



November 7, 2018

Maria Pruett
Oil Conservation Division, District 2
811 S First St.
Artesia, NM 88210

Ryan Mann
New Mexico State Land Office
2827 N. Dal Paso Suite 117
Hobbs, NM 88240

**Re: Remediation Work Plan
SRO State Com #046H (2/1/18)
RP#: 2RP-4600
GPS: 32.077915, -104.116168
Unit Letter D, Section 5, Township 26 South, Range 28 East
Eddy County, New Mexico**

Ms. Pruett / Mr. Ryan,

COG Operating, LLC (COG) is pleased to submit the following remediation work plan in response to a release that occurred at the SRO State Com #046H Tank Battery located in Unit Letter D, Section 5, Township 26 South and Range 28 East in Eddy County, New Mexico.

BACKGROUND

An oil and produced water release was discovered at the SRO State Com #046H tank battery on February 1, 2018 and a C-141 initial report was submitted and approved by the New Mexico Oil Conservation Division (NMOCD). The release was due to a valve being left in the wrong position on the free water knockout (FWKO) and resulted in an overflow of the oil tanks. The majority of the released fluid remained inside of the lined containment with some overspray in the adjacent pasture. Approximately ten (10) barrels of oil and thirty-five (35) barrels of produced water were released with eight (8) barrels of oil and thirty-three (33) barrels of produced water recovered. The initial C-141 is shown in Appendix A.

GROUNDWATER AND REGULATORY

According to the USGS groundwater data, the depth to groundwater in the area appears to be <50 feet below surface. The water well information is shown in Appendix B.

An 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 facilities in New Mexico (effective August 14, 2018). According to the site characterization evaluation, the extent of the release are located within a continuously flowing watercourse or other significant watercourse. No other receptors (water wells, playas, karst, 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.)
Within 300 feet of a significant watercourse	<50 feet

Delineation and Closure Criteria:

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

REMEDICATION PLAN

- The impacted area in the vicinity of sample location of T-1 will be excavated to a depth of approximately one and one half (1.5) feet to two (2) feet below ground surface (bgs).
- The impacted area in the vicinity of the South sample location be excavated to a depth of approximately six (6) inches to one (1) foot below ground surface (bgs).
- Approximately sixty (60) to eighty (80) cubic yards of soil will be excavated.
- Composite confirmation samples will be collected from the sidewalls and bottom of the excavation and submitted to the laboratory for TPH analysis.
- All of the excavated material will be hauled to an NMOCD approved solid waste disposal facility.
- The excavation will be backfilled with “like” material and contoured to match the surrounding terrain.

SITE RECLAMATION AND RESTORATION

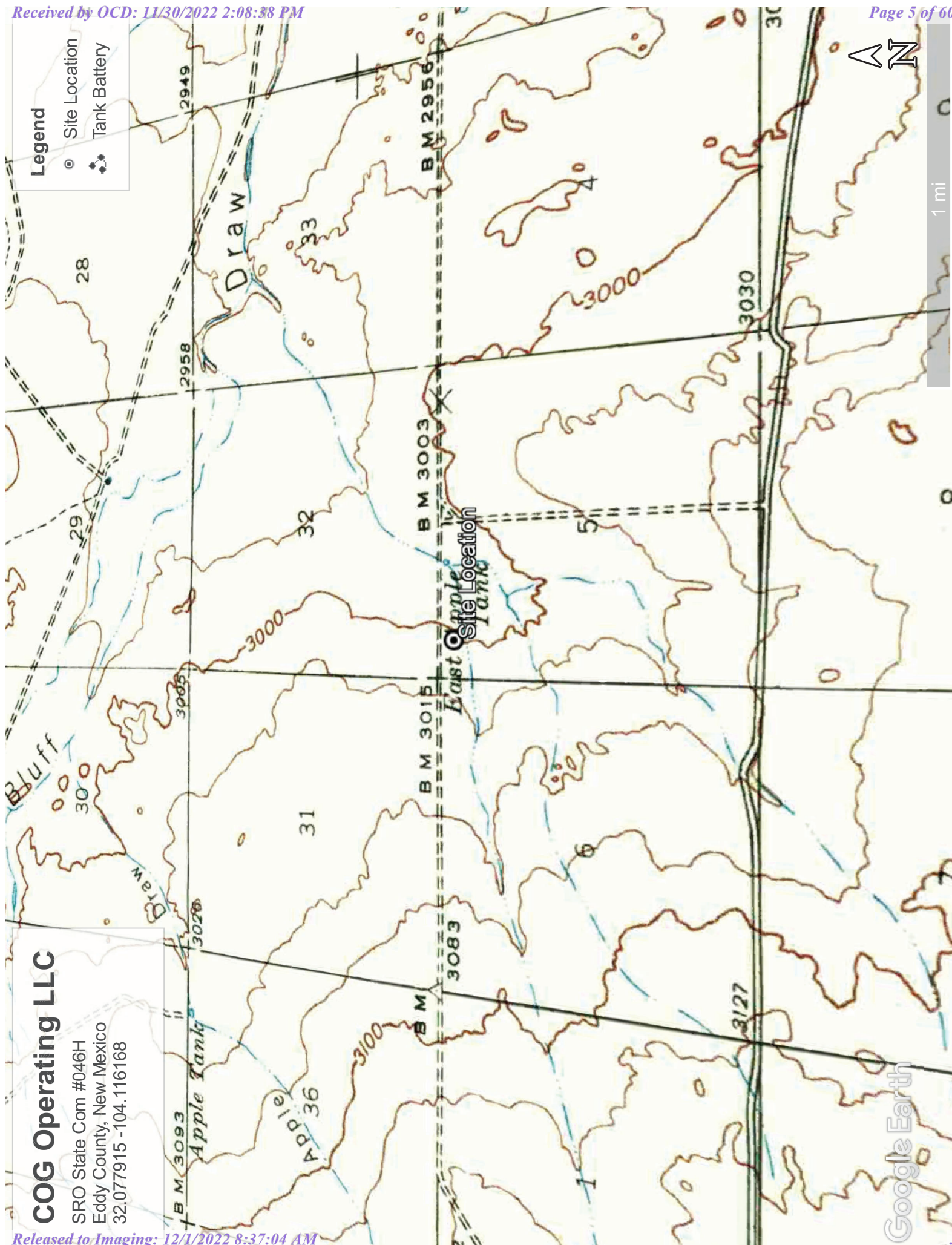
Delineation samples indicated chloride concentrations are below 600 mg/kg, therefore no reclamation is required for the release.

