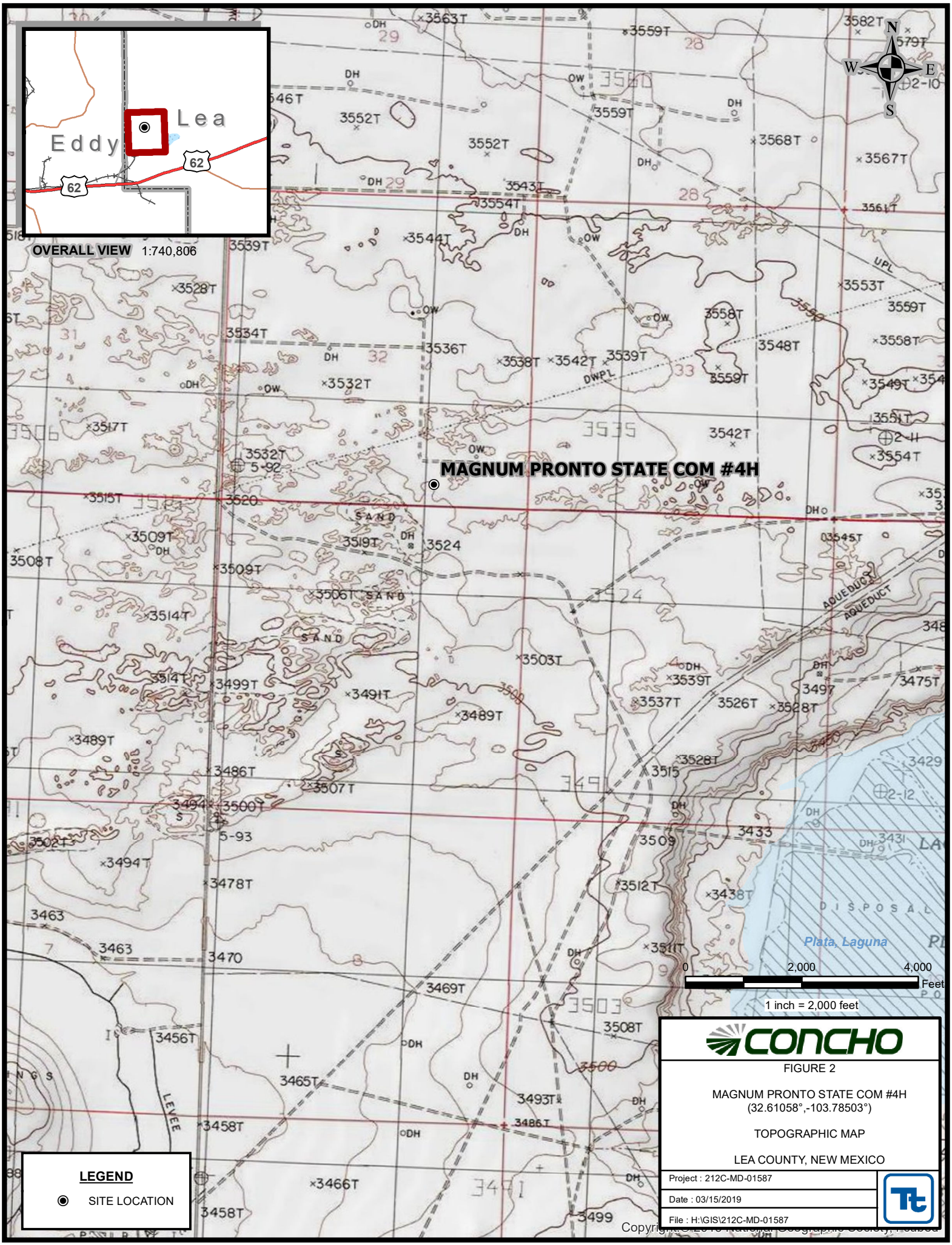
MAGNUM PRONTO STATE COM #4H
(32.61058°,-103.78503°)

