CONCHO

October 3, 2019

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

Ryan Mann
New Mexico State Land Office
1001 S. Atkinson
Roswell, NM

Re: Closure Report
Macho Nacho State Com #10H - Flare (7/6/19)
RP#: 1RP-5623
GPS: 32.22543, -103.61813
Unit Letter M, Section 7, Township 24 South, Range 33 East
Lea County, New Mexico

To Whom It May Concern,

COG Operating, LLC (COG) is pleased to submit the following closure report in response to a release that occurred at the Macho Nacho State Com #10H located in Unit Letter M, Section 7, Township 24 South and Range 33 East in Lea County, New Mexico.

BACKGROUND

The release was discovered on July 6, 2019 and a C-141 initial report was submitted and approved by the New Mexico Oil Conservation Division (NMOCD). The release was caused by an open valve for the oil dump sending oil to the flare. Approximately two (2) barrels of oil were released on the pad. None of the fluids were recovered. The initial C-141 is shown in Appendix A.

GROUNDWATER AND REGULATORY

According to the USGS groundwater database, a water well is shown in Section 17 with a reported depth to ground water of 97' below ground surface. Based on the Chevron Groundwater Trend map, the depth to groundwater in the project vicinity is greater than 100' below ground 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, karst, water course, lake beds or ordinance boundaries) were located within each specific boundaries or distance from the site. The groundwater data and the site characterization evaluation data is summarized in Appendix B. The delineation and closure criteria are listed below:

General Site Characterization and Groundwater:

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

Delineation and Closure Criteria:

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

REMEDIATION AND SAMPLING

On July 11, 2019 COG personnel collected soil samples to evaluate the spill area. Referring to Table 1, the areas of AH-2 and AH-3 did not exceed any of the remedial action levels (RAL). However, AH-1 did show GRO/DRO TPH exceeding the RAL of 1,150 mg/kg at 0-0.5'. The deeper samples at 0.5' did not show concentration above the RAL. Based on the results, the area of AH-1 was treated with a Micro-Blaze product to aid the degradation of the hydrocarbon. On September 16, 2019, COG personnel collected a composite sample of the area and showed a TPH concentration below the Table 1 closure criteria.

SITE RECLAMATION AND RESTORATION

The spill remained on the facility pad and no reclamation is required for the release.

