CONCHO

May 18, 2020

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

Re: Work Plan
Dodd Federal Unit #980H (3/23/19)
RP#: 2RP-5334
Incident #: NAB1909540096
GPS: 32.85542, -104.06603
Unit Letter C, Section 10, Township 17 South, Range 29 East
Eddy County, New Mexico

To Whom It May Concern,

COG Operating, LLC (COG) is pleased to submit the following work plan in response to a release that occurred at the Dodd Federal Unit #980H located in Unit Letter C, Section 10, Township 17 South and Range 29 East in Lea County, New Mexico.

BACKGROUND

The release was discovered on March 23, 2019 and a C-141 initial report was submitted and approved by the New Mexico Oil Conservation Division (NMOCD). The release was caused by a dump on the FWKO loosing pressure, filling the vessel and sending fluid up to the flare. Approximately 1 barrels of oil and 5 barrels of produced water were released and recovered 0.5 barrels of crude oil and 3 barrels of water. The initial C-141 is shown in Appendix A.

GROUNDWATER AND REGULATORY

According to the New Mexico Office of the State Engineer (NMOSE), reported water wells are in Section 22, with groundwater depth of 76' below surface. The water well information is shown in Appendix B.

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 facilities in New Mexico (effective August 14, 2018). According to the site characterization evaluation, no other receptors (water wells, playas, water course, lake beds or ordinance boundaries) were located within each specific boundaries or distance from the site. However, the area is in a high Karst area. The groundwater data and the site characterization evaluation data is summarized in Appendix B. The delineation and closure criteria are listed below:

General Site Characterization and Groundwater:

Site Characterization	Average Groundwater Depth (ft.)
High Karst	>50 feet

Delineation and Closure Criteria:

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

SAMPLE RESULTS

After excavating the impacted area, a total of four (4) composite samples were collected from the area. Referring to Table 1, all of the samples were below the Table 1 Closure Criteria concentrations for TPH and BTEX. However, the areas of B-1 and B-2 exceeded the closure criteria concentrations for chlorides at 2.0' below surface, with chloride concentrations of 1,650 mg/kg and 2,800 mg/kg, respectively. These areas were not vertically defined. The areas of B-3 and B-4 were all below the Table 1 Closure Criteria concentrations for chlorides.

REMEDIATION PLAN

- The areas of B-1 and B-2 will be assessed to define the vertical extents. Due to size of area, a backhoe trench or a borehole will be placed in the center of B-1 and B-2.
- If the impact is shallow and does not appear to be a safety concern around the flare, the impacted material will be excavated to the appropriate depth.
- If deeper impact is encountered and the impacted soil cannot be excavated safety around the flare, the impacted area will be excavated to a depth of 3-4' below surface and capped with a 20-mil liner.

Liner Variance and Confirmation Sampling

If deeper impact is encountered and the impacted soil cannot be excavated safety around the flare, COG requests a variance to install a 20-mil liner at 3.0'- 4.0' below surface in the areas of B-1 and B-2 to prevent vertical migration of the deeper chloride concentrations detected (per rule 19.15.29.14). Prior to the liner installation, composite sidewall samples will be collected every 200 square feet, to be representative of the release area, for documentation purposes.

Once the excavation is complete, the areas will be backfilled with clean material to surface grade with clean material. The delineation and remediation to be implemented 90 days after the work plan is approved.