OVERVIEW MAP

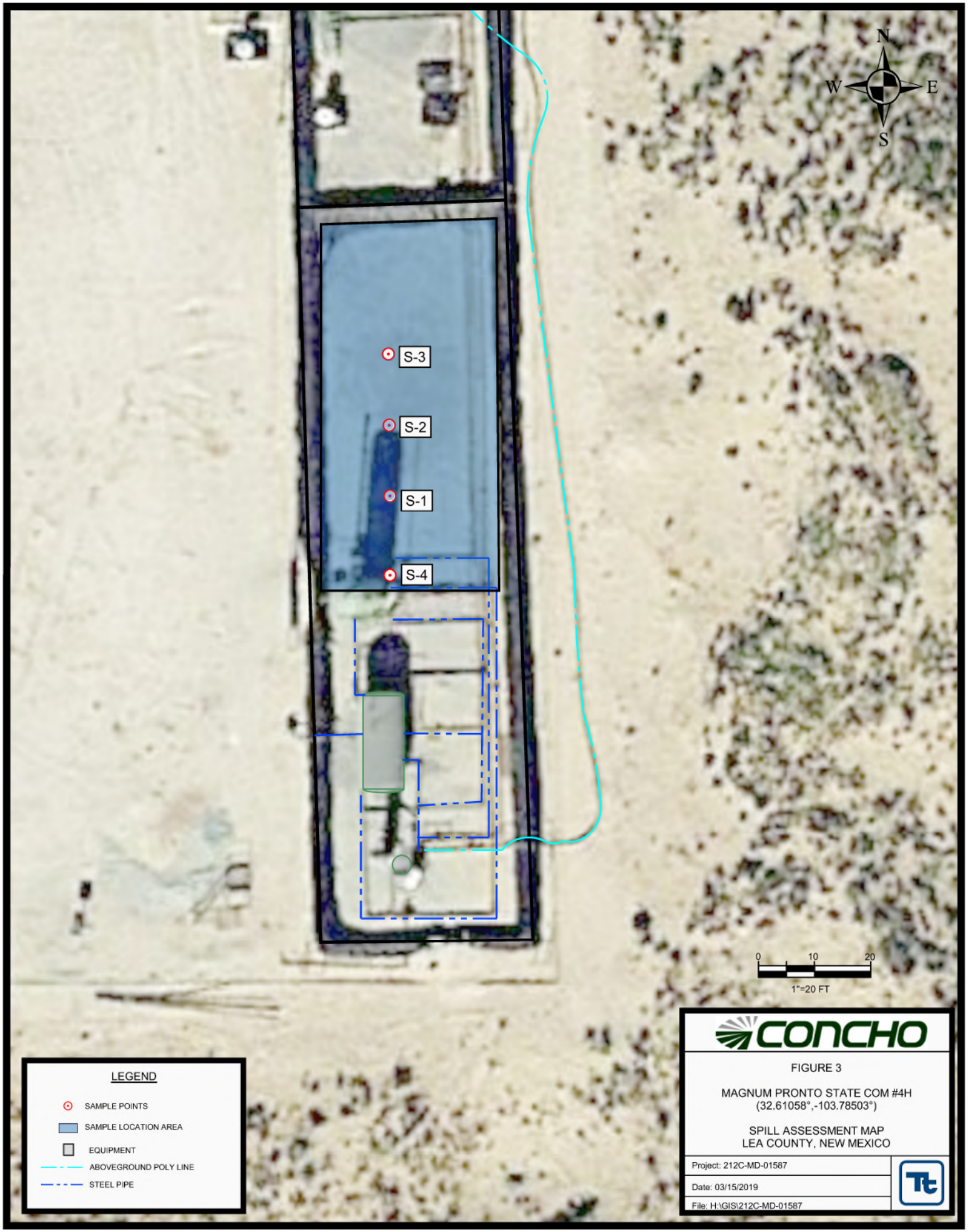
LEA COUNTY, NEW MEXICO

Project : 212C-MD-01587	
Date : 03/15/2019	
File : H:\GIS\212C-MD-01587	

MAPPED BY: MISTI MORGAN



MAPPED BY: MISTI MORGAN



CONCHO

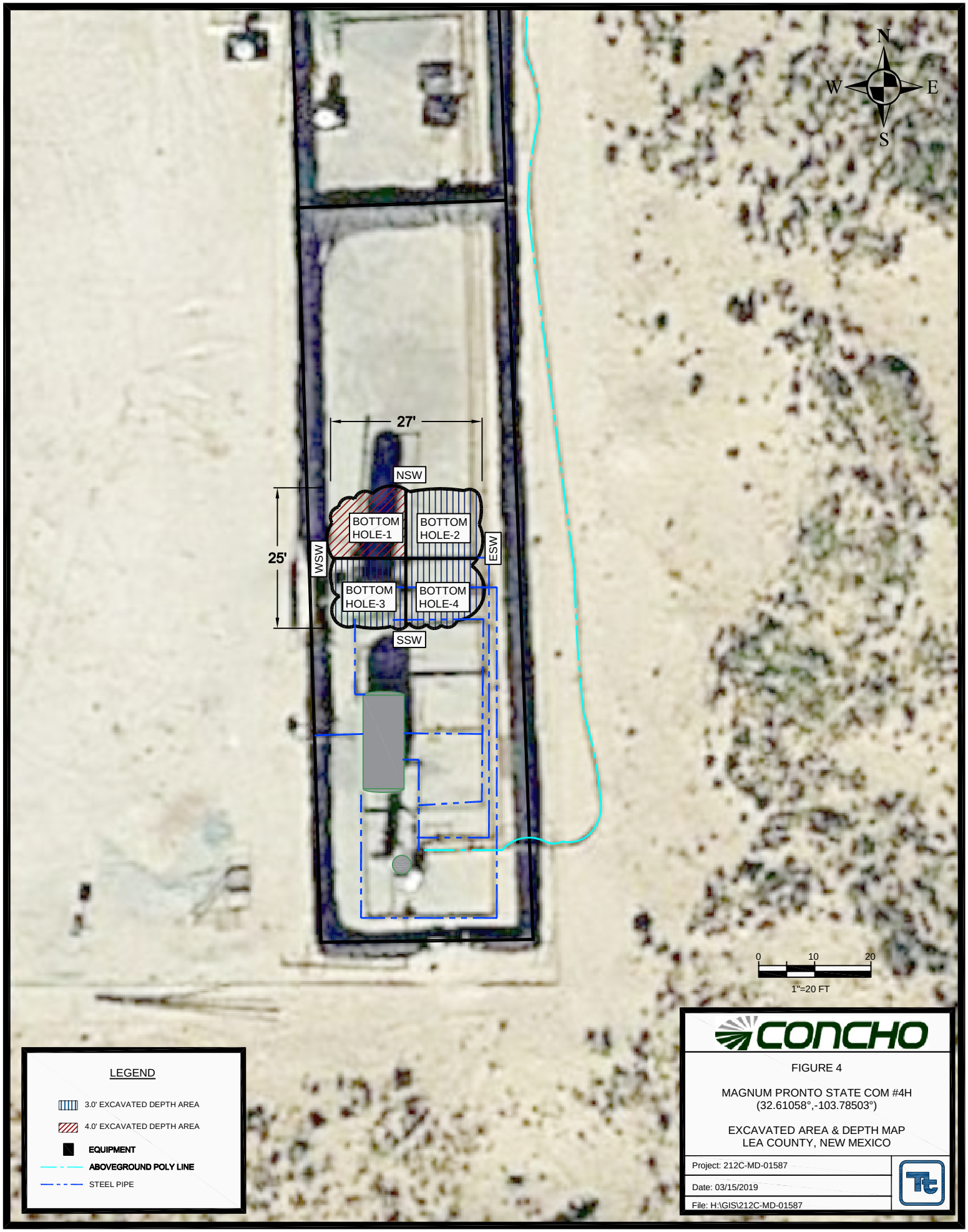
FIGURE 3

MAGNUM PRONTO STATE COM #4H
(32.61058°,-103.78503°)

SPILL ASSESSMENT MAP
LEA COUNTY, NEW MEXICO

Project: 212C-MD-01587	
Date: 03/15/2019	
File: H:\GIS\212C-MD-01587	

Drawn By: MISTI MORGAN


N
W
E
S
27'
25'
NSW
WSW
ESW
SSW
BOTTOM HOLE-1
BOTTOM HOLE-2
BOTTOM HOLE-3
BOTTOM HOLE-4
0
10
20
1"=20 FT
LEGEND
3.0' EXCAVATED DEPTH AREA
4.0' EXCAVATED DEPTH AREA
EQUIPMENT
ABOVEGROUND POLY LINE
STEEL PIPE
CONCHO
FIGURE 4
MAGNUM PRONTO STATE COM #4H
(32.61058°,-103.78503°)
EXCAVATED AREA & DEPTH MAP
LEA COUNTY, NEW MEXICO
Project: 212C-MD-01587
Date: 03/15/2019
File: H:\GIS\212C-MD-01587

Tables

Table 1
COG
Magnum Pronto State Com #4H
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	ORO	Total						
#1	1/29/2019	0-1	-		X	1,350	5,180	721	**7,250**	0.0126	5.36	0.0880	6.76	12.2	213
	"	1-1.5	-		X	767	4,710	690	**6,170**	0.00403	0.344	0.0624	0.524	0.934	26.8
	"	2-2.5	-		X	827	7,450	955	**9,230**	-	-	-	-	-	15.1
	"	3-3.5	-		X	<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	10.4
#2	1/29/2019	0-1	-	X		<15.0	30.9	<15.0	30.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	7,770
	"	1-1.5	-	X		19.9	<14.9	<14.9	19.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	3,440
	"	2-2.5	-	X		<14.9	<14.9	<14.9	<14.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	3,750
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	-	3,840
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	-	3,790
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	-	3,770
#3	1/29/2019	0-1	-	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	0.0252	0.0252	1,320
	"	1-1.5	-	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	260
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	-	49.1
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	-	<4.97
#4	1/29/2019	0-1	-		X	962	4,280	660	**5,900**	0.102	1.15	2.51	8.15	11.9	437
	"	1-1.5	-		X	431	4,090	646	**5,170**	<0.00201	0.116	0.0478	0.489	0.653	15.3
	"	2-2.5	-		X	118	2,970	420	**3,510**	-	-	-	-	-	<4.99
	"	3-3.5	-		X	70.6	2,240	364	**2,670**	-	-	-	-	-	42.9
#4	2/11/2019	3-3.5	-	X		<15.0	15.8	<15.0	15.8	-	-	-	-	-	-
	"	4-4.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	-
	"	5-5.5	-	X		<15.0	<15.0	<15.0	<15.0	-	-	-	-	-	-
	"	6-6.5	-	X		<15.0	126	23.6	150	-	-	-	-	-	-

Table 1
COG
Magnum Pronto State Com #4H
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	ORO	Total						
North Sidewall 1	3/5/2019	-	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	64.0
North Sidewall 2	3/5/2019	-	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	64.0
East Sidewall	3/5/2019	-	-	X		<10.0	53.0	<10.0	53.0	<0.050	<0.050	<0.050	<0.150	<0.300	272
South Sidewall	3/5/2019	-	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	64.0
West Sidewall	3/5/2019	-	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	80.0
Bottom Hole #1	3/5/2019	-	4.0	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	32.0
Bottom Hole #2	3/5/2019	-	3.0	X		<10.0	46.6	<10.0	46.6	<0.050	<0.050	<0.050	<0.150	<0.300	560
Bottom Hole #3	3/5/2019	-	3.0	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	32.0
Bottom Hole #4	3/5/2019	-	3.0	X		<10.0	99.2	<10.0	99.2	<0.050	<0.050	<0.050	<0.150	<0.300	48.0

(-) Not Analyzed

Excavation Depths

Photos

COG
Magnum Pronto State Com #4H
Eddy County, New Mexico

Area of Excavation – View East-southeast

Area of Excavation – View Southwest

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NCH1903537449
District RP	1RP-5322
Facility ID	
Application ID	pCH1903537615

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Robert McNeill	Contact Telephone	(432) 683-7443
Contact email	RMcNeill@concho.com	Incident # *(assigned by OCD)*	NCH1903537449 MAGNUM PRONTO STATE COM #004H @ 30-025-39951
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.61058 Longitude -103.78053

(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Magnum Pronto State Com #004H	Site Type	Tank Battery
Date Release Discovered	December 21, 2018	API# *(if applicable)*	30-025-39951

Unit Letter	Section	Township	Range	County
P	32	19S	32E	Lea

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 1	Volume Recovered (bbls) .75
☒ Produced Water	Volume Released (bbls) 13	Volume Recovered (bbls) 12
	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

The release was caused by a fire at the heater. The heater and all piping will be replaced.
The release occurred within the lined facility. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area evaluated for any possible impact from the release.

State of New Mexico
Oil Conservation Division

Incident ID	NCH1903537449
District RP	1RP-5322
Facility ID	
Application ID	pCH1903537615

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? The release involved a fire.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Immediate notice was given by DeAnn Grant via e-mail December 21, 2018 at 9:22 am to Christina Hernandez and Ryan Mann.

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: DeAnn Grant Title: HSE Administrative Assistant

Signature: DeAnn Grant Date: 12/21/2018

email: agrant@concho.com Telephone: (432) 253-4513

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5322
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?	> 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
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.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5322
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 Supervisor

Signature:  Date: 3/21/19

email: itavarez@concho.com Telephone: 432-685-2573

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5322
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: Ike Tavarez Title: Senior HSE Supervisor

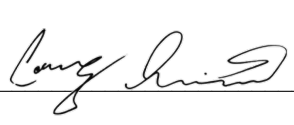
Signature:  Date: 3/21/19

email: itavarez@concho.com Telephone: 432-685-2573

OCD Only

Received by: OCD Date: 3/21/19

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: 3/26/19

Printed Name: Cory Smith Title: Environmental Spec

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Magnum Pronto State Com #4H

18 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 400
18	17	16	15 98	14 317	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35 261	36

18 South 32 East

6	5	4 65	3	2	1
7 460 82	8	9	10	11	12
18	17	16 84	15	14	13
19	20 164	21	22 429	23	24
30	29	28	27	26	25
31	32	33	34 117	35	36

18 South 33 East

Buckeye 6	5	4	3 60	2	1
7	8 100	9	10 62	11 46	12 143 140
18	17 85	16	15	14 36	13 60
19 >140	20	21	22	23	24 195
30 35	29	28	27	26	25
31	32	33 177	34	35	36

19 South 31 East

6	5 SITE	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19 180	20	21	22	23	24
30	29	28 180	27	26	25
31	32	33 101 140	34	35	36 130

19 South 32 East

6	5	4	3	2	1
7	8 365	9	10	11	12
18	17	16	15	14	13 135 dry
19 102	20 345	21	22	23	24
30	29	28	27	26	25
31 660	32	33	34 250	35	36

