CONCHO

March 18, 2019

Mike Bratcher (District 1 Release)
Oil Conservation Division, District 1
1625 N. French Dr.
Hobbs, NM

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

Re: Closure Request
Tenderloin Federal Com 4H
API #: 30-025-43891
RP#: 1RP-5325
GPS: 32.40078, -103.53249
Unit Letter M, Section 12, Township 22S, Range 33E
Lea County, NM

Mr. Bratcher/Ms. Weaver,

COG Operating, LLC (COG) is pleased to submit the following remediation work plan in response to a release that occurred at the Tenderloin Federal Com #4H located in Unit Letter M, Section 12, Township 22 South and Range 33 East in Lea County, New Mexico.

BACKGROUND

The release was discovered on December 23, 2018 and a C-141 initial report was submitted and approved by the New Mexico Oil Conservation Division (NMOCD). The release was caused by a malfunction in the Baird valve at the well, which impacted the pad area with overspray. Approximately six (6) barrels of crude oil were released from the well and one (1) barrel of produced water. None of the liquids were recovered. The initial C-141 is shown in Appendix A.

GROUNDWATER AND REGUALTORY FRAMEWORK

According to the USGS groundwater data, two (2) water wells were reported in Section 12 and 13 with a depth to groundwater of 325 feet and 391 feet, respectively. The water well in Section 12 is located approximately 1,300 feet northeast of the site (Appendix B). The New Mexico Office of the State Engineer (NMOSE) did report a well in Section 13 with a well total depth of 427 feet, with no reported depth to groundwater. The Chevron trend map shows the depth to water >300'.

A risk based evaluation and site determinations were perform in accordance to the New Mexico Oil Conservation Division (NMOCD) Rule (Title 19 Chapter 15 Part 29) for releases on oil and gas development

and production in New Mexico (effective August 14, 2018). According to the site characterization evaluation, no other receptors (water wells, water course, playas, karst, flood plain, lake beds or ordinance boundaries) were located within each specific boundaries or distance from the site. The delineation and closure criteria are listed below:

General Site Characterization and Groundwater:

Site Characterization	Average Groundwater Depth (ft.)
None	>100 feet

Delineation and Closure Criteria:

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

REMEDIATION PLAN

All samples were below the Table 1 closure criteria concentrations and thus no remediation will occur at the site.

SITE RECLAMATION AND RESTORATION

All fluids remained on the pad and no reclamation at the site is required.

