Page 1 of 203 Incident ID nRM1932335844 District RP Facility ID Application ID

## **Remediation Plan**

Remediation Plan Checklist: Each of the following items must be	e included in the plan.
<ul> <li>✓ Detailed description of proposed remediation technique</li> <li>✓ Scaled sitemap with GPS coordinates showing delineation points</li> <li>✓ Estimated volume of material to be remediated</li> <li>✓ Closure criteria is to Table 1 specifications subject to 19.15.29.1</li> <li>✓ Proposed schedule for remediation (note if remediation plan times)</li> </ul>	2(C)(4) NMAC
Deferral Requests Only: Each of the following items must be com-	firmed as part of any request for deferral of remediation.
<ul> <li>✓ Contamination must be in areas immediately under or around prodeconstruction.</li> <li>✓ Deferral DENIED</li> <li>✓ Extents of contamination must be fully delineated.</li> <li>✓ Contamination does not cause an imminent risk to human health</li> </ul>	Deferral DENIED
I hereby certify that the information given above is true and complet rules and regulations all operators are required to report and/or file c which may endanger public health or the environment. The acceptar liability should their operations have failed to adequately investigate surface water, human health or the environment. In addition, OCD a responsibility for compliance with any other federal, state, or local lateral control of the compliance with any other federal, state, or local lateral control of the compliance with any other federal, state, or local lateral control of the compliance with any other federal, state, or local lateral control of the compliance with any other federal, state, or local lateral control of the compliance with any other federal, state, or local lateral control of the complex control of the control of the complex control of the cont	ertain release notifications and perform corrective actions for releases are of a C-141 report by the OCD does not relieve the operator of and remediate contamination that pose a threat to groundwater, acceptance of a C-141 report does not relieve the operator of
Printed Name: Ike Tavarez	Title: Senior HSE Supervisor
Signature:	Date:2/25/2021
email: itavarez@concho.com	Telephone: (432)685-2573
OCD Only	
Received by: Chad Hensley	Date: 03/31/2021 Deferral DENIED
☐ Approved	Approval Denied Deferral Approved
Signature: Chad Hend	Date: 03/31/2021

# Remediation Summary, Variance & Deferral Request

### COG Operating, LLC Showstopper 19 Fed Com #004H-005H

Eddy County, New Mexico
Unit Letter O, Section 19, Township 25 South, Range 29 East
Latitude 32.11037 North, Longitude 104.02296 West
NMOCD Reference No. nRM1932335844

Prepared By:

**Etech Environmental & Safety Solutions, Inc.** 

3100 Plains Highway Lovington, New Mexico 88260

Zen J. Arguijo

Joel W. Lowry



Midland • San Antonio • Lubbock • Lovington • Lafayette

#### TABLE OF CONTENTS

	Section
PROJECT INFORMATION	1.0
SITE CHARACTERIZATION	2.0
CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE	3.0
INITIAL SITE ASSESSMENT	<b>4.0</b>
FIELD ACTIVITIES SUMMARY	5.0
GROUNDWATER INVESTIGATION & IN-SITU CHLORIDE MIGRATION MODELING	6.0
VARIANCE & DEFERRAL REQUESTS	
RESTORATION, RECLAMATION & RE-VEGETATION PLAN	8.0
LIMITATIONS	9 <b>.</b> 0
DISTRIBUTION	10.0

#### **FIGURES**

- Figure 1 Topographic Map
- Figure 2 Aerial Proximity Map
- Figure 3A Site & Sample Location Map (Delineation)
- Figure 3B Site & Sample Location Map (Excavation)

#### **TABLES**

- Table 1 Concentrations of BTEX, TPH & Chloride in Soil (Delineation)
- Table 2 Concentrations of BTEX, TPH & Chloride in Soil (Excavation)

#### **APPENDICES**

- Appendix A Depth to Groundwater Information
- Appendix B Field Data & Soil Profile Logs
- Appendix C Laboratory Analytical Reports
- Appendix D Photographic Log
- Appendix E Multimedia Exposure Assessment Model (MULTIMED)

