



August 5, 2019

3J73W-190805-C-1410

Mike Bratcher
Oil Conservation Division, District 2
811 S First Street
Artesia, NM 88210

Jim Amos
Bureau of Land Management, CFO
620 E. Green Street
Carlsbad, NM 88220

Closure Report:

Magura 8 Federal #004H
API#: 30-015-39472
RP#: 2RP-5202
DOR: January 7, 2019
GPS: 32.063591 -104.316925
Unit Letter C, Section 8, Township 26 South, Range 26 East
Eddy County, New Mexico

Mr. Bratcher/Mr. Amos,

COG Operating, LLC (COG) is pleased to submit the following closure report in response to a release that occurred at the Magura 8 Federal #004H. The release was located in Unit Letter C, Section 81, Township 26 South and Range 26 East in Eddy County, New Mexico. More specifically the latitude and longitude for the release are 32.063591 North and -104.316925 West.

BACKGROUND

The release was discovered on January 7, 2019. A C-141 report was submitted to the New Mexico Oil Conservation Division (NMOCD) and the Bureau of Land Management (BLM). The C-141 is presented in Appendix A. The release was caused by a third party trucking company failing to close the load line valve resulting in the release of approximately thirty (30) barrels (bbls) of produced water. A vacuum truck was utilized to recover approximately twenty-five (25) bbls of produced water. All of the fluid remained on the well pad.

GROUNDWATER AND REGULATORY FRAMEWORK

According to the United States Geological Survey (USGS) the nearest water well with measurement data (320244104161501) indicates that groundwater in the project vicinity is approximately thirty-six (36) feet below ground surface (BGS). The water well information is shown in Appendix B.

A risk based evaluation and site determinations were performed in accordance to the New Mexico Oil Conservation Division (NMOCD) Rule (Title 19 Chapter 15 Part 29) for releases on oil and gas development and production in New Mexico (effective August 14, 2018). According to the site characterization evaluation the release was in a high karst potential area, no other receptors (water wells, playas, 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.)
High Karst Potential	36 feet

DELINEATION AND CLOSURE CRITERIA:

Table I Closure Criteria	
Chlorides	600 mg/kg
TPH (GRO and DRO and MRO)	100 mg/kg
TPH (GRO and DRO)	N/A
Benzene	10 mg/kg
Total BTEX	50 mg/kg

Remedial Actions

- The impacted area was excavated to a depth of two (2) feet BGS. Upon receipt of analytical data from the confirmation soil sampling activities it was determined that the impacted area in the vicinity of sample location B-6 would require further excavation. This area was excavated to a depth of three (3) feet BGS and additional confirmation soil sampling was performed.
- All of the excavated material was hauled to an NMOCD approved solid waste disposal facility.
- Confirmation soil samples were taken from the bottom and sidewalls of the excavated areas per NMAC 19.15.29.

- Upon receipt of acceptable analytical results from the confirmation soil sampling activities the excavation was backfilled with clean “like” material.

SITE RECLAMATION AND RESTORATION

All of the fluid remained on the well pad. No reclamation activities will be required at this site.

CLOSURE REQUEST

COG Operating, LLC respectfully requests that the New Mexico Oil Conservation Division and the Bureau of Land Management grant closure approval for the Magura 8 Federal #004H incident that occurred on January 7, 2019.

Should you have any questions or concerns please do not hesitate to contact me.

Sincerely,



Sheldon L. Hitchcock
HSE Coordinator
shitchcock@concho.com

FIGURES

Magura 8 Federal #004H



Legend

- Confirmation Sample Location
- Excavated Area

TABLES

Table 1
COG Operating LLC.
Magura 8 Federal #004H
Eddy County, New Mexico

Sample ID	Sample Depth (ft)	Sample Date	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total			
NMOCD RRAL Limits (mg/kg)					-	-	-	100	10	50	600
B-1	2	4/15/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	352
B-2	2	4/15/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	128
B-3	2	4/15/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	112
B-4	2	4/15/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	288
B-5	2	4/15/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	80
B-6	2	4/15/2019		X	<10.0	437	341	778.0	<0.050	<0.300	48
B-6	3	8/1/2019	X		<10.0	<10.0	<10.0	0.0	#	#	#
B-7	2	4/15/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	240
B-8	2	4/15/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	272
B-9	2	4/15/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	144
B-10	2	4/15/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	256
B-11	2	4/16/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	208
B-12	2	4/16/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	32
B-13	2	4/16/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	64
B-14	2	4/16/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	288
S-1	N/A	4/16/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	176
S-2	N/A	4/16/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	352
SSW	N/A	4/16/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	112
WSW	N/A	4/16/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	352
NSW	N/A	4/16/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.300	464