Sincerely,

Rebecca Haskell
Senior HSE Coordinator
rhaskell@concho.com
432-818-2372
Concho Operating, LLC

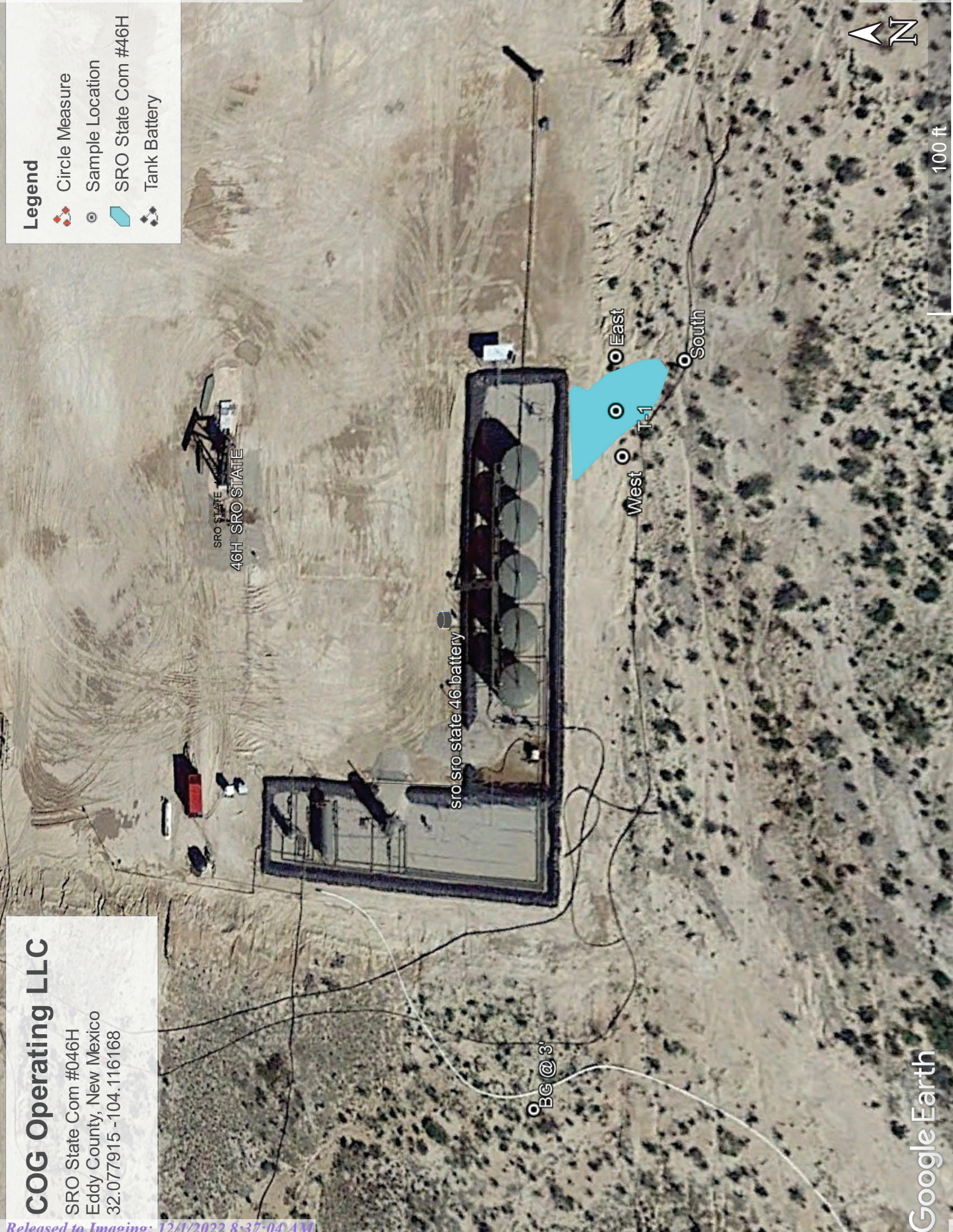
cc: File

Figures



COG Operating LLC

SRO State Com #046H
Eddy County, New Mexico
32.077915 -104.116168



COG Operating LLC

SRO State Com #046H
Eddy County, New Mexico
32.077915 -104.116168

Tables

Table 1
COG Operating LLC.
SRO State Com #046H
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	GRO	DRO	Total				
Average Depth to Groundwater (ft) <50															
NMOCD RRAL Limits (mg/kg)															
T-1	Surface	3/19/2018	X		22.4	1,290	211	-	100	-	100	-	100	50	600
T-1	6"	3/19/2018	X		<14.9	433	57.5	433	491	22.4	1,520	1,312	<0.00201	0.00958	<49.1
T-1	1'	3/19/2018	X		<15.0	252	29.4	252	281	<15.0	281	433	<0.00199	<0.00199	<24.9
												252	<0.00200	<0.00200	<24.9
T-1	2'	2/27/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<4.97
South	Surface	3/19/2018	X		<15.0	859	159	859	1,020	<15.0	859	859	<0.00202	<0.00202	9.78
South	1'	2/27/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<4.99
East	Surface	3/19/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	7.09
East	1'	3/19/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<4.99
East	2'	2/27/2018	X		<14.9	<14.9	<14.9	<14.9	<14.9	<14.9	<14.9	<14.9	<0.00199	<0.00199	<5.00
West	Surface	3/19/2018	X		<14.9	25.7	<19.9	25.7	25.7	<14.9	25.7	25.7	<0.00199	<0.00199	<49.5
West	6"	3/19/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<49.5
West	1'	3/19/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<49.9
West	3'	2/27/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	72.7
BG	3'	2/27/2018	X		<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	55.8

Proposed Excavation Depth

(-) 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	2RP-4600
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Robert McNeill	Contact Telephone	(432) 683-7443
Contact email	RMcNeill@concho.com	Incident # (assigned by OCD)	
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.077915 Longitude -104.116168
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	SRO State Com #046H	Site Type	Tank Battery
Date Release Discovered	February 1, 2018	API# (if applicable)	30-025-39951

Unit Letter	Section	Township	Range	County
D	5	26S	28E	Eddy

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 checked="" type="checkbox"/> Crude Oil	Volume Released (bbls)	10	Volume Recovered (bbls)	8
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls)	35	Volume Recovered (bbls)	33
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" 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

Downstream valve on FWKO water dump was left in the wrong position sending excess fluid to the oil tanks resulting in an overflow into the secondary containment. The valve position was corrected. The majority of the fluid remained inside of the line containment. There was some overspray in the pasture adjacent to the 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.

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? The spill was greater than 25 barrels of fluid.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? An email was sent to Crystal Waver (NMOCD) and Tammy Honea (NMSLO) by Rebecca Haskell on February 1, 2018 at 11:58 am.	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" 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: Rebecca Haskell	Title: Senior HSE Coordinator
Signature: <u><i>Rebecca Haskell</i></u>	Date: 11/6/2018
email: rhaskell@concho.com	Telephone: (432) 818-2372
<u>OCD Only</u> Received by: _____ Date: _____	

Incident ID	
District RP	2RP-4600
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?	<u><50</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input checked="" 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 checked="" 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 checked="" 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 checked="" 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 checked="" 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 checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" 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.