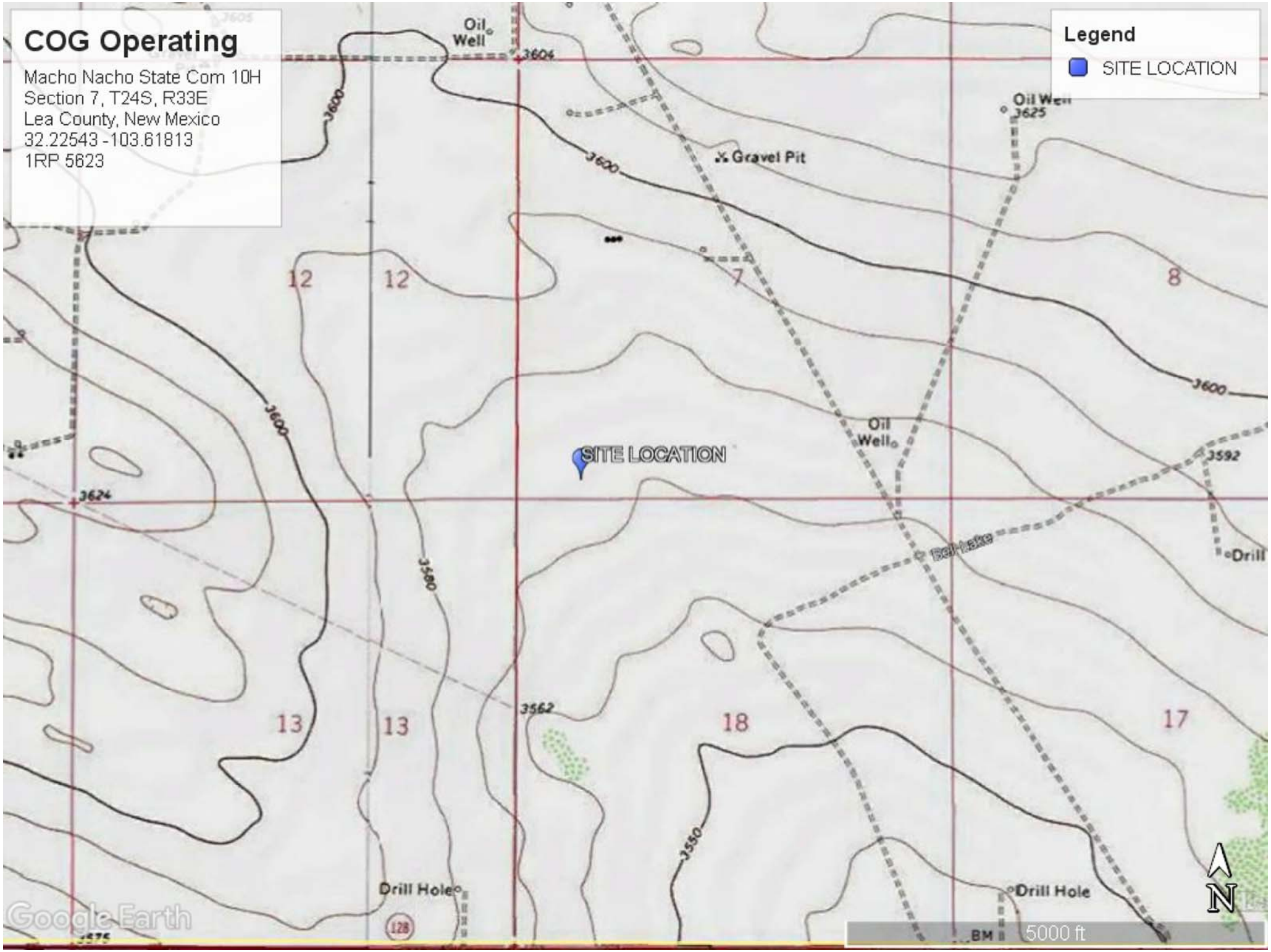
CLOSURE REQUEST

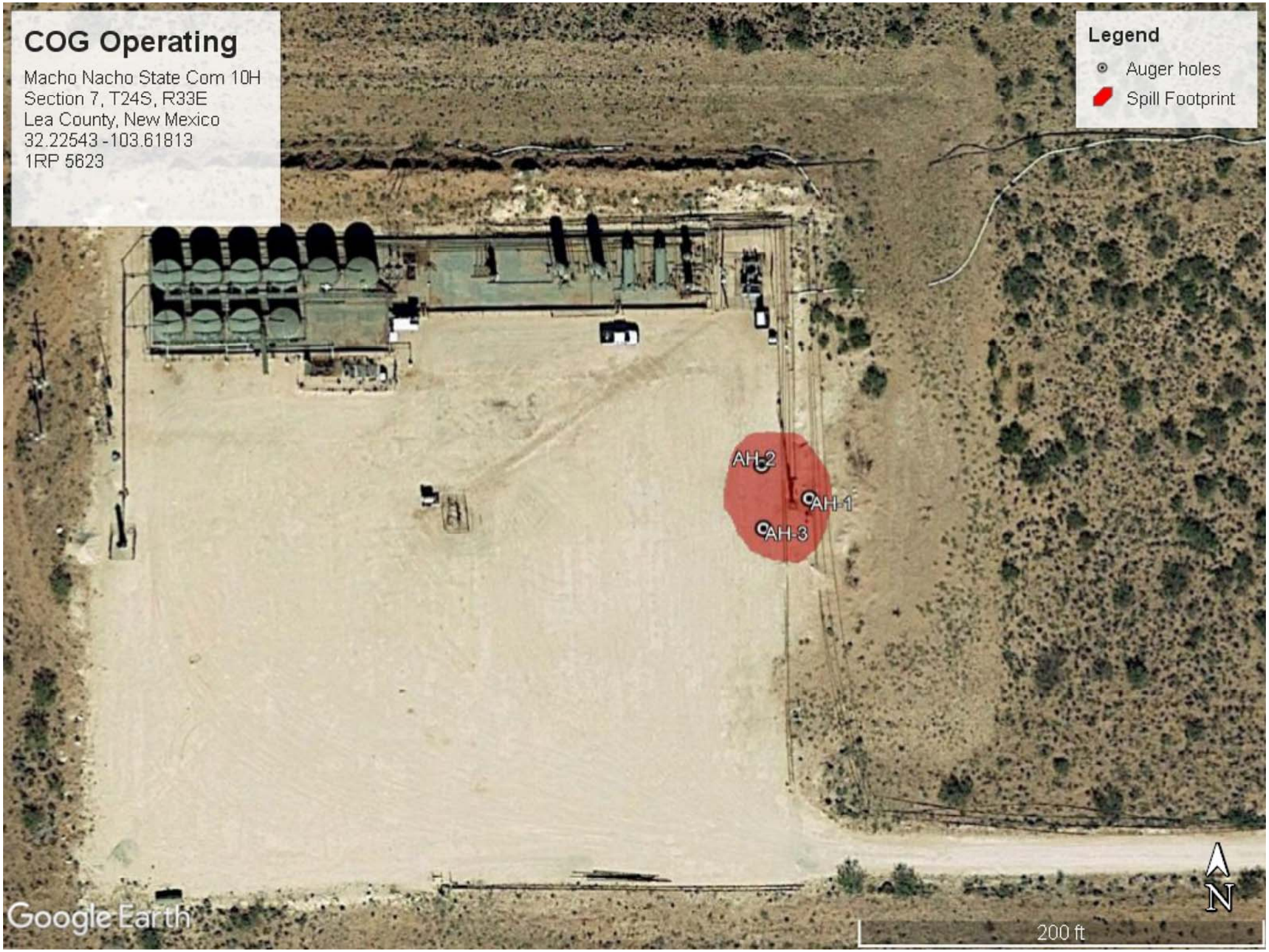
Based on the information provided, COG requesting closure of the release. The signed C-141 Final is included in Appendix A. Should you have any questions or concerns on the closure report, please do not hesitate to contact me.
Sincerely,