19 South 33 East

6	5	4	3	2	1
7	8	9	10	11	12
18 340	17 116	16	15	14	13
19	20	21	22	23	24
30	29	28 130 dry	27	26 92 85	25
31	32 185	33	34	35	36

20 South 31 East

6	5	4	3	2	1
7	8	9	10 130	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36 80

20 South 32 East

6	5	4	3	2	1 21.8
7	8	9	10	11	12
18 89	17	16	15	14	13
19	20	21	22	23	24
30 9.9	29	28	27 12.3	26	25
31	32	33	34	35	36 46

20 South 33 East

6	5 325 278	4	3	2	1
7	8	9	10	11	12
18 125	17	16	15	14	13
19	20	21	22	23	24 +300
30	29	28	27	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

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

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

34 NMOCD - Groundwater Data

121 Abandoned Waterwell (recently measured)

National Water Information System: Web Interface

Click to hideNews Bulletins

- Please see news on new formats
- Full News

Groundwater levels for New Mexico

Click for state-specific text

Search Results -- 1 sites found

site_no list =

- 323712103491001

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

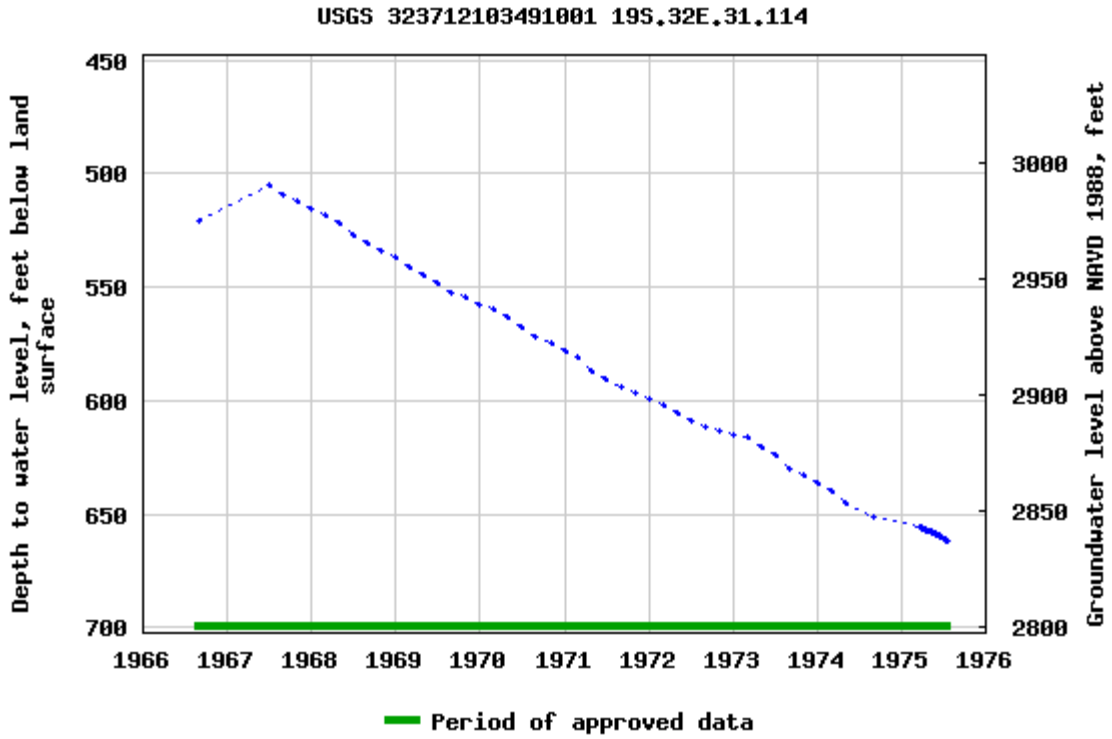
USGS 323712103491001 19S.32E.31.114

Available data for this site: Groundwater: Field measurements GO

Lea County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°37'12", Longitude 103°49'10" NAD27
Land-surface elevation 3,497 feet above NAVD88

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
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U.S. Department of the Interior | U.S. Geological Survey

Title: Groundwater for New Mexico: Water Levels
URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: New Mexico Water Data Maintainer
Page Last Modified: 2019-01-29 14:39:33 EST
1.41 1.27 nadww01

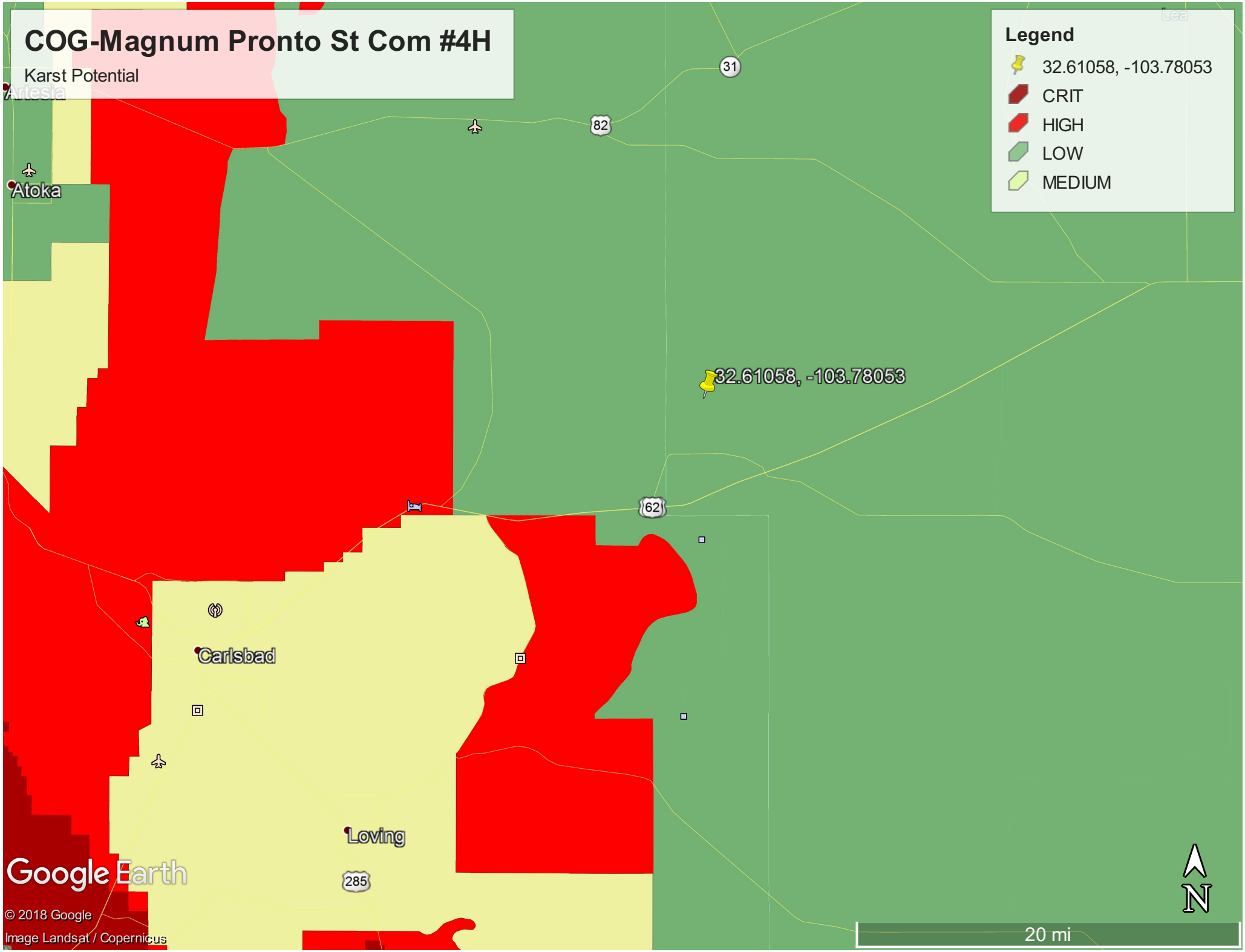
COG-Magnum Pronto St Com #4H
Karst Potential
Legend
32.61058, -103.78053
CRIT
HIGH
LOW
MEDIUM
Artesia
Atoka
Carlsbad
Loving
Lea
31
82
62
285
32.61058, -103.78053
Google Earth
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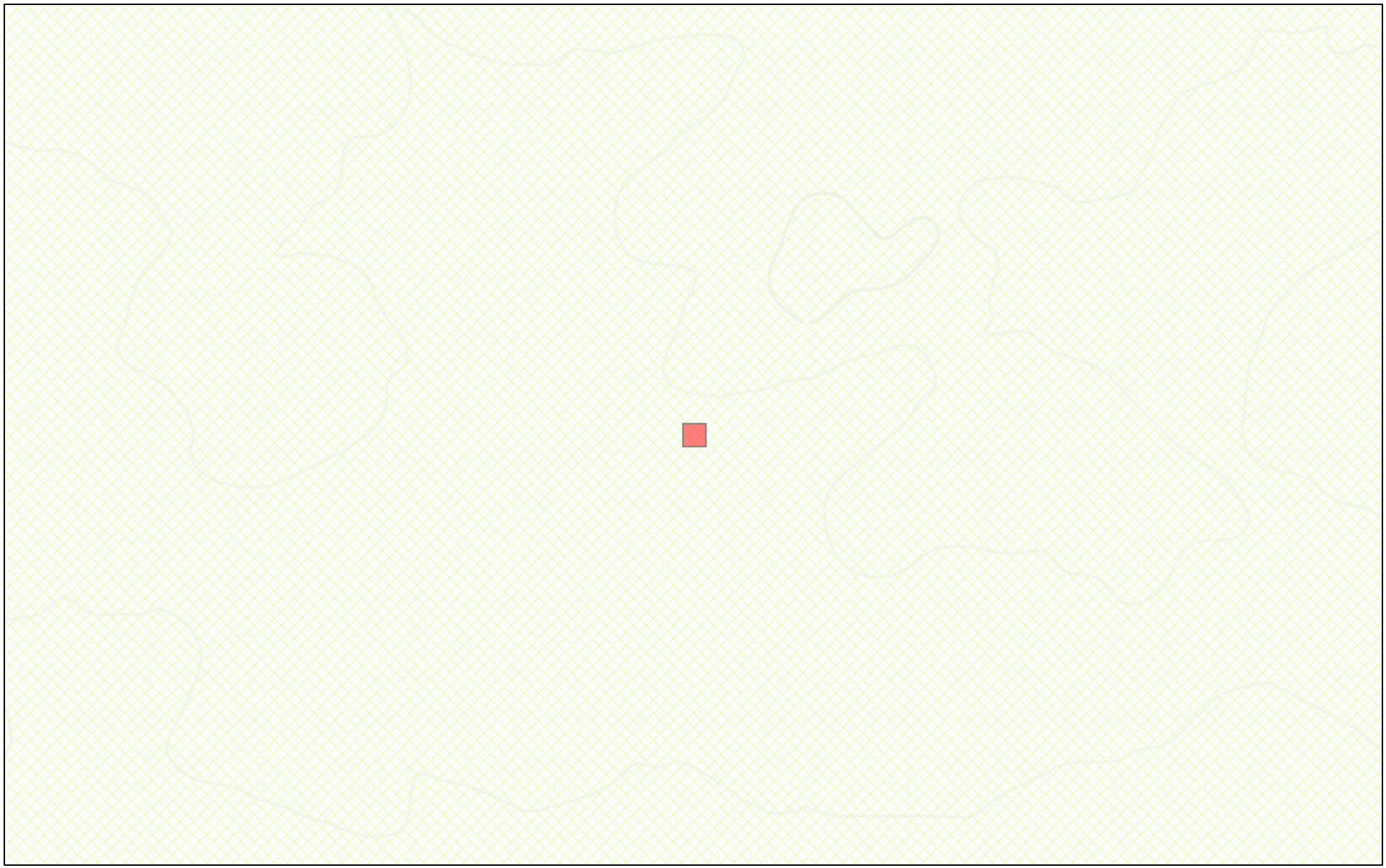
Image Landsat / Copernicus
N
20 mi