Oil Conservation Division

Incident ID	
District RP	2RP-4600
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: Rebecca Haskell Title: Senior HSE Coordinator
Signature:  Date: 11/6/18
email: rhaskell@concho.com Telephone: 432-818-2372

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	2RP-4600
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Application ID	

Remediation Plan

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

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

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

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Rebecca Haskell Title: Senior HSE Coordinator
Signature: Rebecca Haskell Date: 11/6/18
email: rhaskell@concho.com Telephone: 432-818-2372

OCD Only

Received by: _____ Date: _____

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

Signature: Bryan Hall

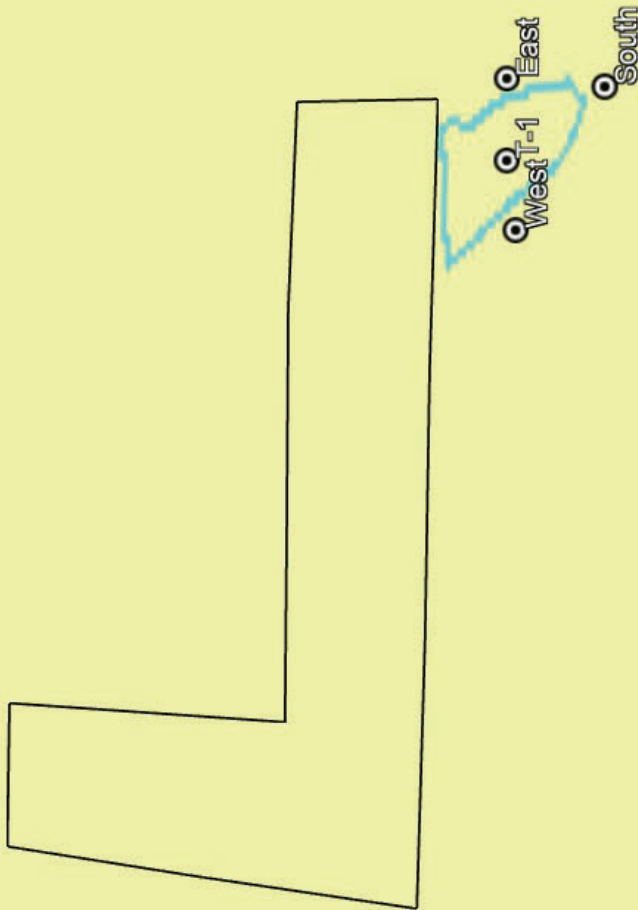
Date: 12/1/2022

Appendix B

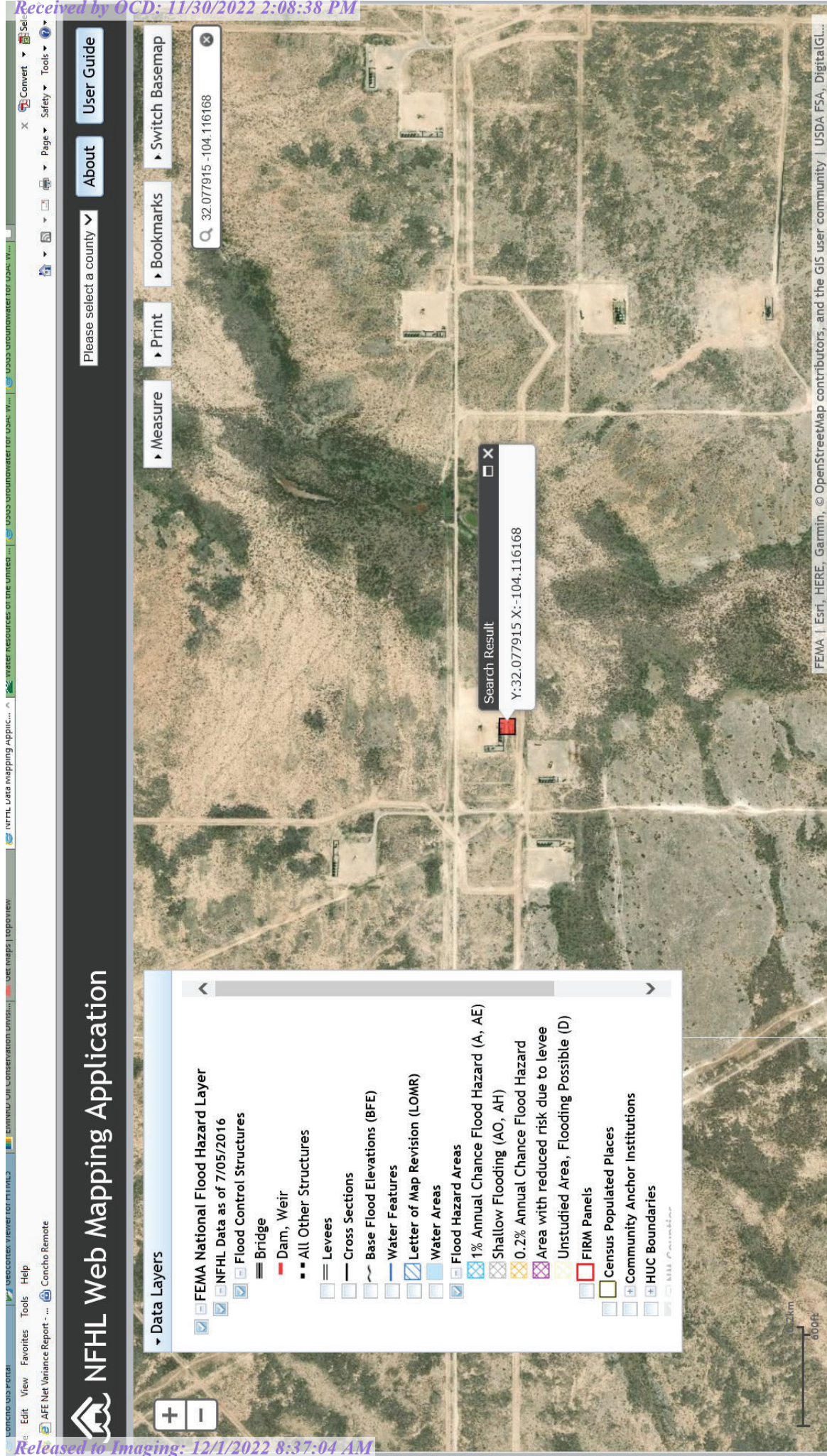
COG Operating LLC
SRO State Com #046H
Eddy County, New Mexico
32.077915 -104.116168
Karst

Legend

- CRIT
- HIGH
- LOW
- MEDIUM
- Sample Locations
- SRO State Com #46H
- Tank Battery



100 ft



[illegible]

Appendix C



Certificate of Analysis Summary 578118

2M Environmental Services LLC, Odessa, TX

Project Name: COG SRO State COM 046H



Date Received in Lab: Fri Mar-02-18 04:41 pm
Report Date: 13-MAR-18
Project Manager: Jessica Kramer