SITE RECLAMATION AND RESTORATION

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

CLOSURE REPORT PREPARATION

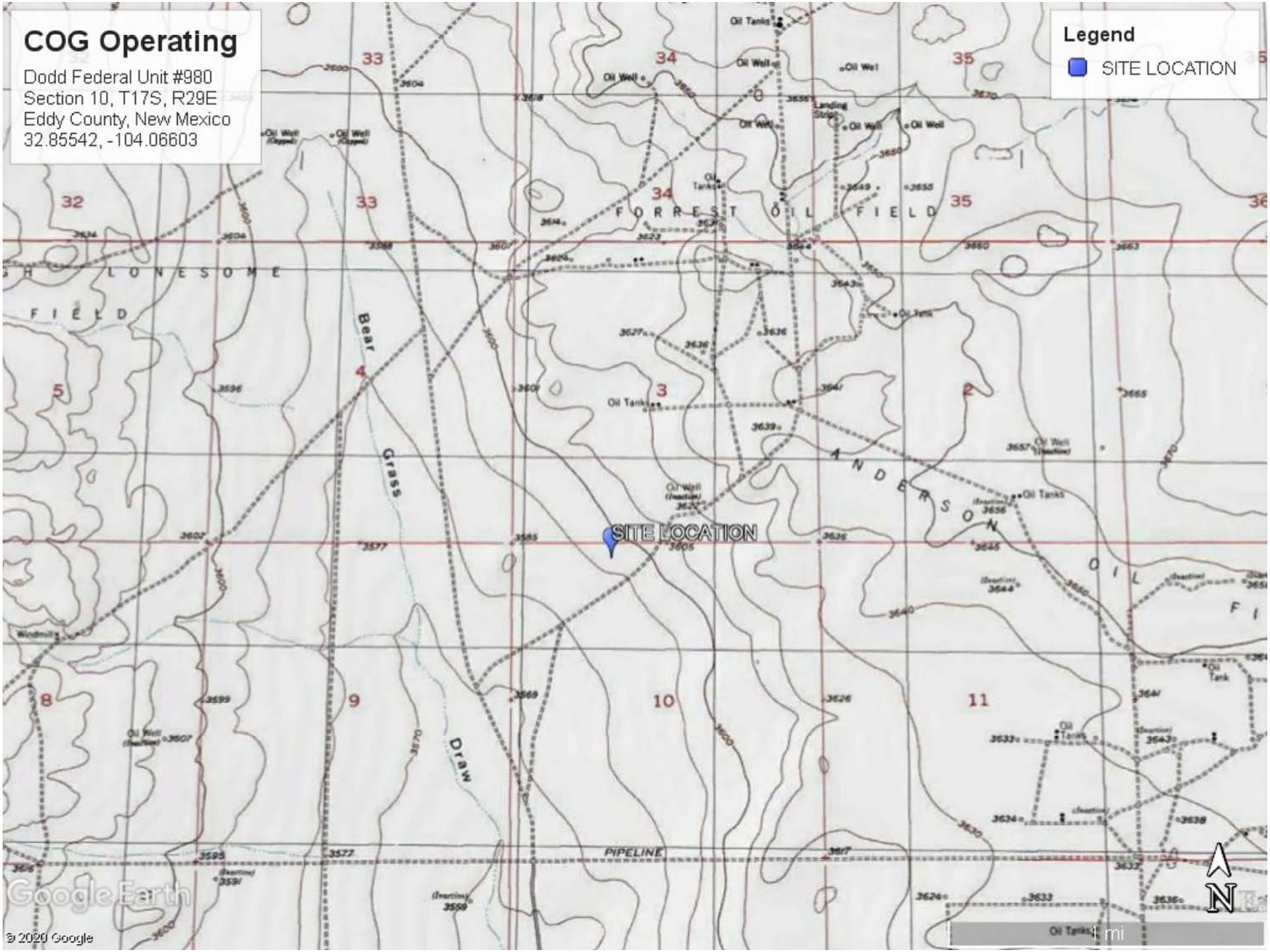
Once the remediation activities are completed, COG will prepare a closure report for the site. Should you have any questions or concerns on the closure report, please do not hesitate to contact me.

Sincerely,
Concho Operating, LLC

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

CC:

Figures



Tables

Table 1
COG Operating LLC
Dodd Federal Unit #980H
Eddy 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*			
NMOCD Remediation Action Limits (mg/kg)					-	-	-	**100**	**10**	**50**	**600**
Bottom -1	9/24/2019	2	X		<10.0	<10.0	<10.0	<10.0	<0.05	<0.05	**1650**
Bottom -2	9/24/2019	1	X		<10.0	<10.0	<10.0	<10.0	<0.05	<0.05	496
Bottom -3	9/24/2019	1	X		<10.0	<10.0	<10.0	<10.0	<0.05	<0.05	176
Bottom -4	9/24/2019	2	X		<10.0	<10.0	<10.0	<10.0	<0.05	<0.05	**2800**
North	9/24/2019	0-1	X		<10.0	<10.0	<10.0	<10.0	<0.05	<0.05	480
South	9/24/2019	0-1	X		<10.0	<10.0	<10.0	<10.0	<0.05	<0.05	320
East	9/24/2019	0-1	X		<10.0	<10.0	<10.0	<10.0	<0.05	<0.05	240
West	9/24/2019	0-1	X		<10.0	<10.0	<10.0	<10.0	<0.05	<0.05	192

(-) Not Analyzed

Define Areas and Remove Impact

Note: If deeper impact is encountered, COG will excavate to 4' below surface and install liner to cap the deeper impact.

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Initial Response

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

☐ The source of the release has been stopped.
☐ The impacted area has been secured to protect human health and the environment.
☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☐ All free liquids and recoverable materials have been removed and managed appropriately.

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

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

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

Printed Name: _____ Title: _____

Signature: DeAnn Grant _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP 5334
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: 5/18/20

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG -Dodd Federal Unit #980H

16 South 28 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21 **61**	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14 220 dry	13
19 110	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 30 East

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

17 South 28 East

6	5	4	3	2 28	1
7	8	9	10	11	12
18	17	16	15	14 80	13
19 224	20	21	22 45 79	23	24
30	29	28	27	26	25
31	32 SITE	33	34	35 258	36

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 76 80	23	24
30	29 210 208	28	27	26	25
31	32	33	34	35 153	36

17 South 30 East

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

18 South 28 East

6	5	4 **108**	3	2 55	1
7 Site	8 81 **69**	9	10	11	12
18	17	16	15 80	14	13
19	20	21 **226**	22	23	24
30 137	29	28	27	26	25
31	32	33	34	35 65	36

18 South 29 East

6	5	4	3	2	1
7	8	9	10 **95**	11	12
18	17	16	15	14	13
19	20	21	22	23	24 158
30	29	28	27	26	25
31	32	33	34	35	36

18 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23 44	24
30	29	28	27	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports
105 USGS Well Reports
90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)
Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