New Mexico NFHL Data



January 29, 2019

1:4,514

0 0.0375 0.075 0.15 mi

0 0.05 0.1 0.2 km

FEMA
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,

Appendix C

Certificate of Analysis Summary 613149

COG Operating LLC, Artesia, NM

Project Name: Magnum Pronto State Com #004H (12/21/18)

Project Id:
Contact: Ike Tavarez
Project Location: Lea Co, NM

Date Received in Lab: Fri Feb-01-19 08:05 am
Report Date: 04-FEB-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	613149-001		613149-002		613149-003		613149-004		613149-005		613149-006	
	Field Id:	#1 0-1		#1 1-1.5'		#1 2-2.5'		#1 3-3.5'		#2 0-1		#2 1-1.5'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-29-19 00:00		Jan-29-19 00:00		Jan-29-19 00:00		Jan-29-19 00:00		Jan-29-19 00:00		Jan-29-19 00:00	
BTEX by EPA 8021B	***Extracted:***	Feb-01-19 10:00		Feb-01-19 10:00						Feb-01-19 10:00		Feb-01-19 10:00	
	Analyzed:	Feb-01-19 20:13		Feb-01-19 17:24						Feb-01-19 16:08		Feb-01-19 15:49	
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL	mg/kg	RL
Benzene		0.0126	0.00200	0.00403	0.00201					<0.00199	0.00199	<0.00200	0.00200
Toluene		5.36 D	0.100	0.344	0.00201					<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		0.0880	0.00200	0.0624	0.00201					<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		1.43 D	0.200	0.125	0.00402					<0.00398	0.00398	<0.00400	0.00400
o-Xylene		5.33 D	0.100	0.399	0.00201					<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		6.76	0.100	0.524	0.00201					<0.00199	0.00199	<0.00200	0.00200
Total BTEX		12.2	0.00200	0.934	0.00201					<0.00199	0.00199	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	Feb-02-19 10:00		Feb-02-19 10:00		Feb-02-19 10:00		Feb-02-19 10:00		Feb-02-19 10:00		Feb-02-19 10:00	
	Analyzed:	Feb-02-19 11:27		Feb-02-19 11:45		Feb-02-19 11:52		Feb-02-19 11:58		Feb-02-19 12:04		Feb-02-19 12:25	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		213	5.03	26.8	4.98	15.1	4.97	10.4	5.00	7770	49.8	3440	24.9
TPH By SW8015 Mod	***Extracted:***	Feb-03-19 09:00		Feb-03-19 09:00						Feb-03-19 09:00		Feb-03-19 09:00	
	Analyzed:	Feb-03-19 14:39		Feb-03-19 14:59						Feb-03-19 15:20		Feb-03-19 15:40	
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons		1350	74.8	767	74.9					<15.0	15.0	19.9	14.9
Diesel Range Organics		5180	74.8	4710	74.9					30.9	15.0	<14.9	14.9
Motor Oil Range Hydrocarbons (MRO)		721	74.8	690	74.9					<15.0	15.0	<14.9	14.9
Total TPH		7250	74.8	6170	74.9					30.9	15.0	19.9	14.9

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 613149

COG Operating LLC, Artesia, NM

Project Name: Magnum Pronto State Com #004H (12/21/18)

Project Id:
Contact: Ike Tavarez
Project Location: Lea Co, NM

Date Received in Lab: Fri Feb-01-19 08:05 am
Report Date: 04-FEB-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	613149-007		613149-008		613149-009		613149-010		613149-011		613149-012	
	Field Id:	#2 2-2.5'		#2 3-3.5'		#2-4-4.5'		#2 5-5.5'		#3 0-1		#3 1-1.5'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-29-19 00:00		Jan-29-19 00:00		Jan-29-19 00:00		Jan-29-19 00:00		Jan-29-19 00:00		Jan-29-19 00:00	
BTEX by EPA 8021B	***Extracted:***	Feb-01-19 15:00								Feb-01-19 15:00		Feb-01-19 15:00	
	Analyzed:	Feb-02-19 01:46								Feb-02-19 02:08		Feb-02-19 02:29	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199							<0.00201	0.00201	<0.00199	0.00199
Toluene		<0.00199	0.00199							<0.00201	0.00201	<0.00199	0.00199
Ethylbenzene		0.00497	0.00199							<0.00201	0.00201	<0.00199	0.00199
m,p-Xylenes		0.00550	0.00398							<0.00402	0.00402	<0.00398	0.00398
o-Xylene		0.0860	0.00199							0.0252	0.00201	<0.00199	0.00199
Total Xylenes		0.0915	0.00199							0.0252	0.00201	<0.00199	0.00199
Total BTEX		0.0965	0.00199							0.0252	0.00201	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***	Feb-02-19 10:00		Feb-02-19 10:00		Feb-02-19 10:00		Feb-02-19 10:00		Feb-02-19 10:00		Feb-02-19 10:00	
	Analyzed:	Feb-02-19 12:32		Feb-02-19 12:38		Feb-02-19 12:44		Feb-02-19 12:50		Feb-02-19 13:15		Feb-02-19 12:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3750	25.0	3840	24.8	3790	25.0	3770	24.8	1320	4.96	260	4.99
TPH By SW8015 Mod	***Extracted:***	Feb-03-19 09:00								Feb-03-19 09:00		Feb-03-19 09:00	
	Analyzed:	Feb-03-19 16:00								Feb-03-19 17:00		Feb-03-19 17:20	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons		<14.9	14.9							<15.0	15.0	<15.0	15.0
Diesel Range Organics		<14.9	14.9							<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<14.9	14.9							<15.0	15.0	<15.0	15.0
Total TPH		<14.9	14.9							<15.0	15.0	<15.0	15.0

Certificate of Analysis Summary 613149

COG Operating LLC, Artesia, NM

Project Name: Magnum Pronto State Com #004H (12/21/18)