Project Id: Matt Green
Contact: Eddy Co NM
Project Location:

Analysis Requested		Lab Id: Field Id: Depth: Matrix: Sampled:	578118-001 South @ 1' SOIL Feb-27-18 10:20	578118-002 T-1 @ 2' SOIL Feb-27-18 10:40	578118-003 East @ 2' SOIL Feb-27-18 11:50	578118-004 West @ 3' SOIL Feb-27-18 12:45	578118-005 BG @ 3' SOIL Feb-27-18 13:50
BTEX by EPA 8021B		Extracted:	Mar-09-18 16:45	Mar-09-18 16:45	Mar-09-18 16:45	Mar-09-18 16:45	Mar-12-18 08:00
		Analyzed:	Mar-10-18 02:57	Mar-10-18 03:17	Mar-10-18 03:36	Mar-10-18 03:55	Mar-12-18 09:27
		Units/RL:	mg/kg RL <0.00200 0.00200	mg/kg RL <0.00199 0.00199	mg/kg RL <0.00199 0.00199	mg/kg RL <0.00198 0.00198	mg/kg RL <0.00200 0.00200
Benzene			<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200
Toluene			<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200
Ethylbenzene			<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200
m,p-Xylenes			<0.00401 0.00401	<0.00398 0.00398	<0.00398 0.00398	<0.00397 0.00397	<0.00399 0.00399
o-Xylene			<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200
Total Xylenes			<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200
Total BTEX			<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200
Chloride by EPA 300		Extracted:	Mar-12-18 10:30	Mar-12-18 10:30	Mar-12-18 10:30	Mar-12-18 10:30	Mar-12-18 10:30
		Analyzed:	Mar-12-18 15:52	Mar-12-18 16:14	Mar-12-18 16:19	Mar-12-18 17:06	Mar-13-18 14:44
		Units/RL:	mg/kg RL <4.99 4.99	mg/kg RL <4.97 4.97	mg/kg RL <5.00 5.00	mg/kg RL 72.7 49.9	mg/kg RL 55.8 4.98
Chloride			<4.99 4.99	<4.97 4.97	<5.00 5.00	72.7 49.9	55.8 4.98
TPH By SW8015 Mod		Extracted:	Mar-10-18 16:00	Mar-10-18 16:00	Mar-10-18 16:00	Mar-10-18 16:00	Mar-10-18 16:00
		Analyzed:	Mar-11-18 05:06	Mar-11-18 06:26	Mar-11-18 06:51	Mar-11-18 07:17	Mar-11-18 07:43
		Units/RL:	mg/kg RL <15.0 15.0	mg/kg RL <15.0 15.0	mg/kg RL <14.9 14.9	mg/kg RL <15.0 15.0	mg/kg RL <15.0 15.0
Gasoline Range Hydrocarbons (GRO)			<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)			<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)			<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Total TPH			<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant

Analytical Report 578118

for

2M Enviromental Services LLC

Project Manager: Matt Green
COG SRO State COM 046H

13-MAR-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)



13-MAR-18

Project Manager: **Matt Green**
2M Enviromental Services LLC
1219 W University Blvd
Odessa, TX 79764

Reference: XENCO Report No(s): **578118**
COG SRO State COM 046H
Project Address: Eddy Co NM

Matt Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 578118. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 578118 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 578118****2M Enviromental Services LLC, Odessa, TX**

COG SRO State COM 046H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South @ 1'	S	02-27-18 10:20		578118-001
T-1 @ 2'	S	02-27-18 10:40		578118-002
East @ 2'	S	02-27-18 11:50		578118-003
West @ 3'	S	02-27-18 12:45		578118-004
BG @ 3'	S	02-27-18 13:50		578118-005

**CASE NARRATIVE****Client Name: 2M Enviromental Services LLC****Project Name: COG SRO State COM 046H**

Project ID:
Work Order Number(s): 578118

Report Date: 13-MAR-18
Date Received: 03/02/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3043351 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Lab Sample ID 578118-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 578118-001, -002, -003, -004.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3043503 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results 578118



2M Enviromental Services LLC, Odessa, TX

COG SRO State COM 046H

Sample Id: South @ 1'

Matrix: Soil

Date Received: 03.02.18 16.41

Lab Sample Id: 578118-001

Date Collected: 02.27.18 10.20

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 03.12.18 10.30

Basis: Wet Weight

Seq Number: 3043528

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	03.12.18 15.52	U	1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.10.18 16.00

Basis: Wet Weight

Seq Number: 3043415

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.11.18 05.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.11.18 05.06	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.11.18 05.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.11.18 05.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	03.11.18 05.06	
o-Terphenyl	84-15-1	92	%	70-135	03.11.18 05.06	



Certificate of Analytical Results 578118



2M Enviromental Services LLC, Odessa, TX

COG SRO State COM 046H

Sample Id: **South @ 1'**

Matrix: Soil

Date Received: 03.02.18 16.41

Lab Sample Id: 578118-001

Date Collected: 02.27.18 10.20

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.09.18 16.45

Basis: Wet Weight

Seq Number: 3043351

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.10.18 02.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.10.18 02.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.10.18 02.57	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.10.18 02.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.10.18 02.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.10.18 02.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.10.18 02.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	03.10.18 02.57		
4-Bromofluorobenzene	460-00-4	109	%	70-130	03.10.18 02.57		



Certificate of Analytical Results 578118



2M Enviromental Services LLC, Odessa, TX

COG SRO State COM 046H

Sample Id: T-1 @ 2'
Lab Sample Id: 578118-002

Matrix: Soil
Date Collected: 02.27.18 10.40

Date Received: 03.02.18 16.41

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 03.12.18 10.30

Basis: Wet Weight

Seq Number: 3043528

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	03.12.18 16.14	U	1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.10.18 16.00

Basis: Wet Weight

Seq Number: 3043415

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.11.18 06.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.11.18 06.26	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.11.18 06.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.11.18 06.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	03.11.18 06.26	
o-Terphenyl	84-15-1	87	%	70-135	03.11.18 06.26	



Certificate of Analytical Results 578118



2M Enviromental Services LLC, Odessa, TX

COG SRO State COM 046H

Sample Id: T-1 @ 2'
Lab Sample Id: 578118-002

Matrix: Soil
Date Collected: 02.27.18 10.40

Date Received: 03.02.18 16.41

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.09.18 16.45

Basis: Wet Weight

Seq Number: 3043351

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.10.18 03.17	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.10.18 03.17	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.10.18 03.17	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.10.18 03.17	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.10.18 03.17	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.10.18 03.17	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.10.18 03.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	03.10.18 03.17		
1,4-Difluorobenzene	540-36-3	88	%	70-130	03.10.18 03.17		