CLOSURE REQUEST

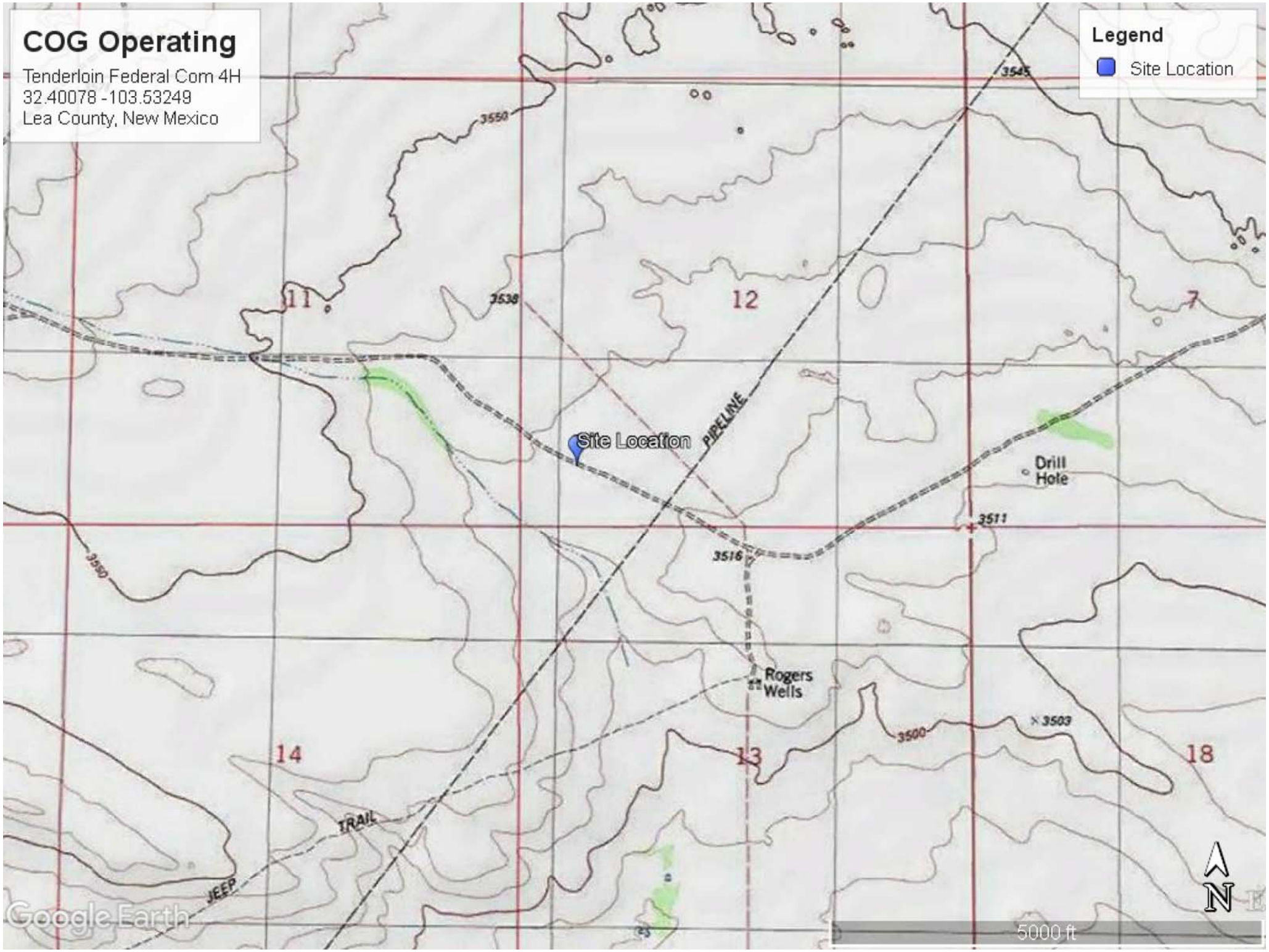
Based on the information provided, COG requesting closure of the release. The signed C-141 Final is included in Appendix A. Should you have any questions or concerns on the closure report, please do not hesitate to contact me.
Sincerely,

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

Sincerely,
Concho Operating, LLC

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

Figures


COG Operating
Tenderloin Federal Com 4H
32.40078 -103.53249
Lea County, New Mexico
Legend
Site Location
Site Location
PIPELINE
Drill Hole
Rogers Wells
TRAIL
JEEP
3550
3538
3545
3511
3516
3560
3500
3503
11
12
7
14
13
18
N
5000 ft
Google Earth


COG Operating
Tenderloin Federal Com 4H
32.40078 -103.53249
Lea County, New Mexico
Legend
Sample Locations
Overspray Area
#1
#2
N
200 ft
Google Earth

Tables

Table 1
COG Operating LLC.
Tenderloin Federal Com #4
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)							Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	*Total*	GRO	DRO	*Total*			
Average Depth to Groundwater (ft)			**>100'**											
NMOCD Remediation Action Limits (mg/kg)					**-**	**-**	**-**	**2,500**	**-**	**-**	**1,000**	**10**	**50**	**20,000**
#1	1/14/2019	0-0.5	X		<15.0	38.1	<15.0	38.1	<15.0	38.1	38.1	<0.00200	<0.00201	817
#2	1/14/2019	0-0.5	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	1240

(-) Not Analyzed

Appendix A

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP 5325
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
515 Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP 5325
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: 3/18/19

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP 5325
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: 3/18/19