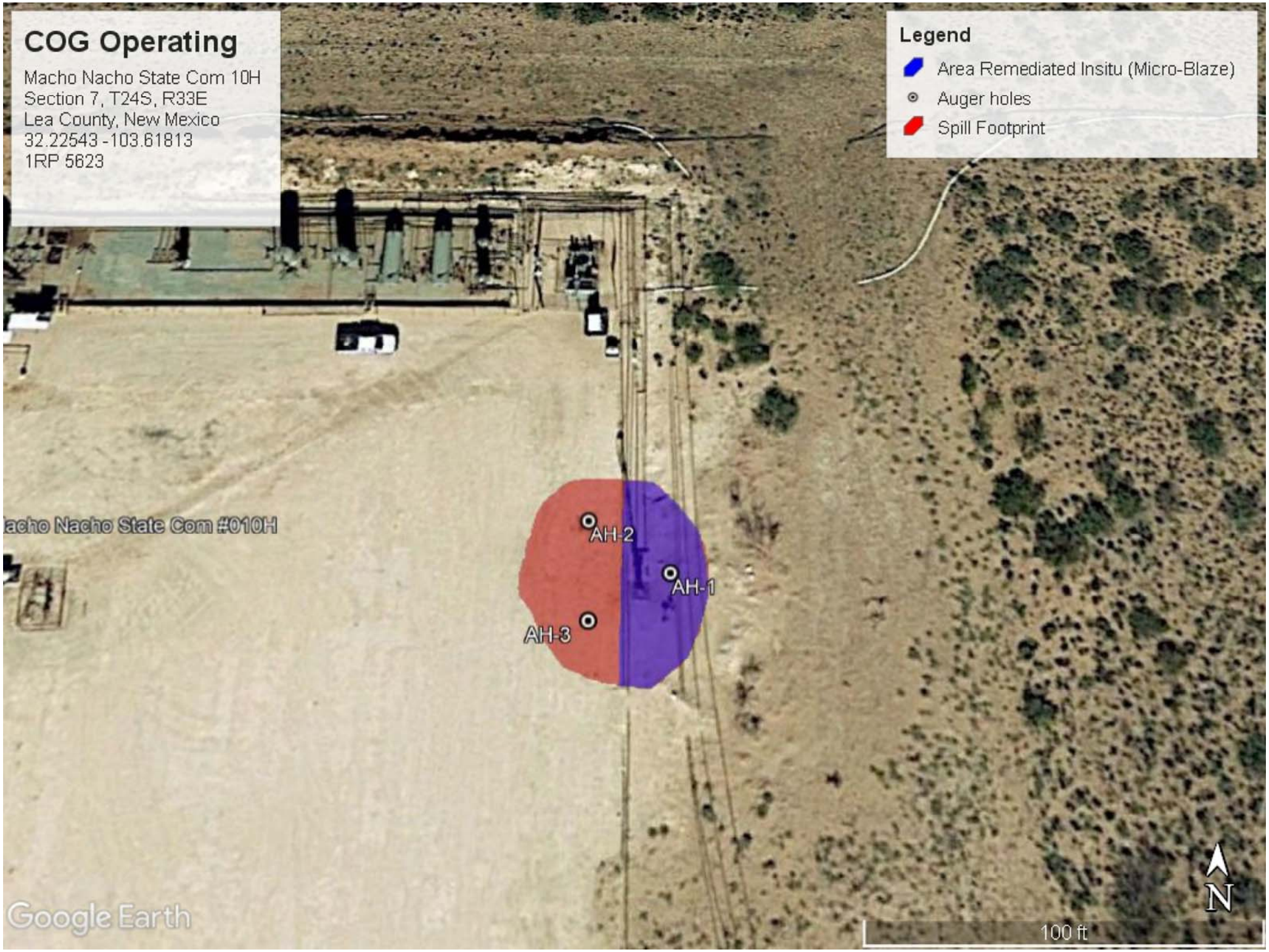
Sincerely,
Concho Operating, LLC

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

Figures


COG Operating
Macho Nacho State Com 10H
Section 7, T24S, R33E
Lea County, New Mexico
32.22543 -103.61813
1RP 5623
Legend
SITE LOCATION
SITE LOCATION
Oil Well
Gravel Pit
Oil Well
Oil Well
Drill Hole
Drill Hole
Drill
12
12
7
8
13
13
18
17
3600
3624
3562
3592
3550
Google Earth
5000 ft
N


COG Operating
Macho Nacho State Com 10H
Section 7, T24S, R33E
Lea County, New Mexico
32.22543 -103.61813
1RP 5623
Legend
Auger holes
Spill Footprint
AH-2
AH-1
AH-3
N
200 ft
Google Earth


COG Operating
Macho Nacho State Com 10H
Section 7, T24S, R33E
Lea County, New Mexico
32.22543 -103.61813
1RP 5623
Legend
Area Remediated Insitu (Micro-Blaze)
Auger holes
Spill Footprint
AH-2
AH-1
AH-3
N
100 ft
Google Earth

Tables

Table 1
COG Operating LLC.
Macho Nacho State Com 10H
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*			
Closure Criteria Concentrations (mg/kg)					-	-	-	2,500	-	-	1,000	10	50	20,000
AH-1	7/11/2019	0-0.5	X		<10.0	1150	507	1657	<10.0	1150	**1150**	<0.05	<0.3	112
		0.5	X		<10.0	24.4	32	56.4	<10.0	24.4	24.4	<0.05	<0.3	32
AH-1	9/16/2019	0-0.5	X		<10.0	63.9	75.2	139.1	<10.0	63.9	63.9	-	-	-
AH-2	7/11/2019	0-0.5	X		<10.0	17.2	16.6	33.8	<10.0	17.2	17.2	<0.05	<0.3	32
		0.5	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.05	<0.3	64
AH-3	7/11/2019	0-0.5	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.05	<0.3	32
		0.5	X		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<0.05	<0.3	32

Area Treated Micro-Blaze and Re-sampled

(-) Not Analyzed

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	1RP 5623
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Production, LLC	OGRID	217955
Contact Name	Jennifer Knowlton	Contact Telephone	(575) 748-1570
Contact email	JKnowlton@concho.com	Incident # *(assigned by OCD)*	
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.22543 Longitude -103.61813

(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Macho Nacho State Com #010H	Site Type	Flare
Date Release Discovered	July 6, 2019	API# *(if applicable)*	30-025-42453

Unit Letter	Section	Township	Range	County
M	07	24S	33E	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) 2	Volume Recovered (bbls) 0
☐ 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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP 5623