(#) 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

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

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

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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input type="checkbox"/> 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

<input type="checkbox"/> The source of the release has been stopped. <input type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <u>not</u> 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: <u>Sheldon Nitam</u> Date: _____ email: _____ Telephone: _____
<u>OCD Only</u> Received by: _____ Date: _____

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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input type="checkbox"/> 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.

Incident ID	
District RP	
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: _____ Title: _____

Signature: Sheldon Nitan Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

Signature: Sheldon Hittman Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

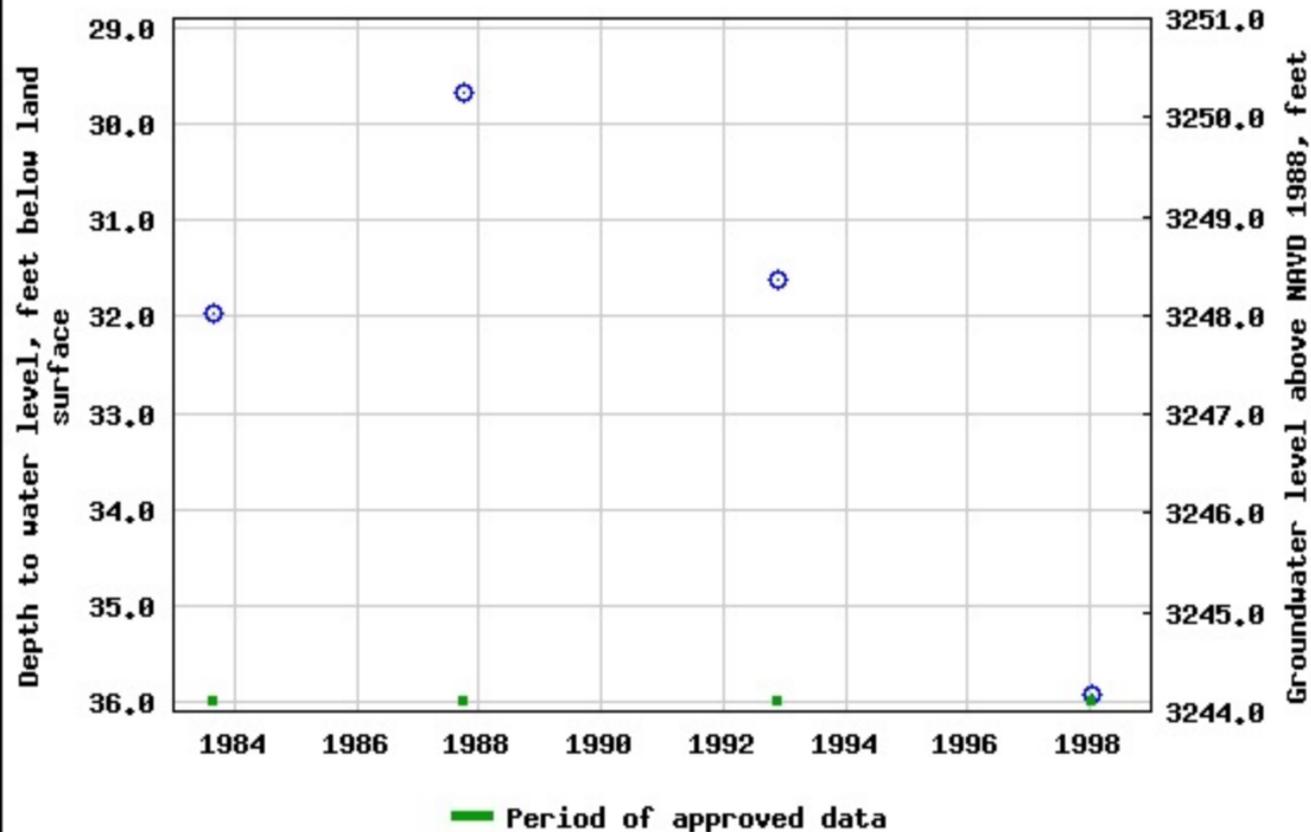
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