Project Id:
Contact: Ike Tavarez
Project Location: Lea Co, NM

Date Received in Lab: Fri Feb-01-19 08:05 am
Report Date: 04-FEB-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	613149-013		613149-014		613149-015		613149-016		613149-017		613149-018	
	Field Id:	#3 2-2.5		#3 3-3.5'		#4 0-1		#4 1-1.5'		#4 2-2.5'		#4 3-3.5'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-29-19 00:00		Jan-29-19 00:00		Jan-29-19 00:00		Jan-29-19 00:00		Jan-29-19 00:00		Jan-29-19 00:00	
BTEX by EPA 8021B	***Extracted:***					Feb-01-19 15:00		Feb-01-19 10:00					
	Analyzed:					Feb-04-19 15:53		Feb-01-19 19:54					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Benzene						0.102	0.100	<0.00201	0.00201				
Toluene						1.15	0.100	0.116	0.00201				
Ethylbenzene						2.54	0.100	0.0478	0.00201				
m,p-Xylenes						6.70	0.200	0.0880	0.00402				
o-Xylene						1.45	0.100	0.401	0.00201				
Total Xylenes						8.15	0.100	0.489	0.00201				
Total BTEX						11.9	0.100	0.653	0.00201				
Chloride by EPA 300	***Extracted:***	Feb-02-19 10:00		Feb-02-19 10:00		Feb-02-19 10:00		Feb-02-19 10:00		Feb-02-19 10:00		Feb-02-19 10:00	
	Analyzed:	Feb-02-19 13:21		Feb-02-19 13:43		Feb-02-19 13:49		Feb-02-19 13:55		Feb-02-19 14:01		Feb-02-19 14:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		49.1	4.95	<4.97	4.97	437	5.00	15.3	5.01	<4.99	4.99	42.9	4.96
TPH By SW8015 Mod	***Extracted:***					Feb-03-19 09:00		Feb-03-19 09:00					
	Analyzed:					Feb-03-19 17:40		Feb-03-19 18:00					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons						962	74.8	431	74.9				
Diesel Range Organics						4280	74.8	4090	74.9				
Motor Oil Range Hydrocarbons (MRO)						660	74.8	646	74.9				
Total TPH						5900	74.8	5170	74.9				

Jessica Kramer
Project Assistant

Analytical Report 613149

for

COG Operating LLC

Project Manager: Ike Tavarez

Magnum Pronto State Com #004H (12/21/18)

04-FEB-19

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

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

04-FEB-19

Project Manager: **Ike Tavarez**
COG Operating LLC
2407 Pecos Avenue
Artesia, NM 88210

Reference: XENCO Report No(s): **613149**
Magnum Pronto State Com #004H (12/21/18)
Project Address: Lea Co, NM

Ike Tavarez:

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) 613149. 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. 613149 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 613149

COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
#1 0-1	S	01-29-19 00:00		613149-001
#1 1-1.5'	S	01-29-19 00:00		613149-002
#1 2-2.5'	S	01-29-19 00:00		613149-003
#1 3-3.5'	S	01-29-19 00:00		613149-004
#2 0-1	S	01-29-19 00:00		613149-005
#2 1-1.5'	S	01-29-19 00:00		613149-006
#2 2-2.5'	S	01-29-19 00:00		613149-007
#2 3-3.5'	S	01-29-19 00:00		613149-008
#2-4-4.5'	S	01-29-19 00:00		613149-009
#2 5-5.5'	S	01-29-19 00:00		613149-010
#3 0-1	S	01-29-19 00:00		613149-011
#3 1-1.5'	S	01-29-19 00:00		613149-012
#3 2-2.5	S	01-29-19 00:00		613149-013
#3 3-3.5'	S	01-29-19 00:00		613149-014
#4 0-1	S	01-29-19 00:00		613149-015
#4 1-1.5'	S	01-29-19 00:00		613149-016
#4 2-2.5'	S	01-29-19 00:00		613149-017
#4 3-3.5'	S	01-29-19 00:00		613149-018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3077950 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 613149-001,613149-002,613149-016.

Batch: LBA-3077973 TPH By SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 613149-002,613149-016,613149-015.

Batch: LBA-3077978 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 613149-015.

Certificate of Analytical Results 613149

COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#1 0-1**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-001	Date Collected:	01.29.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**213**	5.03	mg/kg	02.02.19 11.27		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.03.19 09.00	Basis:	Wet Weight
Seq Number:	3077973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	**1350**	74.8	mg/kg	02.03.19 14.39		5
Diesel Range Organics	C10C28DRO	**5180**	74.8	mg/kg	02.03.19 14.39		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**721**	74.8	mg/kg	02.03.19 14.39		5
Total TPH	PHC635	**7250**	74.8	mg/kg	02.03.19 14.39		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	02.03.19 14.39	
o-Terphenyl	84-15-1	88	%	70-135	02.03.19 14.39	

Certificate of Analytical Results 613149

COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#1 0-1**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-001	Date Collected:	01.29.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.01.19 10.00	Basis:	Wet Weight
Seq Number:	3077950				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.0126**	0.00200	mg/kg	02.01.19 20.13		1
Toluene	108-88-3	**5.36**	0.100	mg/kg	02.04.19 12.31	D	50
Ethylbenzene	100-41-4	**0.0880**	0.00200	mg/kg	02.01.19 20.13		1
m,p-Xylenes	179601-23-1	**1.43**	0.200	mg/kg	02.04.19 12.31	D	50
o-Xylene	95-47-6	**5.33**	0.100	mg/kg	02.04.19 12.31	D	50
Total Xylenes	1330-20-7	**6.76**	0.100	mg/kg	02.04.19 12.31		50
Total BTEX		**12.2**	0.00200	mg/kg	02.04.19 12.31		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	747	%	70-130	02.01.19 20.13	**
1,4-Difluorobenzene	540-36-3	119	%	70-130	02.01.19 20.13	

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#1 1-1.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-002	Date Collected:	01.29.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.8**	4.98	mg/kg	02.02.19 11.45		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.03.19 09.00	Basis:	Wet Weight
Seq Number:	3077973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	**767**	74.9	mg/kg	02.03.19 14.59		5
Diesel Range Organics	C10C28DRO	**4710**	74.9	mg/kg	02.03.19 14.59		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**690**	74.9	mg/kg	02.03.19 14.59		5
Total TPH	PHC635	**6170**	74.9	mg/kg	02.03.19 14.59		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.03.19 14.59	
o-Terphenyl	84-15-1	178	%	70-135	02.03.19 14.59	**

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#1 1-1.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-002	Date Collected:	01.29.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.01.19 10.00	Basis:	Wet Weight
Seq Number:	3077950				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00403**	0.00201	mg/kg	02.01.19 17.24		1
Toluene	108-88-3	**0.344**	0.00201	mg/kg	02.01.19 17.24		1
Ethylbenzene	100-41-4	**0.0624**	0.00201	mg/kg	02.01.19 17.24		1
m,p-Xylenes	179601-23-1	**0.125**	0.00402	mg/kg	02.01.19 17.24		1
o-Xylene	95-47-6	**0.399**	0.00201	mg/kg	02.01.19 17.24		1
Total Xylenes	1330-20-7	**0.524**	0.00201	mg/kg	02.01.19 17.24		1
Total BTEX		**0.934**	0.00201	mg/kg	02.01.19 17.24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	430	%	70-130	02.01.19 17.24	**
1,4-Difluorobenzene	540-36-3	101	%	70-130	02.01.19 17.24	

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#1 2-2.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-003	Date Collected:	01.29.19 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15.1**	4.97	mg/kg	02.02.19 11.52		1

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#1 3-3.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-004	Date Collected:	01.29.19 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10.4**	5.00	mg/kg	02.02.19 11.58		1

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#2 0-1**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-005	Date Collected:	01.29.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7770**	49.8	mg/kg	02.02.19 12.04		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.03.19 09.00	Basis:	Wet Weight
Seq Number:	3077973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	02.03.19 15.20	U	1
Diesel Range Organics	C10C28DRO	**30.9**	15.0	mg/kg	02.03.19 15.20		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.03.19 15.20	U	1
Total TPH	PHC635	**30.9**	15.0	mg/kg	02.03.19 15.20		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.03.19 15.20	
o-Terphenyl	84-15-1	98	%	70-135	02.03.19 15.20	

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#2 0-1**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-005	Date Collected:	01.29.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.01.19 10.00	Basis:	Wet Weight
Seq Number:	3077950				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.01.19 16.08	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.01.19 16.08	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.01.19 16.08	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.01.19 16.08	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.01.19 16.08	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.01.19 16.08	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.01.19 16.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	02.01.19 16.08	
4-Bromofluorobenzene	460-00-4	116	%	70-130	02.01.19 16.08	

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#2 1-1.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-006	Date Collected:	01.29.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3440**	24.9	mg/kg	02.02.19 12.25		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.03.19 09.00	Basis:	Wet Weight
Seq Number:	3077973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	**19.9**	14.9	mg/kg	02.03.19 15.40		1
Diesel Range Organics	C10C28DRO	<14.9	14.9	mg/kg	02.03.19 15.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	02.03.19 15.40	U	1
Total TPH	PHC635	**19.9**	14.9	mg/kg	02.03.19 15.40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.03.19 15.40	
o-Terphenyl	84-15-1	96	%	70-135	02.03.19 15.40	

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#2 1-1.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-006	Date Collected:	01.29.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.01.19 10.00	Basis:	Wet Weight
Seq Number:	3077950				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.01.19 15.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.01.19 15.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.01.19 15.49	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.01.19 15.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.01.19 15.49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.01.19 15.49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.01.19 15.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	02.01.19 15.49	
1,4-Difluorobenzene	540-36-3	110	%	70-130	02.01.19 15.49	

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Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#2 2-2.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-007	Date Collected:	01.29.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3750**	25.0	mg/kg	02.02.19 12.32		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.03.19 09.00	Basis:	Wet Weight
Seq Number:	3077973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<14.9	14.9	mg/kg	02.03.19 16.00	U	1
Diesel Range Organics	C10C28DRO	<14.9	14.9	mg/kg	02.03.19 16.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	02.03.19 16.00	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.03.19 16.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	02.03.19 16.00	
o-Terphenyl	84-15-1	90	%	70-135	02.03.19 16.00	