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

OCD Only

Received by: _____ Date: _____

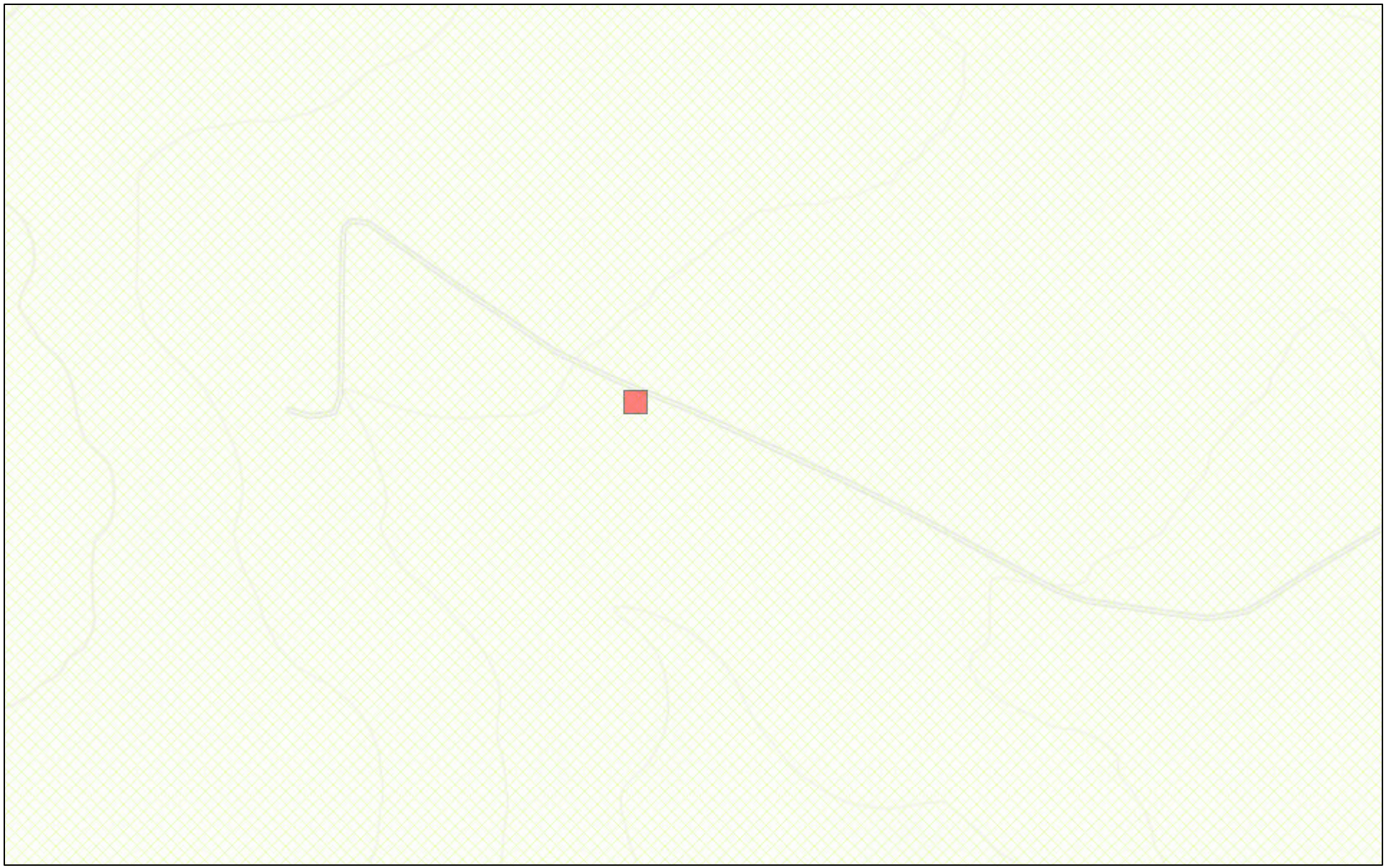
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Appendix B