APPENDIX B

USGS 320244104161501 26S.26E.15.24444



Legend

OSE PODs

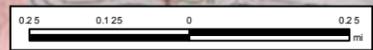
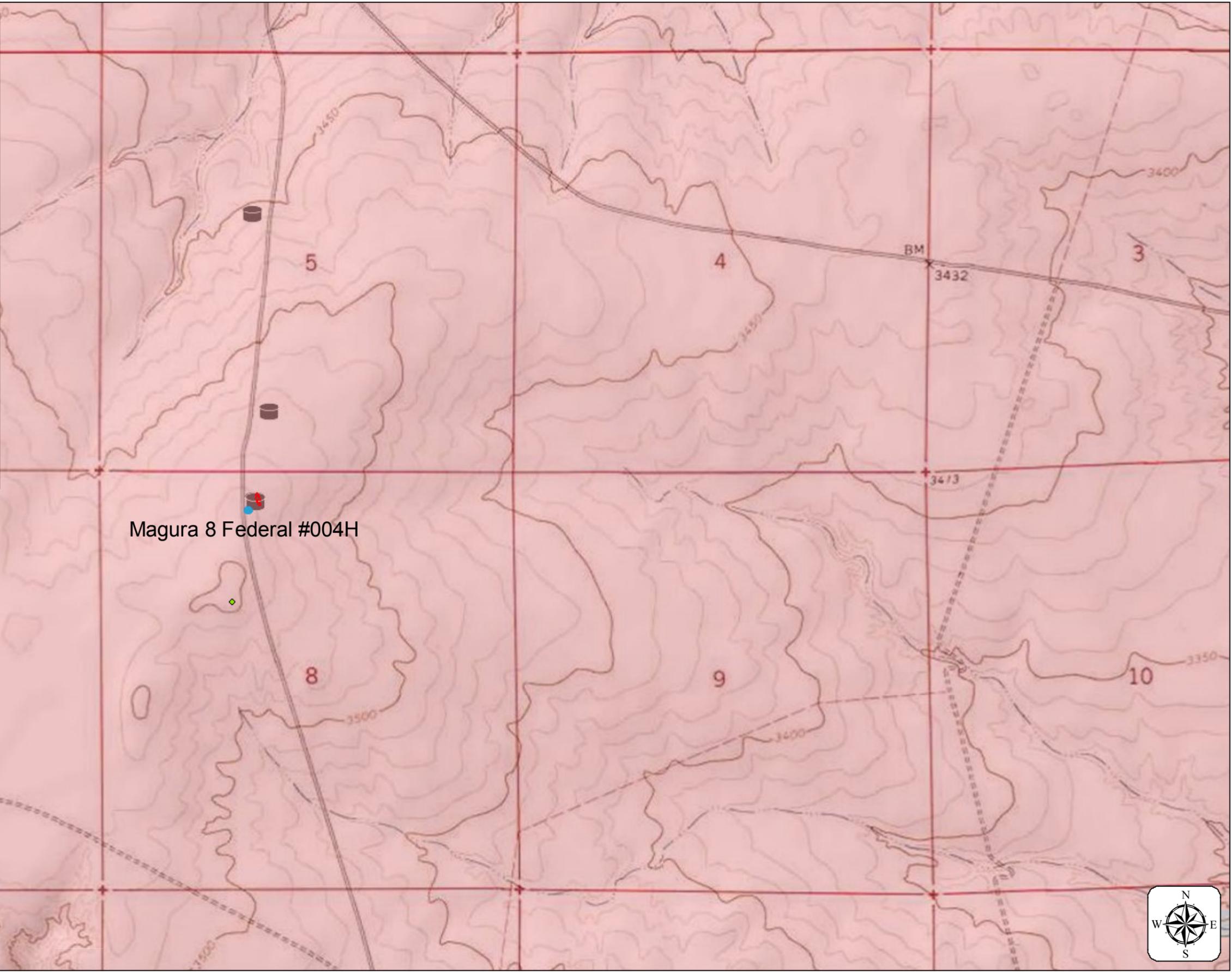
- Active

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



APPENDIX C

April 23, 2019

LUPE CARRASCO

MMX

2737 PECOS HWY

CARLSBAD, NM 88220

RE: MAGURA 8 FED #4H

Enclosed are the results of analyses for samples received by the laboratory on 04/16/19 9:00.