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

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

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

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

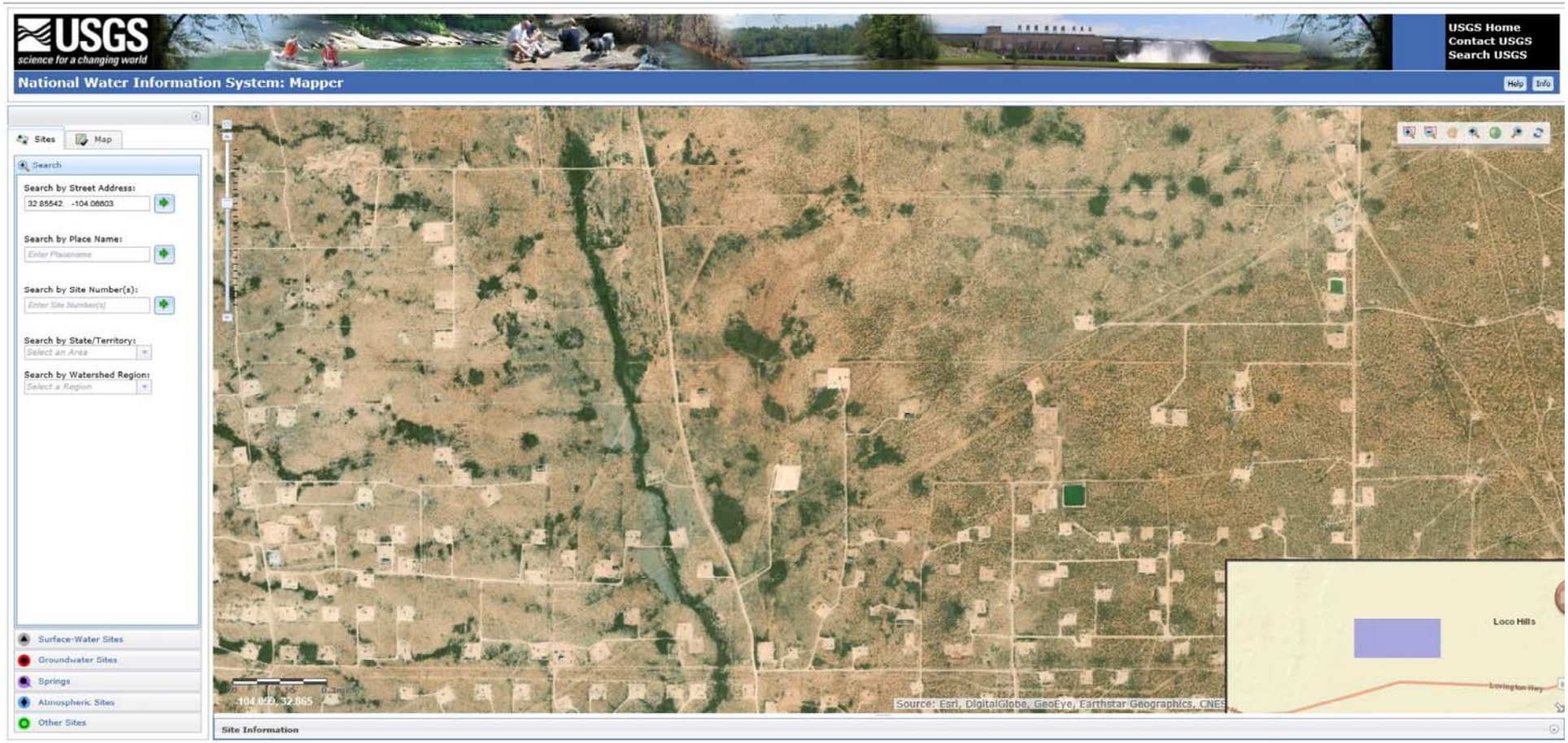
POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 11807 POD1		RA	ED	1	2	3	22	17S	29E	587360	3631585	131	76	55

Average Depth to Water: **76 feet**
Minimum Depth: **76 feet**
Maximum Depth: **76 feet**

Record Count: 1

PLSS Search:

Township: 17S **Range:** 29E


USGS
science for a changing world
USGS Home
Contact USGS
Search USGS
National Water Information System: Mapper
Help
Info
Sites
Map
Search
Search by Street Address:
32.85542, -104.08603
Search by Place Name:
Enter Placename
Search by Site Number(s):
Enter Site Number(s)
Search by State/Territory:
Select an Area
Search by Watershed Region:
Select a Region
Surface-Water Sites
Groundwater Sites
Springs
Atmospheric Sites
Other Sites
-104.089, 32.865
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES
Loco Hills
Lovington Hwy
Site Information

COG Operating

Dodd Federal Unit #980
Section 10, T17S, R29E
Eddy County, New Mexico
32.85542, -104.06603

New Mexico NFHL Data

May 18, 2020

1:9,028

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

MA

urce: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

101%

s made possible through a collaboration with NMDHSEM, EDAC, and FEMA

This is a non-regulatory product for informational use only. Please consult your local floodplain administrator for further information.