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#2 2-2.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-007	Date Collected:	01.29.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.01.19 15.00	Basis:	Wet Weight
Seq Number:	3077978				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.02.19 01.46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.02.19 01.46	U	1
Ethylbenzene	100-41-4	**0.00497**	0.00199	mg/kg	02.02.19 01.46		1
m,p-Xylenes	179601-23-1	**0.00550**	0.00398	mg/kg	02.02.19 01.46		1
o-Xylene	95-47-6	**0.0860**	0.00199	mg/kg	02.02.19 01.46		1
Total Xylenes	1330-20-7	**0.0915**	0.00199	mg/kg	02.02.19 01.46		1
Total BTEX		**0.0965**	0.00199	mg/kg	02.02.19 01.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	70-130	02.02.19 01.46	
4-Bromofluorobenzene	460-00-4	118	%	70-130	02.02.19 01.46	

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Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#2 3-3.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-008	Date Collected:	01.29.19 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3840**	24.8	mg/kg	02.02.19 12.38		5

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#2-4-4.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-009	Date Collected:	01.29.19 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3790**	25.0	mg/kg	02.02.19 12.44		5

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#2 5-5.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-010	Date Collected:	01.29.19 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3770**	24.8	mg/kg	02.02.19 12.50		5

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#3 0-1**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-011	Date Collected:	01.29.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1320**	4.96	mg/kg	02.02.19 13.15		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.03.19 09.00	Basis:	Wet Weight
Seq Number:	3077973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	02.03.19 17.00	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	02.03.19 17.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.03.19 17.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.03.19 17.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.03.19 17.00	
o-Terphenyl	84-15-1	97	%	70-135	02.03.19 17.00	

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#3 0-1**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-011	Date Collected:	01.29.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.01.19 15.00	Basis:	Wet Weight
Seq Number:	3077978				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.02.19 02.08	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.02.19 02.08	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.02.19 02.08	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.02.19 02.08	U	1
o-Xylene	95-47-6	**0.0252**	0.00201	mg/kg	02.02.19 02.08		1
Total Xylenes	1330-20-7	**0.0252**	0.00201	mg/kg	02.02.19 02.08		1
Total BTEX		**0.0252**	0.00201	mg/kg	02.02.19 02.08		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	79	%	70-130	02.02.19 02.08	
1,4-Difluorobenzene	540-36-3	108	%	70-130	02.02.19 02.08	

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COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#3 1-1.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-012	Date Collected:	01.29.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**260**	4.99	mg/kg	02.02.19 12.56		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.03.19 09.00	Basis:	Wet Weight
Seq Number:	3077973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	02.03.19 17.20	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	02.03.19 17.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.03.19 17.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.03.19 17.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.03.19 17.20	
o-Terphenyl	84-15-1	95	%	70-135	02.03.19 17.20	

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Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#3 1-1.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-012	Date Collected:	01.29.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.01.19 15.00	Basis:	Wet Weight
Seq Number:	3077978				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.02.19 02.29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.02.19 02.29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.02.19 02.29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.02.19 02.29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.02.19 02.29	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.02.19 02.29	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.02.19 02.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	78	%	70-130	02.02.19 02.29	
1,4-Difluorobenzene	540-36-3	87	%	70-130	02.02.19 02.29	

Certificate of Analytical Results 613149

COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#3 2-2.5**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-013	Date Collected:	01.29.19 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**49.1**	4.95	mg/kg	02.02.19 13.21		1

Certificate of Analytical Results 613149

COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#3 3-3.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-014	Date Collected:	01.29.19 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	02.02.19 13.43	U	1

Certificate of Analytical Results 613149

COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#4 0-1**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-015	Date Collected:	01.29.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**437**	5.00	mg/kg	02.02.19 13.49		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.03.19 09.00	Basis:	Wet Weight
Seq Number:	3077973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	**962**	74.8	mg/kg	02.03.19 17.40		5
Diesel Range Organics	C10C28DRO	**4280**	74.8	mg/kg	02.03.19 17.40		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**660**	74.8	mg/kg	02.03.19 17.40		5
Total TPH	PHC635	**5900**	74.8	mg/kg	02.03.19 17.40		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	02.03.19 17.40	
o-Terphenyl	84-15-1	173	%	70-135	02.03.19 17.40	**

Certificate of Analytical Results 613149

COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#4 0-1**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-015	Date Collected:	01.29.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.01.19 15.00	Basis:	Wet Weight
Seq Number:	3077978				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.102**	0.100	mg/kg	02.04.19 15.53		50
Toluene	108-88-3	**1.15**	0.100	mg/kg	02.04.19 15.53		50
Ethylbenzene	100-41-4	**2.54**	0.100	mg/kg	02.04.19 15.53		50
m,p-Xylenes	179601-23-1	**6.70**	0.200	mg/kg	02.04.19 15.53		50
o-Xylene	95-47-6	**1.45**	0.100	mg/kg	02.04.19 15.53		50
Total Xylenes	1330-20-7	**8.15**	0.100	mg/kg	02.04.19 15.53		50
Total BTEX		**11.9**	0.100	mg/kg	02.04.19 15.53		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	145	%	70-130	02.04.19 15.53	**
1,4-Difluorobenzene	540-36-3	71	%	70-130	02.04.19 15.53	

Certificate of Analytical Results 613149

COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#4 1-1.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-016	Date Collected:	01.29.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15.3**	5.01	mg/kg	02.02.19 13.55		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.03.19 09.00	Basis:	Wet Weight
Seq Number:	3077973				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	**431**	74.9	mg/kg	02.03.19 18.00		5
Diesel Range Organics	C10C28DRO	**4090**	74.9	mg/kg	02.03.19 18.00		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**646**	74.9	mg/kg	02.03.19 18.00		5
Total TPH	PHC635	**5170**	74.9	mg/kg	02.03.19 18.00		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	02.03.19 18.00	
o-Terphenyl	84-15-1	165	%	70-135	02.03.19 18.00	**

Certificate of Analytical Results 613149

COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#4 1-1.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-016	Date Collected:	01.29.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.01.19 10.00	Basis:	Wet Weight
Seq Number:	3077950				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.01.19 19.54	U	1
Toluene	108-88-3	**0.116**	0.00201	mg/kg	02.01.19 19.54		1
Ethylbenzene	100-41-4	**0.0478**	0.00201	mg/kg	02.01.19 19.54		1
m,p-Xylenes	179601-23-1	**0.0880**	0.00402	mg/kg	02.01.19 19.54		1
o-Xylene	95-47-6	**0.401**	0.00201	mg/kg	02.01.19 19.54		1
Total Xylenes	1330-20-7	**0.489**	0.00201	mg/kg	02.01.19 19.54		1
Total BTEX		**0.653**	0.00201	mg/kg	02.01.19 19.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	02.01.19 19.54	
4-Bromofluorobenzene	460-00-4	333	%	70-130	02.01.19 19.54	**

Certificate of Analytical Results 613149

COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#4 2-2.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-017	Date Collected:	01.29.19 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	02.02.19 14.01	U	1

Certificate of Analytical Results 613149

COG Operating LLC, Artesia, NM

Magnum Pronto State Com #004H (12/21/18)

Sample Id:	**#4 3-3.5'**	Matrix:	Soil	Date Received:	02.01.19 08.05
Lab Sample Id:	613149-018	Date Collected:	01.29.19 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.02.19 10.00	Basis:	Wet Weight
Seq Number:	3077863				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**42.9**	4.96	mg/kg	02.02.19 14.07		1

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 613149

COG Operating LLC

Magnum Pronto State Com #004H (12/21/18)

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3077863 Matrix: Solid Date Prep: 02.02.19
MB Sample Id: 7670926-1-BLK LCS Sample Id: 7670926-1-BKS LCSD Sample Id: 7670926-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	227	91	235	94	90-110	3	20	mg/kg	02.02.19 11:14	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3077863 Matrix: Soil Date Prep: 02.02.19
Parent Sample Id: 613149-001 MS Sample Id: 613149-001 S MSD Sample Id: 613149-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	213	252	476	104	463	99	90-110	3	20	mg/kg	02.02.19 11:33	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3077863 Matrix: Soil Date Prep: 02.02.19
Parent Sample Id: 613149-012 MS Sample Id: 613149-012 S MSD Sample Id: 613149-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	260	250	519	104	503	97	90-110	3	20	mg/kg	02.02.19 13:03	

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3077973 Matrix: Solid Date Prep: 02.03.19
MB Sample Id: 7671017-1-BLK LCS Sample Id: 7671017-1-BKS LCSD Sample Id: 7671017-1-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	<8.00	1000	847	85	843	84	70-135	0	20	mg/kg	02.03.19 11:38	
Diesel Range Organics	<8.13	1000	934	93	931	93	70-135	0	20	mg/kg	02.03.19 11:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		121		121		70-135	%	02.03.19 11:38
o-Terphenyl	109		117		117		70-135	%	02.03.19 11:38

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

QC Summary 613149

COG Operating LLC

Magnum Pronto State Com #004H (12/21/18)

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3077973 Matrix: Soil Date Prep: 02.03.19
Parent Sample Id: 613218-001 MS Sample Id: 613218-001 S MSD Sample Id: 613218-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<7.99	999	798	80	817	82	70-135	2	20	mg/kg	02.03.19 12:38	
Diesel Range Organics	103	999	893	79	914	81	70-135	2	20	mg/kg	02.03.19 12:38	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		123		70-135	%	02.03.19 12:38
o-Terphenyl	103		103		70-135	%	02.03.19 12:38