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 accredited 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

Lab Director/Quality Manager

Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received:	04/16/2019	Sampling Date:	04/15/2019
Reported:	04/23/2019	Sampling Type:	Soil
Project Name:	MAGURA 8 FED #4H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: B 1 (H901382-01)

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	04/18/2019	ND	2.00	99.8	2.00	8.01		
Toluene*	0.063	0.050	04/18/2019	ND	2.02	101	2.00	4.73		
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08		
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28		
Total BTEX	<0.300	0.300	04/18/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.7 % 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	352	16.0	04/17/2019	ND	416	104	400	3.77		

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	04/18/2019	ND	186	92.8	200	0.179		
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	201	100	200	7.77		
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND						

Surrogate: 1-Chlorooctane 96.3 % 41-142
Surrogate: 1-Chlorooctadecane 95.2 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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 client for 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 thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received:	04/16/2019	Sampling Date:	04/15/2019
Reported:	04/23/2019	Sampling Type:	Soil
Project Name:	MAGURA 8 FED #4H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: B 2 (H901382-02)

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	04/18/2019	ND	2.00	99.8	2.00	8.01	
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73	
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08	
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28	
Total BTEX	<0.300	0.300	04/18/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.4 % 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	128	16.0	04/17/2019	ND	416	104	400	3.77	

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	04/18/2019	ND	186	92.8	200	0.179	
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	201	100	200	7.77	
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND					

Surrogate: 1-Chlorooctane 95.2 % 41-142

Surrogate: 1-Chlorooctadecane 94.6 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

 Received: 04/16/2019
 Reported: 04/23/2019
 Project Name: MAGURA 8 FED #4H
 Project Number: NONE GIVEN
 Project Location: COG

 Sampling Date: 04/15/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: B 3 (H901382-03)

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	04/18/2019	ND	2.00	99.8	2.00	8.01		
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73		
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08		
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28		
Total BTEX	<0.300	0.300	04/18/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.7 % 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	112	16.0	04/17/2019	ND	416	104	400	3.77		

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	04/18/2019	ND	186	92.8	200	0.179		
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	201	100	200	7.77		
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND						

Surrogate: 1-Chlorooctane 96.2 % 41-142

Surrogate: 1-Chlorooctadecane 95.6 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

 Received: 04/16/2019
 Reported: 04/23/2019
 Project Name: MAGURA 8 FED #4H
 Project Number: NONE GIVEN
 Project Location: COG

 Sampling Date: 04/15/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: B 4 (H901382-04)

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	04/18/2019	ND	2.00	99.8	2.00	8.01		
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73		
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08		
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28		
Total BTEX	<0.300	0.300	04/18/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.1 % 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	288	16.0	04/17/2019	ND	416	104	400	3.77		

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	04/18/2019	ND	186	92.8	200	0.179		
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	201	100	200	7.77		
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND						

Surrogate: 1-Chlorooctane 93.8 % 41-142

Surrogate: 1-Chlorooctadecane 92.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

 Received: 04/16/2019
 Reported: 04/23/2019
 Project Name: MAGURA 8 FED #4H
 Project Number: NONE GIVEN
 Project Location: COG

 Sampling Date: 04/15/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: B 5 (H901382-05)

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	04/18/2019	ND	2.00	99.8	2.00	8.01		
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73		
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08		
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28		
Total BTEX	<0.300	0.300	04/18/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	04/17/2019	ND	416	104	400	3.77		

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	04/18/2019	ND	186	92.8	200	0.179		
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	201	100	200	7.77		
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND						

Surrogate: 1-Chlorooctane 90.0 % 41-142

Surrogate: 1-Chlorooctadecane 89.3 % 37.6-147

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Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

 Received: 04/16/2019
 Reported: 04/23/2019
 Project Name: MAGURA 8 FED #4H
 Project Number: NONE GIVEN
 Project Location: COG

 Sampling Date: 04/15/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: B 6 (H901382-06)

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	04/18/2019	ND	2.00	99.8	2.00	8.01	
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73	
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08	
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28	
Total BTEX	<0.300	0.300	04/18/2019	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	48.0	16.0	04/17/2019	ND	416	104	400	3.77	

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	04/22/2019	ND	186	92.8	200	0.179	
DRO >C10-C28*	437	10.0	04/22/2019	ND	201	100	200	7.77	
EXT DRO >C28-C36	341	10.0	04/22/2019	ND					