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? The volume 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 July 8, 2019 at 11:09 am to Dylan Rose-Coss 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: 7/9/2019

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 5623
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	50-100' (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☑ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ No
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 5623
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: 10/3/19

email: itavarez@conch.com Telephone: (432) 683-7443

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP 5623
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 Superviser

Signature:  Date: 10/3/19

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 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
C 02308		CUB	LE	1	3	1	10	24S	33E	634953	3567364*	40	20	20
C 02309		CUB	LE	2	2	2	25	24S	33E	639638	3562994*	60	30	30
C 02310		CUB	LE	2	3	2	33	24S	33E	634437	3560918*	120	70	50
C 02311		CUB	LE	2	3	2	33	24S	33E	634437	3560918*	120	70	50
C 02430		CUB	LE	3	3	3	16	24S	33E	633377	3564732*	643	415	228
C 02431		CUB	LE	4	4	4	17	24S	33E	633175	3564728*	525	415	110
C 02432		CUB	LE	4	4	4	17	24S	33E	633175	3564728*	640	415	225
C 02563		CUB	LE	1	4	2	33	24S	33E	634639	3560923*	120		
C 02564		CUB	LE	2	4	2	33	24S	33E	634839	3560923*	120		
C 02890		C	LE		2	4	29	24S	33E	633114	3562012*	500		
C 03565 POD3		CUB	LE		3	4	08	24S	33E	632763	3566546		1533	
C 03591 POD1		CUB	LE	2	1	4	05	24S	33E	632731	3568518			
C 03600 POD1		CUB	LE	2	2	1	26	24S	33E	637275	3563023			
C 03600 POD2		CUB	LE	4	4	1	25	24S	33E	638824	3562329			
C 03600 POD3		CUB	LE	3	4	2	26	24S	33E	637784	3562340			
C 03600 POD4		CUB	LE	3	3	1	26	24S	33E	636617	3562293			
C 03600 POD5		CUB	LE	3	2	4	26	24S	33E	637857	3562020			
C 03600 POD6		CUB	LE	3	1	4	26	24S	33E	637383	3562026			
C 03600 POD7		CUB	LE	3	1	3	26	24S	33E	636726	3561968			
C 03601 POD1		CUB	LE	4	4	2	23	24S	33E	638124	3563937			
C 03601 POD2		CUB	LE	3	2	4	23	24S	33E	637846	3563588			
C 03601 POD3		CUB	LE	1	3	3	24	24S	33E	638142	3563413			
C 03601 POD4		CUB	LE	3	3	3	24	24S	33E	638162	3561375			
C 03601 POD5		CUB	LE	2	4	4	23	24S	33E	637988	3563334			
C 03601 POD6		CUB	LE	1	4	4	23	24S	33E	637834	3563338			
C 03601 POD7		CUB	LE	4	4	4	23	24S	33E	637946	3563170			
C 03602 POD2		CUB	LE	4	4	1	25	24S	33E	638824	3562329			
C 03603 POD1		CUB	LE	3	2	2	35	24S	33E	637805	3561225			
C 03603 POD2		CUB	LE	3	1	2	35	24S	33E	637384	3561167			
C 03603 POD3		CUB	LE	4	1	1	35	24S	33E	636890	3561092			