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3077950 Matrix: Solid Date Prep: 02.01.19
MB Sample Id: 7670961-1-BLK LCS Sample Id: 7670961-1-BKS LCSD Sample Id: 7670961-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000387	0.101	0.118	117	0.113	113	70-130	4	35	mg/kg	02.01.19 13:42	
Toluene	<0.000458	0.101	0.104	103	0.0998	100	70-130	4	35	mg/kg	02.01.19 13:42	
Ethylbenzene	<0.000568	0.101	0.0985	98	0.0948	95	70-130	4	35	mg/kg	02.01.19 13:42	
m,p-Xylenes	<0.00102	0.201	0.196	98	0.189	95	70-130	4	35	mg/kg	02.01.19 13:42	
o-Xylene	<0.000346	0.101	0.0974	96	0.0945	95	70-130	3	35	mg/kg	02.01.19 13:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		106		106		70-130	%	02.01.19 13:42
4-Bromofluorobenzene	96		104		104		70-130	%	02.01.19 13:42

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3077978 Matrix: Solid Date Prep: 02.01.19
MB Sample Id: 7670964-1-BLK LCS Sample Id: 7670964-1-BKS LCSD Sample Id: 7670964-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0888	89	0.0920	91	70-130	4	35	mg/kg	02.01.19 16:53	
Toluene	<0.00200	0.0998	0.0800	80	0.0794	79	70-130	1	35	mg/kg	02.01.19 16:53	
Ethylbenzene	<0.00200	0.0998	0.0875	88	0.0888	88	70-130	1	35	mg/kg	02.01.19 16:53	
m,p-Xylenes	<0.00399	0.200	0.172	86	0.178	89	70-130	3	35	mg/kg	02.01.19 16:53	
o-Xylene	<0.00200	0.0998	0.0795	80	0.0817	81	70-130	3	35	mg/kg	02.01.19 16:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		113		114		70-130	%	02.01.19 16:53
4-Bromofluorobenzene	89		96		98		70-130	%	02.01.19 16:53

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

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

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

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

QC Summary 613149

COG Operating LLC

Magnum Pronto State Com #004H (12/21/18)

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3077950 Matrix: Soil Date Prep: 02.01.19
Parent Sample Id: 613152-002 MS Sample Id: 613152-002 S MSD Sample Id: 613152-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0970	98	0.102	101	70-130	5	35	mg/kg	02.01.19 14:20	
Toluene	<0.000453	0.0994	0.0814	82	0.0861	85	70-130	6	35	mg/kg	02.01.19 14:20	
Ethylbenzene	<0.000561	0.0994	0.0694	70	0.0721	71	70-130	4	35	mg/kg	02.01.19 14:20	
m,p-Xylenes	<0.00101	0.199	0.139	70	0.143	71	70-130	3	35	mg/kg	02.01.19 14:20	
o-Xylene	<0.000342	0.0994	0.0685	69	0.0716	71	70-130	4	35	mg/kg	02.01.19 14:20	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		108		70-130	%	02.01.19 14:20
4-Bromofluorobenzene	105		107		70-130	%	02.01.19 14:20

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3077978 Matrix: Soil Date Prep: 02.01.19
Parent Sample Id: 613218-001 MS Sample Id: 613218-001 S MSD Sample Id: 613218-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0744	74	0.0693	69	70-130	7	35	mg/kg	02.01.19 17:37	X
Toluene	<0.00202	0.101	0.0556	55	0.0538	54	70-130	3	35	mg/kg	02.01.19 17:37	X
Ethylbenzene	<0.00202	0.101	0.0624	62	0.0621	62	70-130	0	35	mg/kg	02.01.19 17:37	X
m,p-Xylenes	0.00271	0.202	0.126	61	0.120	58	70-130	5	35	mg/kg	02.01.19 17:37	X
o-Xylene	<0.00202	0.101	0.0566	56	0.0568	57	70-130	0	35	mg/kg	02.01.19 17:37	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	121		115		70-130	%	02.01.19 17:37
4-Bromofluorobenzene	119		90		70-130	%	02.01.19 17:37

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

Analysis Request of Chain of Custody Record

613149

Page 1 of 2

CONCHO

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

Client Name: COG	**Site Manager:** Ike Tavarez
Project Name: Magnum Pronto State 4H (12-21-18)	
Project Location: (county, state) Lea co NM.	**Project #:**
Invoice to: COG - Ike Tavarez	
Receiving Laboratory: Xenco	**Sampler Signature:** Ike Tavarez
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	FILTERED (Y/N)
	#1 0-1	1-25-19			✓			✓	1	
	#1 1-1.5'				✓			✓	1	
	#1 2-2.5'				✓			✓	1	
	#1 3-3.5'				✓			✓	1	
	#2 0.1				✓			✓	1	
	#2 1-1.5'				✓			✓	1	
	#2 2-2.5'				✓			✓	1	
	#2 3-3.5'				✓			✓	1	
	#2 4-4.5'				✓			✓	1	
	#2 5-5.5'				✓			✓	1	

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B	BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Sulfate	TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	Hold
X		X	X												X					
X		X	X												X					
															X					
															X					
															X					
X		X	X												X					
X		X	X												X					
X		X	X												X					
															X					
															X					

Page 30 of 41

Final 1.000

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	2-4-19			2-7-19	0805
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

0.3 C°

-0.1 IR

REMARKS:

☑ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

613149

CONCHO

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

Client Name: COG

Site Manager: Ike Tavarez

Project Name: Magnum Pronto STATE 4H (12-21-18)

Project Location: (county, state) Lea Co. NM.

Project #:

Invoice to: COG - Ike Tavarez

Receiving Laboratory: Xenco

Sampler Signature: Ike Tavarez

Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	DATE	TIME	WATER	SOIL	HCL	HNO_3	ICE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B (circled)	TPH 8015M (GRO - DRO - MRO) (circled)	Chloride (circled)
	#3 0-1	1-29-19			✓			✓			X	X	X
	#3 1-1.5'	↓			✓			✓			X	X	X
	#3 2-2.5'	↓			✓			✓					X
	#3 3-3.5'	↓			✓			✓					X
	#4 0-1	↓			✓			✓			X	X	X
	#4 1-1.5'	↓			✓			✓			X	X	X
	#4 2-2.5'	↓			✓			✓					X
	#4 3-3.5'	↓			✓			✓					X

ANALYSIS REQUEST (Circle or Specify Method No.)

- BTEX 8021B   BTEX 8260B
- TPH TX1005 (Ext to C35)
- TPH 8015M (GRO - DRO - MRO)
- PAH 8270C
- Total Metals Ag As Ba Cd Cr Pb Se Hg
- TCLP Metals Ag As Ba Cd Cr Pb Se Hg
- TCLP Volatiles
- TCLP Semi Volatiles
- RCI
- GC/MS Vol. 8260B / 624
- GC/MS Semi. Vol. 8270C/625
- PCB's 8082 / 608
- NORM
- PLM (Asbestos)
- Chloride
- Chloride   Sulfate   TDS
- General Water Chemistry (see attached list)
- Anion/Cation Balance
- Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	2-1-19		[signature]	2-1-19	0805

LAB USE ONLY

Sample Temperature: 0.3/0.2 -0.1 / 0.8

REMARKS:

- [x] RUSH: Same Day (24) hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: ____________

ORIGINAL COPY

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 02/01/2019 08:05:00 AM

Work Order #: 613149

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**Yes**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 02/01/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 02/01/2019

Jessica Kramer

CARDINAL Laboratories

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

March 06, 2019

CLAIR GONZALES

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: MAGNUM PRONTO

Enclosed are the results of analyses for samples received by the laboratory on 03/05/19 14:51.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	03/05/2019	Sampling Date:	03/05/2019
Reported:	03/06/2019	Sampling Type:	Soil
Project Name:	MAGNUM PRONTO	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 01587 (12/21/18)	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO., NM		

Sample ID: NORTH 1 SIDEWALL (H900896-01)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/06/2019	ND	1.80	89.8	2.00	1.93	
Toluene*	<0.050	0.050	03/06/2019	ND	1.68	83.8	2.00	2.80	
Ethylbenzene*	<0.050	0.050	03/06/2019	ND	1.72	86.2	2.00	2.14	
Total Xylenes*	<0.150	0.150	03/06/2019	ND	5.37	89.4	6.00	1.93	
Total BTEX	<0.300	0.300	03/06/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.5 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	03/06/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2019	ND	214	107	200	0.225	
DRO >C10-C28*	<10.0	10.0	03/05/2019	ND	227	113	200	0.0556	
EXT DRO >C28-C36	<10.0	10.0	03/05/2019	ND					

Surrogate: 1-Chlorooctane *96.8 %* *41-142*

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	03/05/2019	Sampling Date:	03/05/2019
Reported:	03/06/2019	Sampling Type:	Soil
Project Name:	MAGNUM PRONTO	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 01587 (12/21/18)	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO., NM		

Sample ID: EAST SIDEWALL (H900896-02)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/06/2019	ND	1.80	89.8	2.00	1.93	
Toluene*	<0.050	0.050	03/06/2019	ND	1.68	83.8	2.00	2.80	
Ethylbenzene*	<0.050	0.050	03/06/2019	ND	1.72	86.2	2.00	2.14	
Total Xylenes*	<0.150	0.150	03/06/2019	ND	5.37	89.4	6.00	1.93	
Total BTEX	<0.300	0.300	03/06/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.9 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**272**	16.0	03/06/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2019	ND	214	107	200	0.225	
DRO >C10-C28*	**53.0**	10.0	03/05/2019	ND	227	113	200	0.0556	
EXT DRO >C28-C36	<10.0	10.0	03/05/2019	ND					