Surrogate: 1-Chlorooctane 94.2 % 41-142

Surrogate: 1-Chlorooctadecane 95.4 % 37.6-147

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Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

 Received: 04/16/2019
 Reported: 04/23/2019
 Project Name: MAGURA 8 FED #4H
 Project Number: NONE GIVEN
 Project Location: COG

 Sampling Date: 04/15/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: B 7 (H901382-07)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/18/2019	ND	2.00	99.8	2.00	8.01	
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73	
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08	
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28	
Total BTEX	<0.300	0.300	04/18/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	04/17/2019	ND	416	104	400	3.77	

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	04/18/2019	ND	186	92.8	200	0.179	
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	201	100	200	7.77	
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND					

Surrogate: 1-Chlorooctane 91.7 % 41-142

Surrogate: 1-Chlorooctadecane 91.5 % 37.6-147

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Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received:	04/16/2019	Sampling Date:	04/15/2019
Reported:	04/23/2019	Sampling Type:	Soil
Project Name:	MAGURA 8 FED #4H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: B 8 (H901382-08)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/18/2019	ND	2.00	99.8	2.00	8.01		
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73		
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08		
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28		
Total BTEX	<0.300	0.300	04/18/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.7 % 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	272	16.0	04/17/2019	ND	416	104	400	3.77		

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	04/18/2019	ND	186	92.8	200	0.179		
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	201	100	200	7.77		
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND						

Surrogate: 1-Chlorooctane 91.7 % 41-142

Surrogate: 1-Chlorooctadecane 91.4 % 37.6-147

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Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

 Received: 04/16/2019
 Reported: 04/23/2019
 Project Name: MAGURA 8 FED #4H
 Project Number: NONE GIVEN
 Project Location: COG

 Sampling Date: 04/15/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: B 9 (H901382-09)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/18/2019	ND	2.00	99.8	2.00	8.01	
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73	
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08	
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28	
Total BTEX	<0.300	0.300	04/18/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.1 % 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	144	16.0	04/17/2019	ND	416	104	400	3.77	

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	04/18/2019	ND	186	92.8	200	0.179	
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	201	100	200	7.77	
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND					

Surrogate: 1-Chlorooctane 86.7 % 41-142

Surrogate: 1-Chlorooctadecane 86.2 % 37.6-147

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Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received:	04/16/2019	Sampling Date:	04/15/2019
Reported:	04/23/2019	Sampling Type:	Soil
Project Name:	MAGURA 8 FED #4H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: B 10 (H901382-10)

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	04/18/2019	ND	2.00	99.8	2.00	8.01	
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73	
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08	
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28	
Total BTEX	<0.300	0.300	04/18/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.1 % 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	256	16.0	04/17/2019	ND	416	104	400	3.77	

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	04/18/2019	ND	186	92.8	200	0.179	
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	201	100	200	7.77	
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND					

Surrogate: 1-Chlorooctane 91.3 % 41-142

Surrogate: 1-Chlorooctadecane 91.5 % 37.6-147

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Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received:	04/16/2019	Sampling Date:	04/16/2019
Reported:	04/23/2019	Sampling Type:	Soil
Project Name:	MAGURA 8 FED #4H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: B 11 (H901382-11)

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	04/18/2019	ND	2.00	99.8	2.00	8.01		
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73		
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08		
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28		
Total BTEX	<0.300	0.300	04/18/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.5 % 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	208	16.0	04/17/2019	ND	416	104	400	3.77		

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	04/18/2019	ND	186	92.8	200	0.179		
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	201	100	200	7.77		
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND						

Surrogate: 1-Chlorooctane 89.5 % 41-142
Surrogate: 1-Chlorooctadecane 88.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

 Received: 04/16/2019
 Reported: 04/23/2019
 Project Name: MAGURA 8 FED #4H
 Project Number: NONE GIVEN
 Project Location: COG

 Sampling Date: 04/16/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: B 12 (H901382-12)

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	04/18/2019	ND	2.00	99.8	2.00	8.01		
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73		
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08		
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28		
Total BTEX	<0.300	0.300	04/18/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	04/17/2019	ND	416	104	400	3.77		

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	04/18/2019	ND	186	92.8	200	0.179		
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	201	100	200	7.77		
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND						