Certificate of Analytical Results 578118



2M Enviromental Services LLC, Odessa, TX

COG SRO State COM 046H

Sample Id: East @ 2'

Matrix: Soil

Date Received: 03.02.18 16.41

Lab Sample Id: 578118-003

Date Collected: 02.27.18 11.50

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 03.12.18 10.30

Basis: Wet Weight

Seq Number: 3043528

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	03.12.18 16.19	U	1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.10.18 16.00

Basis: Wet Weight

Seq Number: 3043415

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.11.18 06.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.11.18 06.51	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	03.11.18 06.51	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.11.18 06.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	03.11.18 06.51	
o-Terphenyl	84-15-1	109	%	70-135	03.11.18 06.51	



Certificate of Analytical Results 578118



2M Enviromental Services LLC, Odessa, TX

COG SRO State COM 046H

Sample Id: **East @ 2'**

Matrix: Soil

Date Received: 03.02.18 16.41

Lab Sample Id: 578118-003

Date Collected: 02.27.18 11.50

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.09.18 16.45

Basis: Wet Weight

Seq Number: 3043351

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.10.18 03.36	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.10.18 03.36	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.10.18 03.36	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.10.18 03.36	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.10.18 03.36	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.10.18 03.36	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.10.18 03.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	03.10.18 03.36		
1,4-Difluorobenzene	540-36-3	88	%	70-130	03.10.18 03.36		



Certificate of Analytical Results 578118



2M Enviromental Services LLC, Odessa, TX

COG SRO State COM 046H

Sample Id: West @ 3'

Matrix: Soil

Date Received: 03.02.18 16.41

Lab Sample Id: 578118-004

Date Collected: 02.27.18 12.45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 03.12.18 10.30

Basis: Wet Weight

Seq Number: 3043528

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	72.7	49.9	mg/kg	03.12.18 17.06		10

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 03.10.18 16.00

Basis: Wet Weight

Seq Number: 3043415

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.11.18 07.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.11.18 07.17	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.11.18 07.17	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.11.18 07.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	03.11.18 07.17	
o-Terphenyl	84-15-1	99	%	70-135	03.11.18 07.17	



Certificate of Analytical Results 578118



2M Enviromental Services LLC, Odessa, TX

COG SRO State COM 046H

Sample Id: **West @ 3'**

Matrix: Soil

Date Received: 03.02.18 16.41

Lab Sample Id: 578118-004

Date Collected: 02.27.18 12.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.09.18 16.45

Basis: Wet Weight

Seq Number: 3043351

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.10.18 03.55	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.10.18 03.55	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.10.18 03.55	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	03.10.18 03.55	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.10.18 03.55	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.10.18 03.55	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.10.18 03.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	03.10.18 03.55		
1,4-Difluorobenzene	540-36-3	93	%	70-130	03.10.18 03.55		



Certificate of Analytical Results 578118



2M Enviromental Services LLC, Odessa, TX

COG SRO State COM 046H

Sample Id: **BG @ 3'**
Lab Sample Id: 578118-005

Matrix: Soil
Date Collected: 02.27.18 13.50

Date Received: 03.02.18 16.41

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3043528

Prep Method: E300P

% Moisture:

Date Prep: 03.12.18 10.30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	55.8	4.98	mg/kg	03.13.18 14.44		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3043415

Prep Method: TX1005P

% Moisture:

Date Prep: 03.10.18 16.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.11.18 07.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.11.18 07.43	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.11.18 07.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.11.18 07.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	03.11.18 07.43	
o-Terphenyl	84-15-1	100	%	70-135	03.11.18 07.43	



Certificate of Analytical Results 578118



2M Enviromental Services LLC, Odessa, TX

COG SRO State COM 046H

Sample Id: **BG @ 3'**
 Lab Sample Id: 578118-005

Matrix: Soil
 Date Collected: 02.27.18 13.50

Date Received: 03.02.18 16.41

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.12.18 08.00

Basis: Wet Weight

Seq Number: 3043503

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.12.18 09.27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.12.18 09.27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.12.18 09.27	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.12.18 09.27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.12.18 09.27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.12.18 09.27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.12.18 09.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	03.12.18 09.27		
1,4-Difluorobenzene	540-36-3	80	%	70-130	03.12.18 09.27		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



2M Enviromental Services LLC

COG SRO State COM 046H

Analytical Method: Chloride by EPA 300

Seq Number: 3043528

MB Sample Id: 7640592-1-BLK

Matrix: Solid

LCS Sample Id: 7640592-1-BKS

Prep Method: E300P

Date Prep: 03.12.18

LCSD Sample Id: 7640592-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	261	104	265	106	90-110	2	20	mg/kg	03.12.18 15:42	

Analytical Method: Chloride by EPA 300

Seq Number: 3043528

Parent Sample Id: 578118-001

Matrix: Soil

MS Sample Id: 578118-001 S

Prep Method: E300P

Date Prep: 03.12.18

MSD Sample Id: 578118-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.99	250	232	93	232	93	90-110	0	20	mg/kg	03.12.18 15:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3043528

Parent Sample Id: 578119-005

Matrix: Soil

MS Sample Id: 578119-005 S

Prep Method: E300P

Date Prep: 03.12.18

MSD Sample Id: 578119-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	48.3	247	295	100	296	100	90-110	0	20	mg/kg	03.12.18 17:51	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3043415

MB Sample Id: 7640554-1-BLK

Matrix: Solid

LCS Sample Id: 7640554-1-BKS

Prep Method: TX1005P

Date Prep: 03.10.18

LCSD Sample Id: 7640554-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	989	99	988	99	70-135	0	35	mg/kg	03.11.18 04:13	
Diesel Range Organics (DRO)	<15.0	1000	1040	104	1030	103	70-135	1	35	mg/kg	03.11.18 04:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		110		108		70-135	%	03.11.18 04:13
o-Terphenyl	95		111		106		70-135	%	03.11.18 04:13

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * | (C-E) / (C+E) |$
 $[D] = 100 * (C) / [B]$

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

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



2M Enviromental Services LLC

COG SRO State COM 046H

Analytical Method: TPH By SW8015 Mod

Seq Number: 3043415

Parent Sample Id: 578118-001

Matrix: Soil

MS Sample Id: 578118-001 S

Prep Method: TX1005P

Date Prep: 03.10.18

MSD Sample Id: 578118-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	896	90	995	100	70-135	10	35	mg/kg	03.11.18 05:33	
Diesel Range Organics (DRO)	<15.0	1000	938	94	1020	102	70-135	8	35	mg/kg	03.11.18 05:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		113		70-135	%	03.11.18 05:33
o-Terphenyl	101		110		70-135	%	03.11.18 05:33