New Mexico NFHL Data



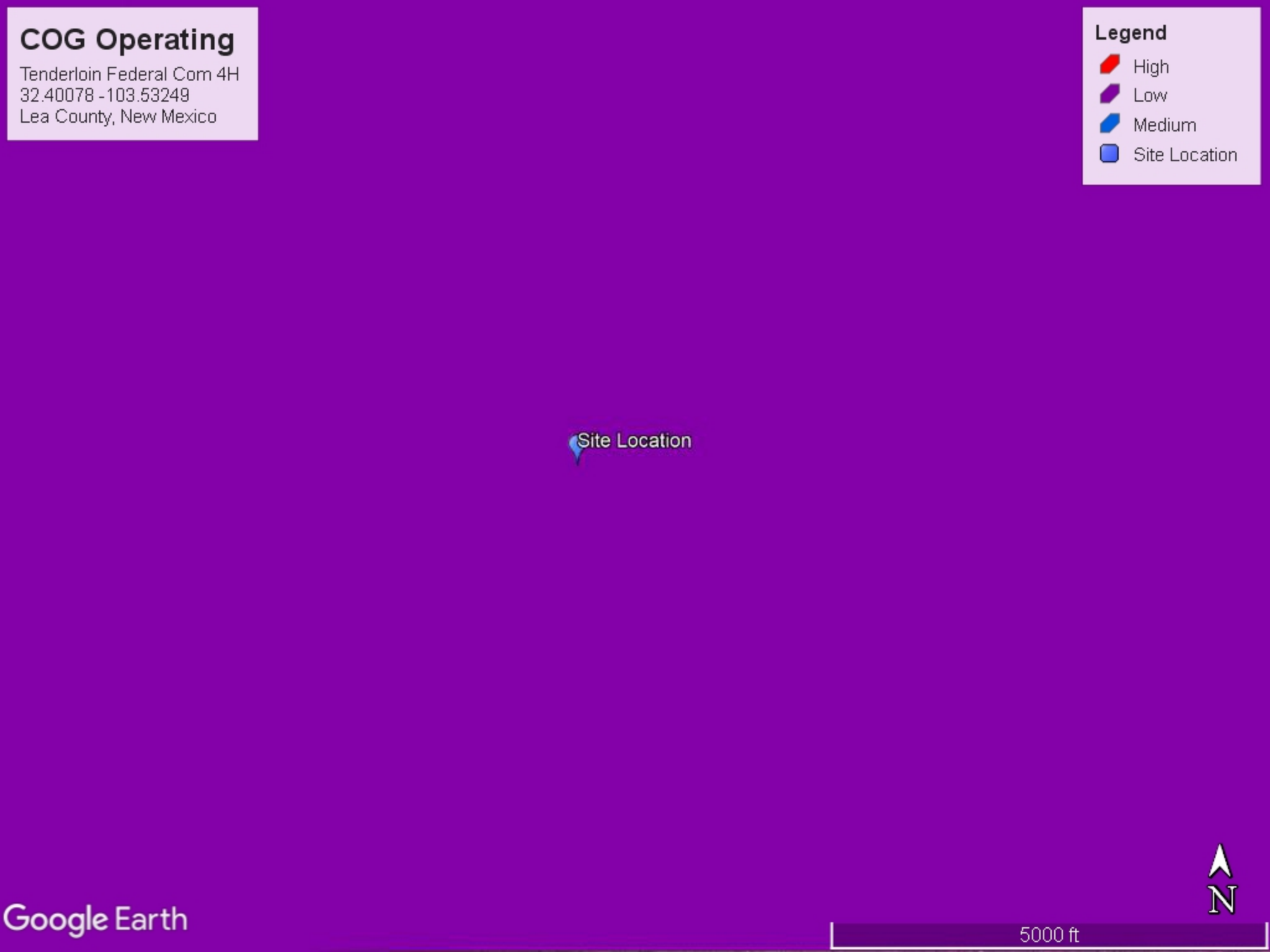
March 18, 2019

1:9,028

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

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


COG Operating
Tenderloin Federal Com 4H
32.40078 -103.53249
Lea County, New Mexico
Legend
High
Low
Medium
Site Location
Site Location
N
Google Earth
5000 ft

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00592 POD1		CP	ED	3	2		13	22S	33E	638834	3585015*	427		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 1

PLSS Search:

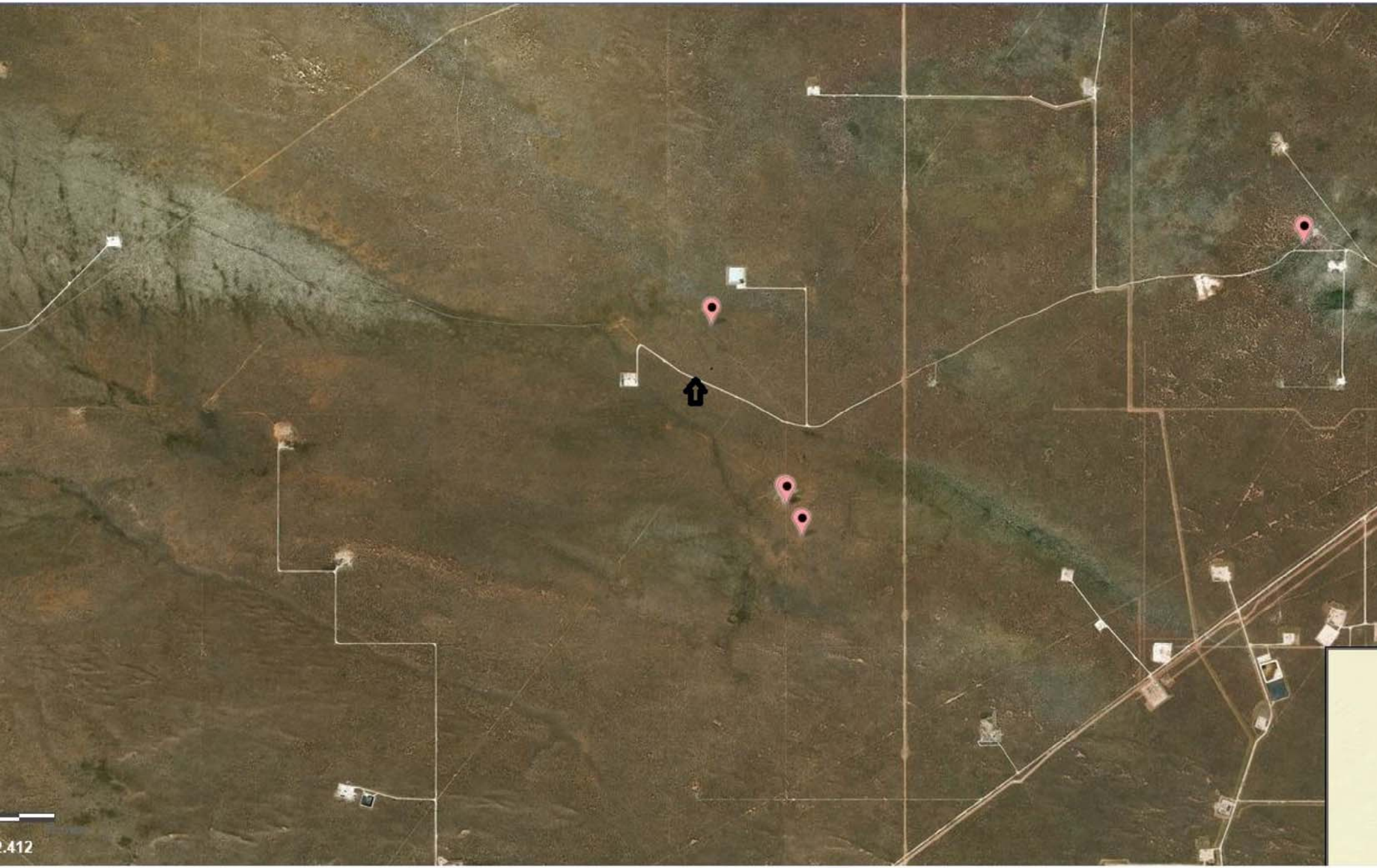
Township: 22S **Range:** 33E

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

3/18/19 11:41 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Mapper



on

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 322325103313301

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

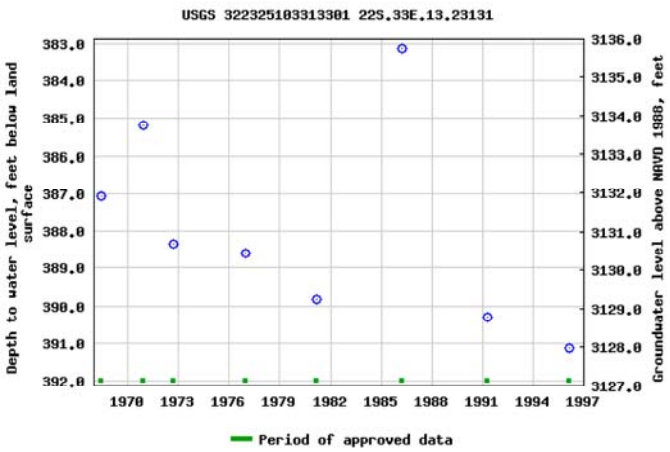
USGS 322325103313301 22S.33E.13.23131

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

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°23'38.6", Longitude 103°31'33.6" NAD83
Land-surface elevation 3,519 feet above NAVD88
The depth of the well is 508 feet below land surface.
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

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



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

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 321843103315101

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

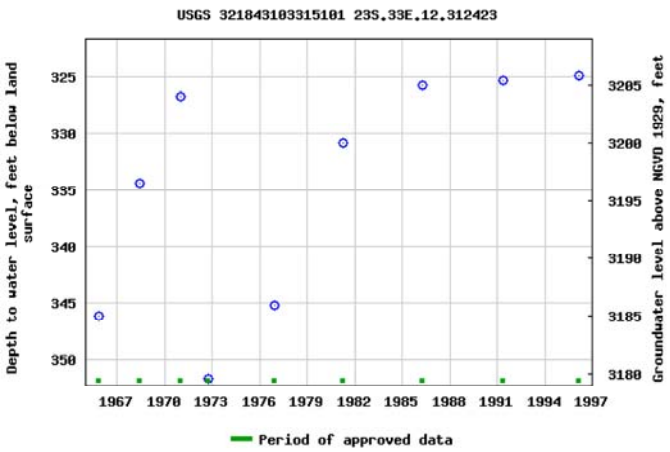
USGS 321843103315101 23S.33E.12.312423

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

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°24'18", Longitude 103°31'51" NAD27
Land-surface elevation 3,531.00 feet above NGVD29
The depth of the well is 400 feet below land surface.
This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

Output formats

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



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

Appendix C

Certificate of Analysis Summary 611431

COG Operating LLC, Artesia, NM

Project Name: Tenderlion Federal Com 4H (12-23-18)

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

Date Received in Lab: Wed Jan-16-19 09:56 am
Report Date: 22-JAN-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	611431-001		611431-002					
	Field Id:	AH-1 0-0.5'		AH-2 0-0.5'					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Jan-14-19 00:00		Jan-14-19 00:00					
BTEX by EPA 8021B	***Extracted:***	Jan-17-19 08:30		Jan-17-19 08:30					