Surrogate: 1-Chlorooctane 90.7 % 41-142

Surrogate: 1-Chlorooctadecane 89.5 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received:	04/16/2019	Sampling Date:	04/16/2019
Reported:	04/23/2019	Sampling Type:	Soil
Project Name:	MAGURA 8 FED #4H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: B 13 (H901382-13)

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	04/18/2019	ND	2.00	99.8	2.00	8.01		
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73		
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08		
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28		
Total BTEX	<0.300	0.300	04/18/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.1 % 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	64.0	16.0	04/17/2019	ND	416	104	400	3.77		

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	04/18/2019	ND	197	98.6	200	0.976		
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	188	94.2	200	0.00213		
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND						

Surrogate: 1-Chlorooctane 95.7 % 41-142

Surrogate: 1-Chlorooctadecane 94.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received:	04/16/2019	Sampling Date:	04/16/2019
Reported:	04/23/2019	Sampling Type:	Soil
Project Name:	MAGURA 8 FED #4H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: B 14 (H901382-14)

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	04/18/2019	ND	2.00	99.8	2.00	8.01		
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73		
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08		
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28		
Total BTEX	<0.300	0.300	04/18/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	04/17/2019	ND	416	104	400	3.77		

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	04/18/2019	ND	197	98.6	200	0.976		
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	188	94.2	200	0.00213		
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND						

Surrogate: 1-Chlorooctane 96.3 % 41-142

Surrogate: 1-Chlorooctadecane 93.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

 Received: 04/16/2019
 Reported: 04/23/2019
 Project Name: MAGURA 8 FED #4H
 Project Number: NONE GIVEN
 Project Location: COG

 Sampling Date: 04/16/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S 1 (H901382-15)

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	04/18/2019	ND	2.00	99.8	2.00	8.01	
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73	
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08	
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28	
Total BTEX	<0.300	0.300	04/18/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.4 % 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	04/17/2019	ND	416	104	400	3.77	

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	04/18/2019	ND	197	98.6	200	0.976	
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	188	94.2	200	0.00213	
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND					

Surrogate: 1-Chlorooctane 92.4 % 41-142

Surrogate: 1-Chlorooctadecane 92.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

 Received: 04/16/2019
 Reported: 04/23/2019
 Project Name: MAGURA 8 FED #4H
 Project Number: NONE GIVEN
 Project Location: COG

 Sampling Date: 04/16/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S 2 (H901382-16)

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	04/18/2019	ND	2.00	99.8	2.00	8.01		
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73		
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08		
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28		
Total BTEX	<0.300	0.300	04/18/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 87.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	04/17/2019	ND	416	104	400	3.77		

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	04/18/2019	ND	197	98.6	200	0.976		
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	188	94.2	200	0.00213		
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND						

Surrogate: 1-Chlorooctane 92.2 % 41-142

Surrogate: 1-Chlorooctadecane 90.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received:	04/16/2019	Sampling Date:	04/16/2019
Reported:	04/23/2019	Sampling Type:	Soil
Project Name:	MAGURA 8 FED #4H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: SSW (H901382-17)

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	04/18/2019	ND	2.00	99.8	2.00	8.01		
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73		
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08		
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28		
Total BTEX	<0.300	0.300	04/18/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.4 % 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	04/17/2019	ND	416	104	400	3.77		

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	04/18/2019	ND	197	98.6	200	0.976		
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	188	94.2	200	0.00213		
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND						

Surrogate: 1-Chlorooctane 96.6 % 41-142

Surrogate: 1-Chlorooctadecane 95.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received:	04/16/2019	Sampling Date:	04/16/2019
Reported:	04/23/2019	Sampling Type:	Soil
Project Name:	MAGURA 8 FED #4H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: WSW (H901382-18)

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	04/18/2019	ND	2.00	99.8	2.00	8.01		
Toluene*	<0.050	0.050	04/18/2019	ND	2.02	101	2.00	4.73		
Ethylbenzene*	<0.050	0.050	04/18/2019	ND	2.06	103	2.00	5.08		
Total Xylenes*	<0.150	0.150	04/18/2019	ND	5.84	97.4	6.00	5.28		
Total BTEX	<0.300	0.300	04/18/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 88.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	04/17/2019	ND	416	104	400	3.77		

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	04/18/2019	ND	197	98.6	200	0.976		
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	188	94.2	200	0.00213		
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND						

Surrogate: 1-Chlorooctane 95.4 % 41-142

Surrogate: 1-Chlorooctadecane 91.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MMX
 LUPE CARRASCO
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