C_03603 POD4	CUB	LE	3	2	4	35	24S	33E	637789	3560461				
C_03603 POD5	CUB	LE	3	3	2	35	24S	33E	636745	3560767				
C_03603 POD6	CUB	LE	3	1	3	35	24S	33E	636749	3560447				
C_03662 POD1	C	LE	3	1	2	23	24S	33E	637342	3564428		550	110	440
C_03666 POD1	C	LE	2	3	4	13	24S	33E	639132	3565078		650	390	260
C_03679 POD1	C	ED	1	4	2	14	24S	33E	603567	3581547		700	575	125
C_03917 POD1	C	LE	4	1	3	13	24S	33E	638374	3565212		600	420	180
C_04014 POD2	CUB	LE	4	4	2	01	24S	33E	639656	3568917		95	81	14
C_04014 POD3	CUB	LE	2	4	2	01	24S	33E	639497	3569007		95	87	8
C_04014 POD4	CUB	LE	3	4	2	01	24S	33E	639295	3568859		96	86	10
C_04014 POD5	CUB	LE	1	4	2	01	24S	33E	639284	3569086		95	85	10
C_04339 POD1	CUB	LE	1	3	3	23	24S	33E	636525	3563309		47		
C_04339 POD10	CUB	LE	4	1	4	23	24S	33E	637688	3563503		49		
C_04339 POD2	CUB	LE	2	3	3	23	24S	33E	636789	3563315				
C_04339 POD3	CUB	LE	2	4	3	23	24S	33E	637273	3563323		38		
C_04339 POD4	CUB	LE	2	4	3	23	24S	33E	637273	3563323		47		
C_04339 POD5	CUB	LE	2	3	4	23	24S	33E	637580	3563328		54		
C_04339 POD6	CUB	LE	3	1	2	23	24S	33E	637340	3564386		60		
C_04339 POD7	CUB	LE	4	4	2	23	24S	33E	636473	3564011		43		
C_04339 POD8	CUB	LE	1	1	3	23	24S	33E	636519	3563681		30		
C_04339 POD9	CUB	LE	3	4	2	23	24S	33E	637731	3563913		45		

Average Depth to Water: **300 feet**

Minimum Depth: **20 feet**

Maximum Depth: **1533 feet**

Record Count: 51

PLSS Search:

Township: 24S **Range:** 33E

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

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 =

- 321236103350101

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

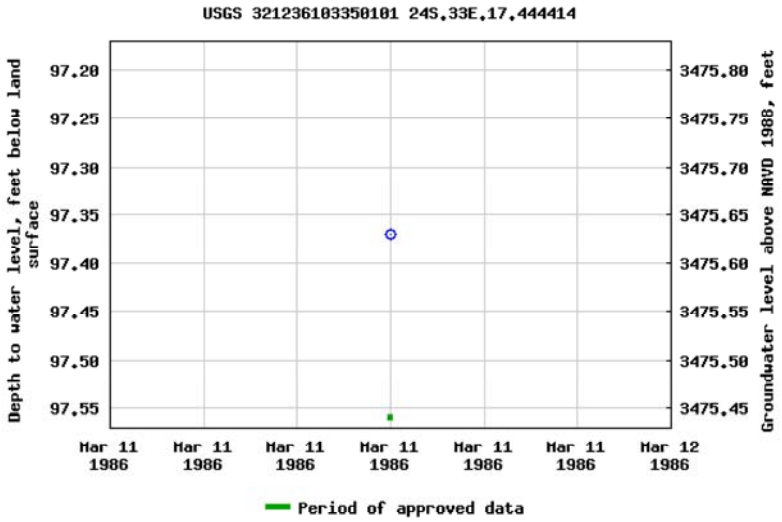
USGS 321236103350101 24S.33E.17.444414

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

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°12'36", Longitude 103°35'01" NAD27
Land-surface elevation 3,573 feet above NAVD88
This well is completed in the Ogallala Formation (121OGLL) local aquifer.