	Analyzed:	Jan-17-19 17:40		Jan-17-19 17:59					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00201	0.00201	<0.00200	0.00200				
Toluene		<0.00201	0.00201	<0.00200	0.00200				
Ethylbenzene		<0.00201	0.00201	<0.00200	0.00200				
m,p-Xylenes		<0.00402	0.00402	<0.00401	0.00401				
o-Xylene		<0.00201	0.00201	<0.00200	0.00200				
Total Xylenes		<0.00201	0.00201	<0.00200	0.00200				
Total BTEX		<0.00201	0.00201	<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	Jan-17-19 14:30		Jan-17-19 14:30					
	Analyzed:	Jan-17-19 22:26		Jan-17-19 22:32					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		817	4.98	1240	4.98				
TPH By SW8015 Mod	***Extracted:***	Jan-19-19 09:00		Jan-19-19 09:00					
	Analyzed:	Jan-19-19 18:03		Jan-19-19 17:43					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0				
Diesel Range Organics		38.1	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0				
Total TPH		38.1	15.0	<15.0	15.0				

Jessica Kramer
Project Assistant

Analytical Report 611431

for

COG Operating LLC

Project Manager: Ike Tavarez

Tenderlion Federal Com 4H (12-23-18)

22-JAN-19

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

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

22-JAN-19

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

Reference: XENCO Report No(s): **611431**
Tenderlion Federal Com 4H (12-23-18)
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) 611431. 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. 611431 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 611431

COG Operating LLC, Artesia, NM

Tenderlion Federal Com 4H (12-23-18)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-1 0-0.5'	S	01-14-19 00:00		611431-001
AH-2 0-0.5'	S	01-14-19 00:00		611431-002

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3076188 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3076405 TPH By SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7670058-1-BSD.