 Received: 04/16/2019
 Reported: 04/23/2019
 Project Name: MAGURA 8 FED #4H
 Project Number: NONE GIVEN
 Project Location: COG

 Sampling Date: 04/16/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: NSW (H901382-19)

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	04/19/2019	ND	1.81	90.3	2.00	0.550	
Toluene*	<0.050	0.050	04/19/2019	ND	1.86	93.0	2.00	1.21	
Ethylbenzene*	<0.050	0.050	04/19/2019	ND	1.86	93.1	2.00	3.32	
Total Xylenes*	<0.150	0.150	04/19/2019	ND	5.28	88.1	6.00	3.58	
Total BTEX	<0.300	0.300	04/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.9 % 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	464	16.0	04/17/2019	ND	416	104	400	3.77	

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	04/18/2019	ND	197	98.6	200	0.976	
DRO >C10-C28*	<10.0	10.0	04/18/2019	ND	188	94.2	200	0.00213	
EXT DRO >C28-C36	<10.0	10.0	04/18/2019	ND					

Surrogate: 1-Chlorooctane 95.6 % 41-142

Surrogate: 1-Chlorooctadecane 93.2 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- 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



Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

10/1

Company Name: <u>MMX</u> Project Manager: <u>Lupe Carrasco</u> Address: City: State: Zip: Phone #: Fax #: Project #: Project Owner: Project Name: <u>Migura & Fed #44H</u> Project Location: Sampler Name: <u>Achie Arries</u>		P.O. #: Company: <u>COG</u> Attn: <u>Sheldon</u> Address: City: State: Zip: Phone #: Fax #: BILL TO	
FOR LAB USE ONLY Lab I.D. Sample I.D. <u>HQD1382</u> <u>1 B31</u> <u>2 B32</u> <u>3 B33</u> <u>4 B34</u> <u>5 B35</u> <u>6 B36</u> <u>7 B37</u> <u>8 B38</u> <u>9 B39</u> <u>10 B310</u>		(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER : DATE TIME	MATRIX PRESERV SAMPLING X BTEX X TPH X Chlorides
Relinquished By: [Signature] Date: [Blank] Time: [Blank]		Received By: <u>[Signature]</u> Date: <u>09:00</u> Time: [Blank]	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: <u>5401 #97</u>		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No CHECKED BY: [Signature]	
Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: [Blank] Add'l Fax #: [Blank]		REMARKS: <u>Email: lupemmxinc@gmail.com</u>	



August 02, 2019

SHELDON HITCHCOCK
COG OPERATING
P. O. BOX 1630
ARTESIA, NM 88210

RE: MAGURA 8 FEDERAL #4

Enclosed are the results of analyses for samples received by the laboratory on 08/01/19 13:30.

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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene
Lab Director/Quality Manager

Analytical Results For:

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

Received:	08/01/2019	Sampling Date:	08/01/2019
Reported:	08/02/2019	Sampling Type:	Soil
Project Name:	MAGURA 8 FEDERAL #4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG - EDDY CO		

Sample ID: B - 6 (H902632-01)

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	08/01/2019	ND	201	101	200	7.96	
DRO >C10-C28*	<10.0	10.0	08/01/2019	ND	198	98.8	200	13.3	
EXT DRO >C28-C36	<10.0	10.0	08/01/2019	ND					
<hr/>									
<i>Surrogate: 1-Chlorooctane</i>	<i>97.0 %</i>	<i>41-142</i>							
<i>Surrogate: 1-Chlorooctadecane</i>	<i>105 %</i>	<i>37.6-147</i>							

Cardinal Laboratories

*=Accredited Analyte

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 client for 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 thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

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



Celey D. Keene, Lab Director/Quality Manager

APPENDIX D

NE

E

SE

60

90

120

150

☉ 105°E (T) ● 32°3.834', -104°19.050' ±16.4ft ▲ 3523ft



CONCHO

COG Operating LLC

MAGURA 8 FEDERAL #4H
UNIT C, SEC. 8-T26S-R26E
330' FNL & 2080' FWL
EDDY CO., NM NMNM103597
API #30-015-39472

SE

S

SW

120

150

180

210

240

☉ 169°S (T) ● 32°3.815', -104°19.034' ±16.4ft ▲ 3525ft



01 Aug 2019, 10:39:31