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043351

MB Sample Id: 7640522-1-BLK

Matrix: Solid

LCS Sample Id: 7640522-1-BKS

Prep Method: SW5030B

Date Prep: 03.09.18

LCSD Sample Id: 7640522-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0842	84	0.0895	90	70-130	6	35	mg/kg	03.10.18 00:44	
Toluene	<0.00200	0.0998	0.0894	90	0.0952	95	70-130	6	35	mg/kg	03.10.18 00:44	
Ethylbenzene	<0.00200	0.0998	0.101	101	0.107	107	70-130	6	35	mg/kg	03.10.18 00:44	
m,p-Xylenes	<0.00399	0.200	0.199	100	0.213	107	70-130	7	35	mg/kg	03.10.18 00:44	
o-Xylene	<0.00200	0.0998	0.0980	98	0.104	104	70-130	6	35	mg/kg	03.10.18 00:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		95		85		70-130	%	03.10.18 00:44
4-Bromofluorobenzene	99		110		103		70-130	%	03.10.18 00:44

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043503

MB Sample Id: 7640672-1-BLK

Matrix: Solid

LCS Sample Id: 7640672-1-BKS

Prep Method: SW5030B

Date Prep: 03.12.18

LCSD Sample Id: 7640672-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0909	90	0.0883	88	70-130	3	35	mg/kg	03.12.18 06:55	
Toluene	<0.00202	0.101	0.0972	96	0.0942	94	70-130	3	35	mg/kg	03.12.18 06:55	
Ethylbenzene	<0.00202	0.101	0.111	110	0.109	109	70-130	2	35	mg/kg	03.12.18 06:55	
m,p-Xylenes	<0.00403	0.202	0.219	108	0.214	107	70-130	2	35	mg/kg	03.12.18 06:55	
o-Xylene	<0.00202	0.101	0.106	105	0.105	105	70-130	1	35	mg/kg	03.12.18 06:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		86		84		70-130	%	03.12.18 06:55
4-Bromofluorobenzene	110		119		118		70-130	%	03.12.18 06:55

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * | (C-E) / (C+E) |$
 $[D] = 100 * (C) / [B]$

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

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



2M Enviromental Services LLC
COG SRO State COM 046H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043351

Parent Sample Id: 578118-001

Matrix: Soil

MS Sample Id: 578118-001 S

Prep Method: SW5030B

Date Prep: 03.09.18

MSD Sample Id: 578118-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0556	55	0.0586	59	70-130	5	35	mg/kg	03.10.18 01:22	X
Toluene	<0.00202	0.101	0.0555	55	0.0617	62	70-130	11	35	mg/kg	03.10.18 01:22	X
Ethylbenzene	<0.00202	0.101	0.0557	55	0.0675	68	70-130	19	35	mg/kg	03.10.18 01:22	X
m,p-Xylenes	<0.00403	0.202	0.108	53	0.134	67	70-130	21	35	mg/kg	03.10.18 01:22	X
o-Xylene	<0.00202	0.101	0.0543	54	0.0672	67	70-130	21	35	mg/kg	03.10.18 01:22	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		90		70-130	%	03.10.18 01:22
4-Bromofluorobenzene	105		117		70-130	%	03.10.18 01:22

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043503

Parent Sample Id: 578649-001

Matrix: Soil

MS Sample Id: 578649-001 S

Prep Method: SW5030B

Date Prep: 03.12.18

MSD Sample Id: 578649-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0584	59	0.0656	66	70-130	12	35	mg/kg	03.12.18 07:34	X
Toluene	<0.00199	0.0996	0.0607	61	0.0664	66	70-130	9	35	mg/kg	03.12.18 07:34	X
Ethylbenzene	<0.00199	0.0996	0.0666	67	0.0704	70	70-130	6	35	mg/kg	03.12.18 07:34	X
m,p-Xylenes	<0.00398	0.199	0.131	66	0.138	69	70-130	5	35	mg/kg	03.12.18 07:34	X
o-Xylene	<0.00199	0.0996	0.0651	65	0.0709	71	70-130	9	35	mg/kg	03.12.18 07:34	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		87		70-130	%	03.12.18 07:34
4-Bromofluorobenzene	120		129		70-130	%	03.12.18 07:34

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * | (C-E) / (C+E) |$
 $[D] = 100 * (C) / [B]$

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

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



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: 2M Enviromental Services LLC

Date/ Time Received: 03/02/2018 04:41:00 PM

Work Order #: 578118

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist**Comments**

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 03/05/2018

Checklist reviewed by:

Jessica Kramer

Date: 03/05/2018

Analytical Report 579755

for

2M Enviromental Services LLC

Project Manager: Matt Green

COG SRO State Com #046

21-MAR-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):

Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco-Atlanta (LELAP Lab ID #04176)



21-MAR-18

Project Manager: **Matt Green**
2M Enviromental Services LLC
1219 W University Blvd
Odessa, TX 79764

Reference: XENCO Report No(s): **579755**
COG SRO State Com #046
Project Address: Eddy County NM

Matt Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 579755. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 579755 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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Sample Cross Reference 579755



2M Enviromental Services LLC, Odessa, TX

COG SRO State Com #046

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South @ Surface	S	03-19-18 10:00		579755-001
T-1 @ Surface	S	03-19-18 10:05		579755-002
T-1 @ 6"	S	03-19-18 10:07		579755-003
T-1 @ 1'	S	03-19-18 10:10		579755-004
East @ Surface	S	03-19-18 10:13		579755-005
East @ 1'	S	03-19-18 10:16		579755-006
West @ Surface	S	03-19-18 10:20		579755-007
West @ 6"	S	03-19-18 10:23		579755-008
West @ 1'	S	03-19-18 10:26		579755-009

**CASE NARRATIVE****Client Name: 2M Enviromental Services LLC****Project Name: COG SRO State Com #046**

Project ID:
Work Order Number(s): 579755

Report Date: 21-MAR-18
Date Received: 03/20/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3044365 BTEX by EPA 8021B

Lab Sample ID 579755-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 579755-001, -002, -003, -004, -005, -006, -007, -008, -009.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.