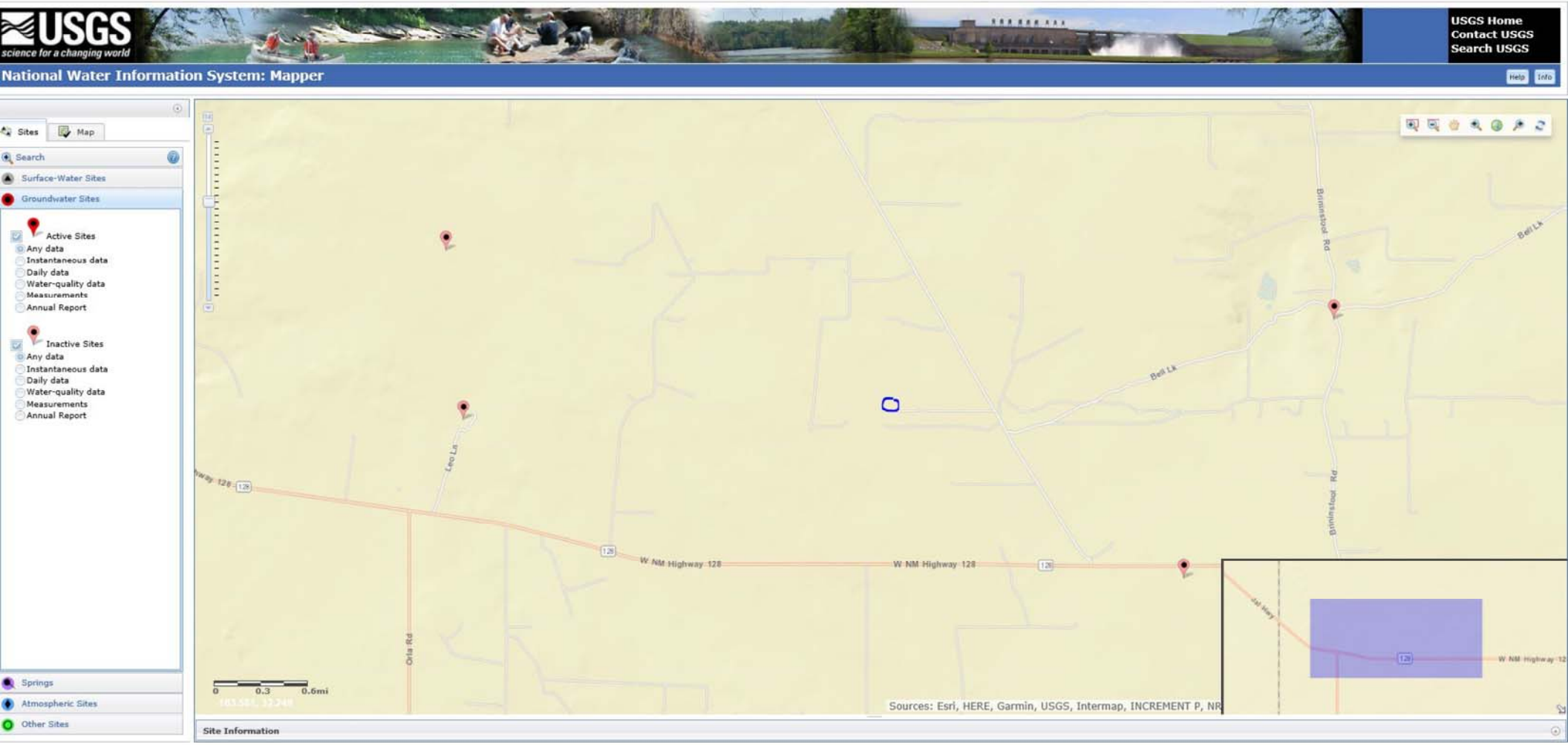
Output formats

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


USGS
science for a changing world
USGS Home
Contact USGS
Search USGS
National Water Information System: Mapper
Help
Info
Sites
Map
Search
Surface-Water Sites
Groundwater Sites
Active Sites
Any data
Instantaneous data
Daily data
Water-quality data
Measurements
Annual Report
Inactive Sites
Any data
Instantaneous data
Daily data
Water-quality data
Measurements
Annual Report
Springs
Atmospheric Sites
Other Sites
W NM Highway 128
Leo Ln
Bell Ln
Brimstool Rd
Orla Rd
0
0.3
0.6mi
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NR
Site Information