Certificate of Analytical Results 611431

COG Operating LLC, Artesia, NM

Tenderlion Federal Com 4H (12-23-18)

Sample Id:	**AH-1 0-0.5'**	Matrix:	Soil	Date Received:	01.16.19 09.56
Lab Sample Id:	611431-001	Date Collected:	01.14.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.17.19 14.30	Basis:	Wet Weight
Seq Number:	3076277				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**817**	4.98	mg/kg	01.17.19 22.26		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	01.19.19 09.00	Basis:	Wet Weight
Seq Number:	3076405				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	01.19.19 18.03	U	1
Diesel Range Organics	C10C28DRO	**38.1**	15.0	mg/kg	01.19.19 18.03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.19.19 18.03	U	1
Total TPH	PHC635	**38.1**	15.0	mg/kg	01.19.19 18.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	01.19.19 18.03	
o-Terphenyl	84-15-1	103	%	70-135	01.19.19 18.03	

Certificate of Analytical Results 611431

COG Operating LLC, Artesia, NM

Tenderlion Federal Com 4H (12-23-18)

Sample Id:	**AH-1 0-0.5'**	Matrix:	Soil	Date Received:	01.16.19 09.56
Lab Sample Id:	611431-001	Date Collected:	01.14.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.17.19 08.30	Basis:	Wet Weight
Seq Number:	3076188				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.17.19 17.40	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.17.19 17.40	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.17.19 17.40	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.17.19 17.40	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.17.19 17.40	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.17.19 17.40	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.17.19 17.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	70-130	01.17.19 17.40	
4-Bromofluorobenzene	460-00-4	119	%	70-130	01.17.19 17.40	

Certificate of Analytical Results 611431

COG Operating LLC, Artesia, NM

Tenderlion Federal Com 4H (12-23-18)

Sample Id:	**AH-2 0-0.5'**	Matrix:	Soil	Date Received:	01.16.19 09.56
Lab Sample Id:	611431-002	Date Collected:	01.14.19 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.17.19 14.30	Basis:	Wet Weight
Seq Number:	3076277				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1240**	4.98	mg/kg	01.17.19 22.32		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	01.19.19 09.00	Basis:	Wet Weight
Seq Number:	3076405				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	01.19.19 17.43	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	01.19.19 17.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.19.19 17.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.19.19 17.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	01.19.19 17.43	
o-Terphenyl	84-15-1	98	%	70-135	01.19.19 17.43	

Certificate of Analytical Results 611431

COG Operating LLC, Artesia, NM

Tenderlion Federal Com 4H (12-23-18)

Sample Id:	**AH-2 0-0.5'**	Matrix:	Soil	Date Received:	01.16.19 09.56
Lab Sample Id:	611431-002	Date Collected:	01.14.19 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	01.17.19 08.30	Basis:	Wet Weight
Seq Number:	3076188				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.17.19 17.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.17.19 17.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.17.19 17.59	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.17.19 17.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.17.19 17.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.17.19 17.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.17.19 17.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	115	%	70-130	01.17.19 17.59	
4-Bromofluorobenzene	460-00-4	119	%	70-130	01.17.19 17.59	

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 611431

COG Operating LLC

Tenderlion Federal Com 4H (12-23-18)

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3076277 Matrix: Solid Date Prep: 01.17.19
MB Sample Id: 7669954-1-BLK LCS Sample Id: 7669954-1-BKS LCSD Sample Id: 7669954-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	243	97	247	99	90-110	2	20	mg/kg	01.17.19 19:45	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3076277 Matrix: Soil Date Prep: 01.17.19
Parent Sample Id: 611429-004 MS Sample Id: 611429-004 S MSD Sample Id: 611429-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	74.7	250	313	95	320	98	90-110	2	20	mg/kg	01.17.19 21:33	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3076277 Matrix: Soil Date Prep: 01.17.19
Parent Sample Id: 611432-003 MS Sample Id: 611432-003 S MSD Sample Id: 611432-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1010	250	1270	104	1270	104	90-110	0	20	mg/kg	01.17.19 20:04	