Samples in the analytical batch are: 579755-001, -002, -003, -004, -005, -006, -007, -008, -009
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analysis Summary 579755

2M Enviromental Services LLC, Odessa, TX

Project Name: COG SRO State Com #046



Project Id: Matt Green
Contact: Eddy County NM
Project Location:

Date Received in Lab: Tue Mar-20-18 03:00 pm
Report Date: 21-MAR-18
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	579755-001	579755-002	579755-003	579755-004	579755-005	579755-006
	Field Id:	South @ Surface	T-1 @ Surface	T-1 @ 6"	T-1 @ 1'	East @ Surface	East @ 1'
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Mar-19-18 10:00	Mar-19-18 10:05	Mar-19-18 10:07	Mar-19-18 10:10	Mar-19-18 10:13	Mar-19-18 10:16
BTEX by EPA 8021B	Extracted:	Mar-20-18 17:00	Mar-20-18 17:00	Mar-20-18 17:00	Mar-20-18 17:00	Mar-20-18 17:00	Mar-20-18 17:00
	Analyzed:	Mar-20-18 20:03	Mar-20-18 20:21	Mar-20-18 20:39	Mar-20-18 20:57	Mar-20-18 21:16	Mar-20-18 21:34
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
		<0.00202 0.00202	0.00254 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
		<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300	Extracted:	Mar-20-18 18:00	Mar-20-18 18:00	Mar-20-18 18:00	Mar-20-18 18:00	Mar-20-18 18:00	Mar-20-18 18:00
	Analyzed:	Mar-20-18 21:05	Mar-20-18 21:21	Mar-20-18 21:26	Mar-20-18 21:31	Mar-20-18 21:37	Mar-20-18 21:53
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		9.78 4.98	<49.1 49.1	<24.9 24.9	<24.9 24.9	7.09 4.95	<4.99 4.99
		Mar-20-18 17:00	Mar-20-18 17:00	Mar-20-18 17:00	Mar-20-18 17:00	Mar-20-18 17:00	Mar-20-18 17:00
TPH by SW8015 Mod	Extracted:	Mar-20-18 18:22	Mar-20-18 18:41	Mar-20-18 19:00	Mar-20-18 19:20	Mar-20-18 19:39	Mar-20-18 19:59
	Analyzed:						
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		<15.0 15.0	22.4 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
		859 15.0	1290 15.0	433 14.9	252 15.0	<15.0 15.0	<15.0 15.0
Gasoline Range Hydrocarbons (GRO)		159 15.0	211 15.0	57.5 14.9	29.4 15.0	<15.0 15.0	<15.0 15.0
		1020 15.0	1520 15.0	491 14.9	281 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)							
Oil Range Hydrocarbons (ORO)							
Total TPH							

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 579755
2M Enviromental Services LLC, Odessa, TX
Project Name: COG SRO State Com #046

Received by OCD: 11/30/2022 2:08:38 PM

Page 46 of 60

Project Id: Matt Green
Contact: Eddy County NM
Project Location:

Date Received in Lab: Tue Mar-20-18 03:00 pm
Report Date: 21-MAR-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>		<i>Lab Id:</i>	<i>Field Id:</i>	<i>Depth:</i>	<i>Matrix:</i>	<i>Sampled:</i>	<i>579755-007</i>	<i>579755-008</i>	<i>579755-009</i>	
BTEX by EPA 8021B							West @ Surface	West @ 6"	West @ 1'	
							SOIL	SOIL	SOIL	
							Mar-19-18 10:20	Mar-19-18 10:23	Mar-19-18 10:26	
Extracted:							Mar-20-18 17:00	Mar-20-18 17:00	Mar-20-18 17:00	
Analyzed:							Mar-20-18 21:52	Mar-20-18 22:11	Mar-20-18 22:28	
Units/RL:							mg/kg RL	mg/kg RL	mg/kg RL	
Benzene							<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	
Toluene							<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	
Ethylbenzene							<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	
m,p-Xylenes							<0.00398 0.00398	<0.00404 0.00404	<0.00401 0.00401	
o-Xylene							<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	
Total Xylenes							<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	
Total BTEX							<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	
Chloride by EPA 300										
Extracted:							Mar-20-18 18:00	Mar-20-18 18:00	Mar-20-18 18:00	
Analyzed:							Mar-20-18 21:58	Mar-20-18 22:03	Mar-20-18 22:09	
Units/RL:							mg/kg RL	mg/kg RL	mg/kg RL	
Chloride							<49.5 49.5	<49.5 49.5	<49.9 49.9	
TPH by SW8015 Mod										
Extracted:							Mar-20-18 17:00	Mar-20-18 17:00	Mar-20-18 17:00	
Analyzed:							Mar-20-18 20:59	Mar-21-18 09:57	Mar-21-18 10:16	
Units/RL:							mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)							<14.9 14.9	<15.0 15.0	<15.0 15.0	
Diesel Range Organics (DRO)							25.7 14.9	<15.0 15.0	<15.0 15.0	
Oil Range Hydrocarbons (ORO)							<14.9 14.9	<15.0 15.0	<15.0 15.0	
Total TPH							25.7 14.9	<15.0 15.0	<15.0 15.0	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Form 2 - Surrogate Recoveries

Project Name: COG SRO State Com #046

Work Orders : 579755,

Lab Batch #: 3044342

Sample: 579755-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 18:22

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.7	99.7	92	70-135	
o-Terphenyl	41.4	49.9	83	70-135	

Lab Batch #: 3044342

Sample: 579755-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 18:41

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.6	99.7	94	70-135	
o-Terphenyl	43.9	49.9	88	70-135	

Lab Batch #: 3044342

Sample: 579755-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 19:00

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.6	101	70-135	
o-Terphenyl	51.3	49.8	103	70-135	

Lab Batch #: 3044342

Sample: 579755-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 19:20

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.1	99.9	96	70-135	
o-Terphenyl	49.6	50.0	99	70-135	

Lab Batch #: 3044342

Sample: 579755-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 19:39

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.2	99.9	94	70-135	
o-Terphenyl	45.6	50.0	91	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: COG SRO State Com #046

Work Orders : 579755,

Lab Batch #: 3044342

Sample: 579755-006 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 19:59

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.3	99.8	97	70-135	
o-Terphenyl	50.3	49.9	101	70-135	

Lab Batch #: 3044365

Sample: 579755-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 20:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0244	0.0300	81	70-130	
4-Bromofluorobenzene	0.0373	0.0300	124	70-130	

Lab Batch #: 3044365

Sample: 579755-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 20:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0217	0.0300	72	70-130	
4-Bromofluorobenzene	0.0366	0.0300	122	70-130	

Lab Batch #: 3044365

Sample: 579755-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 20:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0223	0.0300	74	70-130	
4-Bromofluorobenzene	0.0384	0.0300	128	70-130	

Lab Batch #: 3044365

Sample: 579755-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 20:57

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0213	0.0300	71	70-130	
4-Bromofluorobenzene	0.0386	0.0300	129	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: COG SRO State Com #046

Work Orders : 579755,

Lab Batch #: 3044342

Sample: 579755-007 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 20:59

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.9	99.6	89	70-135	
o-Terphenyl	40.0	49.8	80	70-135	

Lab Batch #: 3044365

Sample: 579755-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 21:16

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0231	0.0300	77	70-130	
4-Bromofluorobenzene	0.0377	0.0300	126	70-130	

Lab Batch #: 3044365

Sample: 579755-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 21:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0216	0.0300	72	70-130	
4-Bromofluorobenzene	0.0382	0.0300	127	70-130	

Lab Batch #: 3044365

Sample: 579755-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 21:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0219	0.0300	73	70-130	
4-Bromofluorobenzene	0.0386	0.0300	129	70-130	

Lab Batch #: 3044365

Sample: 579755-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 22:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0257	0.0300	86	70-130	
4-Bromofluorobenzene	0.0365	0.0300	122	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: COG SRO State Com #046