CONCHO

ArcGIS Web Map

Legend

OSE PODs

- Active
- Pending
- Unknown

Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Mine Workings

Karst Occurance Areas

- High
- Low
- Medium

Macho Nacho St. Com #010H

ORLA RD

128

3650

3600

3550

0.5 0.25 0 0.5 mi

N W E S

Appendix C

CARDINAL Laboratories

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

July 15, 2019

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: MACHO NACHO STATE COM #010H

Enclosed are the results of analyses for samples received by the laboratory on 07/12/19 12:24.

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
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/15/2019	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE COM #010H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA CO NM		

Sample ID: AH - 1 0' (H902403-01)

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	07/12/2019	ND	1.84	91.9	2.00	0.387	
Toluene*	<0.050	0.050	07/12/2019	ND	1.81	90.5	2.00	1.25	
Ethylbenzene*	<0.050	0.050	07/12/2019	ND	1.72	86.0	2.00	0.792	
Total Xylenes*	<0.150	0.150	07/12/2019	ND	5.22	87.0	6.00	0.490	
Total BTEX	<0.300	0.300	07/12/2019	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	07/15/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2019	ND	196	97.8	200	1.52	
DRO >C10-C28*	**1150**	10.0	07/12/2019	ND	192	95.9	200	0.132	
EXT DRO >C28-C36	**507**	10.0	07/12/2019	ND					

Surrogate: 1-Chlorooctane *75.1 %* *41-142*

Surrogate: 1-Chlorooctadecane *111 %* *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:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/15/2019	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE COM #010H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA CO NM		

Sample ID: AH - 1 0.5' (H902403-02)

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	07/12/2019	ND	1.84	91.9	2.00	0.387	
Toluene*	<0.050	0.050	07/12/2019	ND	1.81	90.5	2.00	1.25	
Ethylbenzene*	<0.050	0.050	07/12/2019	ND	1.72	86.0	2.00	0.792	
Total Xylenes*	<0.150	0.150	07/12/2019	ND	5.22	87.0	6.00	0.490	
Total BTEX	<0.300	0.300	07/12/2019	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	07/15/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2019	ND	196	97.8	200	1.52	
DRO >C10-C28*	**24.4**	10.0	07/12/2019	ND	192	95.9	200	0.132	
EXT DRO >C28-C36	**32.0**	10.0	07/12/2019	ND					

Surrogate: 1-Chlorooctane *78.2 %* *41-142*

Surrogate: 1-Chlorooctadecane *87.4 %* *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:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/15/2019	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE COM #010H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA CO NM		

Sample ID: AH - 2 0' (H902403-03)

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	07/12/2019	ND	1.84	91.9	2.00	0.387	
Toluene*	<0.050	0.050	07/12/2019	ND	1.81	90.5	2.00	1.25	
Ethylbenzene*	<0.050	0.050	07/12/2019	ND	1.72	86.0	2.00	0.792	
Total Xylenes*	<0.150	0.150	07/12/2019	ND	5.22	87.0	6.00	0.490	
Total BTEX	<0.300	0.300	07/12/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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	07/15/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2019	ND	196	97.8	200	1.52	
DRO >C10-C28*	**17.6**	10.0	07/12/2019	ND	192	95.9	200	0.132	
EXT DRO >C28-C36	**16.6**	10.0	07/12/2019	ND					

Surrogate: 1-Chlorooctane *76.1 %* *41-142*

Surrogate: 1-Chlorooctadecane *81.5 %* *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:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/15/2019	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE COM #010H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA CO NM		

Sample ID: AH - 2 0.5' (H902403-04)

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	07/12/2019	ND	1.84	91.9	2.00	0.387	
Toluene*	<0.050	0.050	07/12/2019	ND	1.81	90.5	2.00	1.25	
Ethylbenzene*	<0.050	0.050	07/12/2019	ND	1.72	86.0	2.00	0.792	
Total Xylenes*	<0.150	0.150	07/12/2019	ND	5.22	87.0	6.00	0.490	
Total BTEX	<0.300	0.300	07/12/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *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	07/15/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2019	ND	196	97.8	200	1.52	
DRO >C10-C28*	<10.0	10.0	07/12/2019	ND	192	95.9	200	0.132	
EXT DRO >C28-C36	<10.0	10.0	07/12/2019	ND					