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3076405 Matrix: Solid Date Prep: 01.19.19
MB Sample Id: 7670058-1-BLK LCS Sample Id: 7670058-1-BKS LCSD Sample Id: 7670058-1-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	798	80	797	80	70-135	0	20	mg/kg	01.19.19 10:27	
Diesel Range Organics	<8.13	1000	878	88	863	86	70-135	2	20	mg/kg	01.19.19 10:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	88		123		122		70-135	%	01.19.19 10:27
o-Terphenyl	88		117		139	**	70-135	%	01.19.19 10:27

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 611431

COG Operating LLC

Tenderlion Federal Com 4H (12-23-18)

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3076405 Matrix: Soil Date Prep: 01.19.19
Parent Sample Id: 611429-006 MS Sample Id: 611429-006 S MSD Sample Id: 611429-006 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	<8.00	1000	909	91	931	93	70-135	2	20	mg/kg	01.19.19 11:41	
Diesel Range Organics	8.74	1000	998	99	1040	103	70-135	4	20	mg/kg	01.19.19 11:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	135		132		70-135	%	01.19.19 11:41
o-Terphenyl	132		116		70-135	%	01.19.19 11:41

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3076188 Matrix: Solid Date Prep: 01.17.19
MB Sample Id: 7669967-1-BLK LCS Sample Id: 7669967-1-BKS LCSD Sample Id: 7669967-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0897	90	0.0943	94	70-130	5	35	mg/kg	01.17.19 12:52	
Toluene	<0.000457	0.100	0.0883	88	0.0915	92	70-130	4	35	mg/kg	01.17.19 12:52	
Ethylbenzene	<0.000566	0.100	0.0864	86	0.0892	89	70-130	3	35	mg/kg	01.17.19 12:52	
m,p-Xylenes	<0.00102	0.200	0.170	85	0.176	88	70-130	3	35	mg/kg	01.17.19 12:52	
o-Xylene	<0.000345	0.100	0.0857	86	0.0891	89	70-130	4	35	mg/kg	01.17.19 12:52	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		101		102		70-130	%	01.17.19 12:52
4-Bromofluorobenzene	92		102		102		70-130	%	01.17.19 12:52

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3076188 Matrix: Soil Date Prep: 01.17.19
Parent Sample Id: 611429-002 MS Sample Id: 611429-002 S MSD Sample Id: 611429-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000538	0.0994	0.0814	81	0.0831	83	70-130	2	35	mg/kg	01.17.19 13:30	
Toluene	<0.000453	0.0994	0.0813	82	0.0816	82	70-130	0	35	mg/kg	01.17.19 13:30	
Ethylbenzene	<0.000561	0.0994	0.0783	79	0.0779	78	70-130	1	35	mg/kg	01.17.19 13:30	
m,p-Xylenes	0.00118	0.199	0.155	77	0.154	76	70-130	1	35	mg/kg	01.17.19 13:30	
o-Xylene	<0.000342	0.0994	0.0777	78	0.0768	77	70-130	1	35	mg/kg	01.17.19 13:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	01.17.19 13:30
4-Bromofluorobenzene	106		106		70-130	%	01.17.19 13:30

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

6/1431

Page 1 of 1

CONCHO

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

Client Name: COG	**Site Manager:** Ike Tavarez
Project Name: Tenderloin Federal Com 4H (12-23-18)	
Project Location: (county, state) Lea Co. NM.	**Project #:**
Invoice to: COG - Ike Tavarez	
Receiving Laboratory: Xenco	**Sampler Signature:**
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)
	AH-1 0-0.5'	1-14-19			✓			✓	1	
	AH-2 0-0.5'	1-14-19			✓			✓	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	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
AH-1 0-0.5'	X		X												X							
AH-2 0-0.5'	X		X												X							

Final 1.000

Page 13 of 14

Relinquished by:	Date: 1-16-19	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

		Date: 1/16/19	Time: 0956
		Date:	Time:
		Date:	Time:

LAB USE ONLY

Sample Temperature

0.3/0.2

-0.1/NR

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

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 01/16/2019 09:56:00 AM

Work Order #: 611431

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 01/16/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 01/16/2019
Jessica Kramer