Citrix Receiver

Appendix C

CARDINAL Laboratories

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

September 26, 2019

DAKOTA NEEL

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: DODD FEDERAL #980

Enclosed are the results of analyses for samples received by the laboratory on 09/25/19 12:45.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	09/25/2019	Sampling Date:	09/24/2019
Reported:	09/26/2019	Sampling Type:	Soil
Project Name:	DODD FEDERAL #980	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTM - 1 (H903295-01)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2019	ND	1.70	85.0	2.00	0.372	
Toluene*	<0.050	0.050	09/26/2019	ND	1.71	85.5	2.00	1.89	
Ethylbenzene*	<0.050	0.050	09/26/2019	ND	1.68	84.1	2.00	1.52	
Total Xylenes*	<0.150	0.150	09/26/2019	ND	4.97	82.9	6.00	1.85	
Total BTEX	<0.300	0.300	09/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *84.1 %* *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	**1650**	16.0	09/26/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	197	98.5	200	1.16	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	196	98.1	200	1.65	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane *87.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *90.1 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	09/25/2019	Sampling Date:	09/24/2019
Reported:	09/26/2019	Sampling Type:	Soil
Project Name:	DODD FEDERAL #980	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTM - 2 (H903295-02)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2019	ND	1.70	85.0	2.00	0.372	
Toluene*	<0.050	0.050	09/26/2019	ND	1.71	85.5	2.00	1.89	
Ethylbenzene*	<0.050	0.050	09/26/2019	ND	1.68	84.1	2.00	1.52	
Total Xylenes*	<0.150	0.150	09/26/2019	ND	4.97	82.9	6.00	1.85	
Total BTEX	<0.300	0.300	09/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *84.7 %* *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	**496**	16.0	09/26/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	197	98.5	200	1.16	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	196	98.1	200	1.65	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane *91.0 %* *41-142*

Surrogate: 1-Chlorooctadecane *93.9 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	09/25/2019	Sampling Date:	09/24/2019
Reported:	09/26/2019	Sampling Type:	Soil
Project Name:	DODD FEDERAL #980	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTM - 3 (H903295-03)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2019	ND	1.70	85.0	2.00	0.372	
Toluene*	<0.050	0.050	09/26/2019	ND	1.71	85.5	2.00	1.89	
Ethylbenzene*	<0.050	0.050	09/26/2019	ND	1.68	84.1	2.00	1.52	
Total Xylenes*	<0.150	0.150	09/26/2019	ND	4.97	82.9	6.00	1.85	
Total BTEX	<0.300	0.300	09/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *86.5 %* *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	**176**	16.0	09/26/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	197	98.5	200	1.16	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	196	98.1	200	1.65	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane *94.2 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.1 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	09/25/2019	Sampling Date:	09/24/2019
Reported:	09/26/2019	Sampling Type:	Soil
Project Name:	DODD FEDERAL #980	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTM - 4 (H903295-04)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2019	ND	1.70	85.0	2.00	0.372	
Toluene*	<0.050	0.050	09/26/2019	ND	1.71	85.5	2.00	1.89	
Ethylbenzene*	<0.050	0.050	09/26/2019	ND	1.68	84.1	2.00	1.52	
Total Xylenes*	<0.150	0.150	09/26/2019	ND	4.97	82.9	6.00	1.85	
Total BTEX	<0.300	0.300	09/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *86.9 %* *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	**2800**	16.0	09/26/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	197	98.5	200	1.16	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	196	98.1	200	1.65	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane *90.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *93.8 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	09/25/2019	Sampling Date:	09/24/2019
Reported:	09/26/2019	Sampling Type:	Soil
Project Name:	DODD FEDERAL #980	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: NORTH (H903295-05)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2019	ND	1.70	85.0	2.00	0.372	
Toluene*	<0.050	0.050	09/26/2019	ND	1.71	85.5	2.00	1.89	
Ethylbenzene*	<0.050	0.050	09/26/2019	ND	1.68	84.1	2.00	1.52	
Total Xylenes*	<0.150	0.150	09/26/2019	ND	4.97	82.9	6.00	1.85	
Total BTEX	<0.300	0.300	09/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *81.6 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**480**	16.0	09/26/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	197	98.5	200	1.16	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	196	98.1	200	1.65	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane *83.0 %* *41-142*

Surrogate: 1-Chlorooctadecane *85.2 %* *37.6-147*

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

Analytical Results For:

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

Received:	09/25/2019	Sampling Date:	09/24/2019
Reported:	09/26/2019	Sampling Type:	Soil
Project Name:	DODD FEDERAL #980	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SOUTH (H903295-06)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2019	ND	1.70	85.0	2.00	0.372	
Toluene*	<0.050	0.050	09/26/2019	ND	1.71	85.5	2.00	1.89	
Ethylbenzene*	<0.050	0.050	09/26/2019	ND	1.68	84.1	2.00	1.52	
Total Xylenes*	<0.150	0.150	09/26/2019	ND	4.97	82.9	6.00	1.85	
Total BTEX	<0.300	0.300	09/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *83.9 %* *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	**320**	16.0	09/26/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	197	98.5	200	1.16	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	196	98.1	200	1.65	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane *68.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *70.6 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	09/25/2019	Sampling Date:	09/24/2019
Reported:	09/26/2019	Sampling Type:	Soil
Project Name:	DODD FEDERAL #980	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: EAST (H903295-07)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2019	ND	1.70	85.0	2.00	0.372	
Toluene*	<0.050	0.050	09/26/2019	ND	1.71	85.5	2.00	1.89	
Ethylbenzene*	<0.050	0.050	09/26/2019	ND	1.68	84.1	2.00	1.52	
Total Xylenes*	<0.150	0.150	09/26/2019	ND	4.97	82.9	6.00	1.85	
Total BTEX	<0.300	0.300	09/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *84.7 %* *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	**240**	16.0	09/26/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	197	98.5	200	1.16	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	196	98.1	200	1.65	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane *91.2 %* *41-142*

Surrogate: 1-Chlorooctadecane *93.7 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	09/25/2019	Sampling Date:	09/24/2019
Reported:	09/26/2019	Sampling Type:	Soil
Project Name:	DODD FEDERAL #980	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: WEST (H903295-08)

BTEX 8021B mg/kg Analyzed By: BF

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/26/2019	ND	1.70	85.0	2.00	0.372	
Toluene*	<0.050	0.050	09/26/2019	ND	1.71	85.5	2.00	1.89	
Ethylbenzene*	<0.050	0.050	09/26/2019	ND	1.68	84.1	2.00	1.52	
Total Xylenes*	<0.150	0.150	09/26/2019	ND	4.97	82.9	6.00	1.85	
Total BTEX	<0.300	0.300	09/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *84.6 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	09/26/2019	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2019	ND	197	98.5	200	1.16	
DRO >C10-C28*	<10.0	10.0	09/25/2019	ND	196	98.1	200	1.65	
EXT DRO >C28-C36	<10.0	10.0	09/25/2019	ND					

Surrogate: 1-Chlorooctane *94.6 %* *41-142*

Surrogate: 1-Chlorooctadecane *96.9 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

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

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	COG Operating LLC	**BILL TO**	
Project Manager:	Dakota Neel	**P.O. #:**	
Address:	2208 West Main	**Company:**	COG Operating LLC
City:	Artesia **State:** NM **Zip** 88210	**Attn:**	Jennifer Knowlton
Phone #:	(575) 746-2010 **Fax #:**	**Address:**	600 W Illinois
Project #:	**Project Owner:**	**City:**	Midland
Project Name:	DODD FEDERAL #980	**State:** TX **Zip:** 79701	
Project Location:		**Phone #:**	(432) 221-0388
Sampler Name:	Dakota Neel	**Fax #:**	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX	TPH	Chloride
H903295																	
1	BTM-1	C	1			1					1		9-24-19	1:30 PM	X	X	X
2	BTM-2	C	1			1					1			1:35	X	X	X
3	BTM-3	C	1			1					1			1:40	X	X	X
4	BTM-4	C	1			1					1			1:45	X	X	X
5	NORTH	C	1			1					1			1:50	X	X	X
6	SOUTH	C	1			1					1			1:55	X	X	X
7	EAST	C	1			1					1			2:00	X	X	X
8	WEST	C	1			1					1			2:05	X	X	X

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

Relinquished By:	**Date:** 9-25-19 **Time:** 1:41	**Received By:**	Brandi Oldaker
Relinquished By: Brandi Oldaker	**Date:** 9-25-19 **Time:** 12:45	**Received By:**	Tamara Oldaker
Delivered By: (Circle One) 4.6c #197	**Sample Condition** Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	**CHECKED BY: (Initials)**	TO
Sampler - UPS - Bus - Other: Corrected 5.0c			

Phone Result:	☐ Yes ☐ No	**Add'l Phone #:**	
Fax Result:	☐ Yes ☐ No	**Add'l Fax #:**	
REMARKS:			

RUSH

FORM-006 R 2.0

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