Work Orders : 579755,

Lab Batch #: 3044365

Sample: 579755-009 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 22:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0212	0.0300	71	70-130	
4-Bromofluorobenzene	0.0373	0.0300	124	70-130	

Lab Batch #: 3044342

Sample: 579755-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/21/18 09:57

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	92.1	99.9	92	70-135	
o-Terphenyl	42.8	50.0	86	70-135	

Lab Batch #: 3044342

Sample: 579755-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/21/18 10:16

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	90.3	99.9	90	70-135	
o-Terphenyl	45.0	50.0	90	70-135	

Lab Batch #: 3044342

Sample: 7641202-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/20/18 17:24

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	92.8	100	93	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

Lab Batch #: 3044365

Sample: 7641218-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/20/18 19:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0286	0.0300	95	70-130	
4-Bromofluorobenzene	0.0383	0.0300	128	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: COG SRO State Com #046

Work Orders : 579755,

Lab Batch #: 3044365

Sample: 7641218-1-BKS / BKS

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/20/18 17:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	70-130	
4-Bromofluorobenzene	0.0367	0.0300	122	70-130	

Lab Batch #: 3044362

Sample: 7641202-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/20/18 17:44

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.3	100	94	70-135	
o-Terphenyl	46.8	50.0	94	70-135	

Lab Batch #: 3044365

Sample: 7641218-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/20/18 17:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	70-130	
4-Bromofluorobenzene	0.0376	0.0300	125	70-130	

Lab Batch #: 3044342

Sample: 7641202-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/20/18 18:03

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.0	100	96	70-135	
o-Terphenyl	48.3	50.0	97	70-135	

Lab Batch #: 3044365

Sample: 579755-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 18:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0218	0.0300	73	70-130	
4-Bromofluorobenzene	0.0255	0.0300	85	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: COG SRO State Com #046

Work Orders : 579755,

Lab Batch #: 3044342

Sample: 579755-006 S / MS

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 20:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.0	100	93	70-135	
o-Terphenyl	47.1	50.0	94	70-135	

Lab Batch #: 3044365

Sample: 579755-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 18:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0221	0.0300	74	70-130	
4-Bromofluorobenzene	0.0211	0.0300	70	70-130	

Lab Batch #: 3044342

Sample: 579755-006 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/20/18 20:39

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.8	102	70-135	
o-Terphenyl	49.5	49.9	99	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Work Order #: 579755

Analyst: ALJ

Lab Batch ID: 3044365

Units: mg/kg

Sample: 7641218-1-BKS

Batch #: 1

Date Prepared: 03/20/2018

Project ID:

Date Analyzed: 03/20/2018

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
BTEX by EPA 8021B											
Benzene	<0.00199	0.0994	0.0944	95	0.0998	0.103	103	9	70-130	35	
Toluene	<0.00199	0.0994	0.0948	95	0.0998	0.103	103	8	70-130	35	
Ethylbenzene	<0.00199	0.0994	0.101	102	0.0998	0.109	109	8	70-130	35	
m,p-Xylenes	<0.00398	0.199	0.197	99	0.200	0.212	106	7	70-130	35	
o-Xylene	<0.00199	0.0994	0.0997	100	0.0998	0.107	107	7	70-130	35	

Date Prepared: 03/20/2018

Date Analyzed: 03/20/2018

Analyst: SCM

Lab Batch ID: 3044312

Sample: 7641157-1-BKS

Units: mg/kg

Batch #: 1

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride by EPA 300											
Chloride	<5.00	250	237	95	250	236	94	0	90-110	20	

Relative Percent Difference $RPD = 200 * [(C-F)/(C+F)]$
Blank Spike Recovery $[D] = 100 * (C)/[B]$
Blank Spike Duplicate Recovery $[G] = 100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries

Project Name: COG SRO State Com #046

Work Order #: 579755

Analyst: ARM

Lab Batch ID: 3044342

Units: mg/kg

Sample: 7641202-1-BKS

Date Prepared: 03/20/2018

Batch #: 1

Project ID:

Date Analyzed: 03/20/2018

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1050	105	1000	1080	108	3	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	903	90	1000	981	98	8	70-135	35	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$
Blank Spike Recovery [D] = $100 * (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Work Order #: 579755
 Lab Batch ID: 3044365
 Date Analyzed: 03/20/2018
 Reporting Units: mg/kg

Project ID:

QC- Sample ID: 579755-002 S Batch #: 1 Matrix: Soil
 Date Prepared: 03/20/2018 Analyst: ALJ

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Benzene		<0.00202	0.101	0.0227	22	0.100	0.0378	38	50	70-130	35	XF
Toluene		0.00254	0.101	0.0188	16	0.100	0.0343	32	58	70-130	35	XF
Ethylbenzene		<0.00202	0.101	0.0138	14	0.100	0.0314	31	78	70-130	35	XF
m,p-Xylenes		0.00455	0.202	0.0279	12	0.200	0.0624	29	76	70-130	35	XF
o-Xylene		0.00249	0.101	0.0144	12	0.100	0.0320	30	76	70-130	35	XF

Lab Batch ID: 3044312 QC- Sample ID: 579752-004 S Batch #: 1 Matrix: Soil
 Date Analyzed: 03/20/2018 Date Prepared: 03/20/2018 Analyst: SCM

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		158	250	383	90	250	376	87	2	90-110	20	X

Lab Batch ID: 3044312 QC- Sample ID: 579755-001 S Batch #: 1 Matrix: Soil
 Date Analyzed: 03/20/2018 Date Prepared: 03/20/2018 Analyst: SCM

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		9.78	249	238	92	249	240	92	1	90-110	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
 Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
 N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.





Form 3 - MS / MSD Recoveries

Project Name: COG SRO State Com #046



Work Order #: 579755
Lab Batch ID: 3044342
Date Analyzed: 03/20/2018
Reporting Units: mg/kg

Project ID:

QC- Sample ID: 579755-006 S Batch #: 1 Matrix: Soil
Date Prepared: 03/20/2018 Analyst: ARM

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	993	99	998	1040	104	5	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	921	92	998	975	98	6	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$
ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$



Client: 2M Enviromental Services LLC

Date/ Time Received: 03/20/2018 03:00:00 PM

Work Order #: 579755

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	4.4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 03/20/2018

Checklist reviewed by:

Jessica Kramer

Date: 03/20/2018

District I

1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
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District III

1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 162717

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 162717
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	Perform liner inspection to ensure integrity of liner. Include pictures of liner inspection in final report.	12/1/2022
bhall	Remediation and closure must comply with 19.15.29.12 and 19.15.29.13 NMAC.	12/1/2022
bhall	2RP-4600 closed. Please reference incident #NAB1803638110 in all future communication.	12/1/2022
bhall	Submit a complete report through the OCD Permitting website by 3/3/2023.	12/1/2022