Surrogate: 1-Chlorooctane *76.4 %* *41-142*

Surrogate: 1-Chlorooctadecane *84.7 %* *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:

COG OPERATING
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/15/2019	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE COM #010H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA CO NM		

Sample ID: AH - 3 0' (H902403-05)

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	07/12/2019	ND	1.84	91.9	2.00	0.387	
Toluene*	<0.050	0.050	07/12/2019	ND	1.81	90.5	2.00	1.25	
Ethylbenzene*	<0.050	0.050	07/12/2019	ND	1.72	86.0	2.00	0.792	
Total Xylenes*	<0.150	0.150	07/12/2019	ND	5.22	87.0	6.00	0.490	
Total BTEX	<0.300	0.300	07/12/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *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	07/15/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2019	ND	196	97.8	200	1.52	
DRO >C10-C28*	<10.0	10.0	07/12/2019	ND	192	95.9	200	0.132	
EXT DRO >C28-C36	<10.0	10.0	07/12/2019	ND					

Surrogate: 1-Chlorooctane *77.5 %* *41-142*

Surrogate: 1-Chlorooctadecane *84.3 %* *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
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/15/2019	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE COM #010H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA CO NM		

Sample ID: AH - 3 0.5' (H902403-06)

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	07/12/2019	ND	1.84	91.9	2.00	0.387	
Toluene*	<0.050	0.050	07/12/2019	ND	1.81	90.5	2.00	1.25	
Ethylbenzene*	<0.050	0.050	07/12/2019	ND	1.72	86.0	2.00	0.792	
Total Xylenes*	<0.150	0.150	07/12/2019	ND	5.22	87.0	6.00	0.490	
Total BTEX	<0.300	0.300	07/12/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *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	07/15/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2019	ND	196	97.8	200	1.52	
DRO >C10-C28*	<10.0	10.0	07/12/2019	ND	192	95.9	200	0.132	
EXT DRO >C28-C36	<10.0	10.0	07/12/2019	ND					

Surrogate: 1-Chlorooctane *75.5 %* *41-142*

Surrogate: 1-Chlorooctadecane *79.0 %* *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

CONCHO

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

Client Name: COG-Artesia	Site Manager: Sheldon Hitchcock
Project Name: Macho Nacho St. com #010H	
Project Location: (county, state) Lea, NM	Project #:
Invoice to: Sheldon Hitchcock	
Receiving Laboratory: ~~ARDINAL~~ CARDINAL	Sampler Name: Sheldon Hitchcock
Comments: Rush	

H902403

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	(G)rab/(C)omposit	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
1	AH-1 0'	7/11	11:00		X			X	1	G	X	X	X	
2	AH-1 0.5'		11:02		X			X	1	G	X	X	X	
3	AH-2 0'		11:04		X			X	1	G	X	X	X	
4	AH-2 0.5'		11:06		X			X	1	G	X	X	X	
5	AH-3 0'		11:08		X			X	1	G	X	X	X	
6	AH-3 0.5'		11:10		X			X	1	G	X	X	X	

ANALYSIS REQUEST (Circle or Specify Method No.)

Relinquished by:	Date:	Time:	Received by: Jodi Henson 7/12/19 12:24
Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY

Sample Temperature 2.9°C #97

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

CARDINAL Laboratories

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

September 17, 2019

SHELDON HITCHCOCK

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: MACHO NACHO STATE COM #010H

Enclosed are the results of analyses for samples received by the laboratory on 09/16/19 14:35.

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
SHELDON HITCHCOCK
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	09/16/2019	Sampling Date:	09/16/2019
Reported:	09/17/2019	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE COM #010H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

Sample ID: AH - 1 0' (H903184-01)

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	09/17/2019	ND	210	105	200	0.401	
DRO >C10-C28*	**63.9**	10.0	09/17/2019	ND	205	103	200	1.86	
EXT DRO >C28-C36	**75.2**	10.0	09/17/2019	ND					

Surrogate: 1-Chlorooctane	*78.3 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*86.6 %*	*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

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

CONCHO

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

Client Name: COG-Artesia	Site Manager: Sheldon Hitchcock
Project Name: Macho Nacho St. Com #10H	
Project Location: (county, state) Lea, NM	Project #:
Invoice to: Sheldon Hitchcock	
Receiving Laboratory: Cardinal	Sampler Name: Sheldon Hitchcock
Comments: Rush	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
H903184														
1	AH-1 0'	9/16	12:00		X			X	1	C	X			

Relinquished by: Sheldon Hitchcock	Date:	Time:	Received by: Tamara Oldaker 9-16-19 14:35
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

LAB USE ONLY

Sample Temperature 5.1° #97 Corrected 5.5°

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 #: _____

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