Surrogate: 1-Chlorooctane *101 %* *41-142*

Surrogate: 1-Chlorooctadecane *110 %* *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:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	03/05/2019	Sampling Date:	03/05/2019
Reported:	03/06/2019	Sampling Type:	Soil
Project Name:	MAGNUM PRONTO	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 01587 (12/21/18)	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO., NM		

Sample ID: SOUTH SIDEWALL (H900896-03)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/06/2019	ND	1.80	89.8	2.00	1.93	
Toluene*	<0.050	0.050	03/06/2019	ND	1.68	83.8	2.00	2.80	
Ethylbenzene*	<0.050	0.050	03/06/2019	ND	1.72	86.2	2.00	2.14	
Total Xylenes*	<0.150	0.150	03/06/2019	ND	5.37	89.4	6.00	1.93	
Total BTEX	<0.300	0.300	03/06/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.5 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	03/06/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2019	ND	214	107	200	0.225	
DRO >C10-C28*	<10.0	10.0	03/05/2019	ND	227	113	200	0.0556	
EXT DRO >C28-C36	<10.0	10.0	03/05/2019	ND					

Surrogate: 1-Chlorooctane *95.2 %* *41-142*

Surrogate: 1-Chlorooctadecane *99.5 %* *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:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	03/05/2019	Sampling Date:	03/05/2019
Reported:	03/06/2019	Sampling Type:	Soil
Project Name:	MAGNUM PRONTO	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 01587 (12/21/18)	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO., NM		

Sample ID: WEST SIDEWALL (H900896-04)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/06/2019	ND	1.80	89.8	2.00	1.93	
Toluene*	<0.050	0.050	03/06/2019	ND	1.68	83.8	2.00	2.80	
Ethylbenzene*	<0.050	0.050	03/06/2019	ND	1.72	86.2	2.00	2.14	
Total Xylenes*	<0.150	0.150	03/06/2019	ND	5.37	89.4	6.00	1.93	
Total BTEX	<0.300	0.300	03/06/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.3 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	03/06/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2019	ND	214	107	200	0.225	
DRO >C10-C28*	<10.0	10.0	03/05/2019	ND	227	113	200	0.0556	
EXT DRO >C28-C36	<10.0	10.0	03/05/2019	ND					

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

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	03/05/2019	Sampling Date:	03/05/2019
Reported:	03/06/2019	Sampling Type:	Soil
Project Name:	MAGNUM PRONTO	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 01587 (12/21/18)	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO., NM		

Sample ID: BOTTOM HOLE #1 (4' BEB) (H900896-05)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/06/2019	ND	1.80	89.8	2.00	1.93	
Toluene*	<0.050	0.050	03/06/2019	ND	1.68	83.8	2.00	2.80	
Ethylbenzene*	<0.050	0.050	03/06/2019	ND	1.72	86.2	2.00	2.14	
Total Xylenes*	<0.150	0.150	03/06/2019	ND	5.37	89.4	6.00	1.93	
Total BTEX	<0.300	0.300	03/06/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.9 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	03/06/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2019	ND	214	107	200	0.225	
DRO >C10-C28*	<10.0	10.0	03/05/2019	ND	227	113	200	0.0556	
EXT DRO >C28-C36	<10.0	10.0	03/05/2019	ND					

Surrogate: 1-Chlorooctane *98.4 %* *41-142*

Surrogate: 1-Chlorooctadecane *104 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	03/05/2019	Sampling Date:	03/05/2019
Reported:	03/06/2019	Sampling Type:	Soil
Project Name:	MAGNUM PRONTO	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 01587 (12/21/18)	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO., NM		

Sample ID: BOTTOM HOLE #2 (3' BEB) (H900896-06)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/06/2019	ND	1.80	89.8	2.00	1.93	
Toluene*	<0.050	0.050	03/06/2019	ND	1.68	83.8	2.00	2.80	
Ethylbenzene*	<0.050	0.050	03/06/2019	ND	1.72	86.2	2.00	2.14	
Total Xylenes*	<0.150	0.150	03/06/2019	ND	5.37	89.4	6.00	1.93	
Total BTEX	<0.300	0.300	03/06/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.2 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**560**	16.0	03/06/2019	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/05/2019	ND	214	107	200	0.225	
DRO >C10-C28*	**46.6**	10.0	03/05/2019	ND	227	113	200	0.0556	
EXT DRO >C28-C36	<10.0	10.0	03/05/2019	ND					

Surrogate: 1-Chlorooctane *95.3 %* *41-142*

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	03/05/2019	Sampling Date:	03/05/2019
Reported:	03/06/2019	Sampling Type:	Soil
Project Name:	MAGNUM PRONTO	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 01587 (12/21/18)	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO., NM		

Sample ID: BOTTOM HOLE #3 (3' BEB) (H900896-07)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/06/2019	ND	1.80	89.8	2.00	1.93	
Toluene*	<0.050	0.050	03/06/2019	ND	1.68	83.8	2.00	2.80	
Ethylbenzene*	<0.050	0.050	03/06/2019	ND	1.72	86.2	2.00	2.14	
Total Xylenes*	<0.150	0.150	03/06/2019	ND	5.37	89.4	6.00	1.93	
Total BTEX	<0.300	0.300	03/06/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.7 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	03/06/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/06/2019	ND	214	107	200	0.225	
DRO >C10-C28*	<10.0	10.0	03/06/2019	ND	227	113	200	0.0556	
EXT DRO >C28-C36	<10.0	10.0	03/06/2019	ND					

Surrogate: 1-Chlorooctane *96.9 %* *41-142*

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	03/05/2019	Sampling Date:	03/05/2019
Reported:	03/06/2019	Sampling Type:	Soil
Project Name:	MAGNUM PRONTO	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 01587 (12/21/18)	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO., NM		

Sample ID: BOTTOM HOLE #4 (3' BEB) (H900896-08)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/06/2019	ND	1.80	89.8	2.00	1.93	
Toluene*	<0.050	0.050	03/06/2019	ND	1.68	83.8	2.00	2.80	
Ethylbenzene*	<0.050	0.050	03/06/2019	ND	1.72	86.2	2.00	2.14	
Total Xylenes*	<0.150	0.150	03/06/2019	ND	5.37	89.4	6.00	1.93	
Total BTEX	<0.300	0.300	03/06/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.1 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	03/06/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/06/2019	ND	214	107	200	0.225	
DRO >C10-C28*	**99.2**	10.0	03/06/2019	ND	227	113	200	0.0556	
EXT DRO >C28-C36	<10.0	10.0	03/06/2019	ND					

Surrogate: 1-Chlorooctane *98.3 %* *41-142*

Surrogate: 1-Chlorooctadecane *105 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
CLAIR GONZALES
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	03/05/2019	Sampling Date:	03/05/2019
Reported:	03/06/2019	Sampling Type:	Soil
Project Name:	MAGNUM PRONTO	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 01587 (12/21/18)	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO., NM		

Sample ID: NORTH 2 SIDEWALL (H900896-09)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/06/2019	ND	1.80	89.8	2.00	1.93	
Toluene*	<0.050	0.050	03/06/2019	ND	1.68	83.8	2.00	2.80	
Ethylbenzene*	<0.050	0.050	03/06/2019	ND	1.72	86.2	2.00	2.14	
Total Xylenes*	<0.150	0.150	03/06/2019	ND	5.37	89.4	6.00	1.93	
Total BTEX	<0.300	0.300	03/06/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.0 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	03/06/2019	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/06/2019	ND	214	107	200	0.225	
DRO >C10-C28*	<10.0	10.0	03/06/2019	ND	227	113	200	0.0556	
EXT DRO >C28-C36	<10.0	10.0	03/06/2019	ND					

Surrogate: 1-Chlorooctane *97.7 %* *41-142*

Surrogate: 1-Chlorooctadecane *103 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Page 1 of 1

Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: COG
Site Manager: CLAIR GONZALES
Project Name: MAGNUM PRONTO (12.21.18)
Project Location (county, state): LEA CO, NM
Project #: 212C-MD-01587
Invoice to: COG - IKE TAVAREZ
Receiving Laboratory: CARDINAL
Sampler Signature: CONNER MOEHRING
Comments: TONY LEGARDA

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None		# CONTAINERS	FILTERED (Y/N)
H900896													
1	NORTH 1 SIDEWALL	3/5/19			X				X			1	N
2	EAST SIDEWALL	3/5/19			X				X			1	N
3	SOUTH SIDEWALL	3/5/19			X				X			1	N
4	WEST SIDEWALL	3/5/19			X				X			1	N
5	Bottom Hole #1 (4' BEB)	3/5/19			X				X			1	N
6	Bottom Hole #2 (3' BEB)	3/5/19			X				X			1	N
7	Bottom Hole #3 (3' BEB)	3/5/19			X				X			1	N
8	Bottom Hole #4 (3' BEB)	3/5/19			X				X			1	N
9	NORTH 2 SIDEWALL												

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B	BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
X			X												X							
X			X												X							
X			X												X							
X			X												X							
X			X												X							
X			X												X							
X			X												X							
X			X												X							
															X							

Relinquished by: Conner Moehring Date: 3/5/19 Time: 1451
Received by: Jodi Henson Date: 3/5/19 Time: 14:51
Relinquished by: Date: Time:
Received by: Date: Time:
Relinquished by: Date: Time:
Received by: Date: Time:

LAB USE ONLY
Sample Temperature 2.3°C
#97

REMARKS:
- [ ] STANDARD
- [x] RUSH: Same Day (24 hr) 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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