#### 1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of COG Operating, LLC, has prepared this *Remediation Summary, Variance & Deferral Request* for the release site known as the Showstopper 19 Fed Com #004H-005H (henceforth "Site"). Details of the release are summarized below:

		Location	n of Release So	urce	
Latitude:	-104.02296				
		Provided	GPS are in WGS84 form	at.	
		Fed Com #004H-005	H Site Type:	Tank Battery	
Date Release Discov	vered:	10/2/2019	API # (if appli	cable): 30-015-37374	
Unit Letter	Section	Township	Range	County	
0	19	25S	29E	Eddy	
Surface Owner:	State X	Federal Tribal  Nature an	Private (Na		
X Crude Oil	Volun	ne Released (bbls)	2	Volume Recovered (bbls) 0	
X Produced Water	er Volun	ne Released (bbls)	48	Volume Recovered (bbls) 45	
		concentration of disso ed water > 10,000 mg		X Yes No N/A	
Condensate	te Volume Released (bbls) Volume Recovered (bbls)				
Natural Gas	Volun	ne Released (Mcf)		Volume Recovered (Mcf)	
Other (describe	e) Volum	e/Weight Released		Volume/Weight Recovered	
containment. Portio	ributed to ligons of the re	ghtning striking the w	inment, affecting a	ty of the release was limited to a lined n area on the caliche production pad measuring	
		In	itial Response		
X The source of the	ne release has	s been stopped.			
X The impacted ar	ea has been s	ecured to protect huma	n health and the env	vironment.	
X Release materia	ls have been	contained via the use of	of berms or dikes, ab	sorbent pad, or other containment devices	
X All free liquids a	and recoverat	ole materials have been	removed and mana	ged appropriately.	

Previously submitted portions of the NMOCD Form C-141 are available on the NMOCD Imaging System.

#### 2.0 SITE CHARACTERIZATION

A search of groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) was conducted in an effort to determine the horizontal distance to known water sources within a half-mile radius of the Site. Probable groundwater depth was determined using data generated by numeric models based on available water well data and published information. In addition, on December 8, 2020, a temporary monitor well was drilled on-site to forty (40) feet below ground surface (bgs) to verify depth to groundwater. Depth to groundwater information is provided in Appendix A. A monitor well drilling log is provided in Appendix B.

What is the shallowest depth to groundwater beneath the area affected by the release?		35'
Did the release impact groundwater or surface water?	Yes	X No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	Yes	X No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark?	Yes	X No
Are the lateral extents of the release within 300 feet of any occupied permanent residence, school, hospital, institution or church?	Yes	X No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	Yes	X No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	Yes	X No
Are the lateral extents of the release within the incorporated municipal boundaries or within a defined municipal fresh water well field?	Yes	X No
Are the lateral extents of the release within 300 feet of a wetland?	Yes	X No
Are the lateral extents of the release overlying a subsurface mine?	Yes	X No
Are the lateral extents of the release overlying an unstable area such as karst geology?	Yes	X No
Are the lateral extents of the release within a 100-year floodplain?	Yes	X No
Did the release impact areas not on an exploration, development, production or storage site?	Yes	X No

NMOCD Siting Criteria data was gathered from available resources including Bureau of Land Management (BLM) shapefiles; topographic maps; NMOSE and USGS databases; and aerial imagery. The results are depicted on Figures 1, 2, 4, and 5.

#### 3.0 CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE

Based on the volume and nature of the release, depth to groundwater, and NMOCD Siting Criteria, the NMOCD Closure Criteria and NMOCD Reclamation Standards for the Site are as follows:

Probable Depth to Groundwater	Constituent	Method	Closure Criteria	Reclamation Standard*
	Chloride	EPA 300.0 or SM4500 Cl B	600 mg/kg	600 mg/kg
	TPH (GRO + DRO + MRO)	EPA SW-846 Method 8015M Ext	100 mg/kg	100 mg/kg
35'	DRO + GRO	EPA SW-846 Method 8015M	-	-
	BTEX	EPA SW-846 Methods 8021b or 8260b	50 mg/kg	50 mg/kg
	Benzene	EPA SW-846 Methods 8021b or 8260b	10 mg/kg	10 mg/kg

<sup>\*</sup> The NMOCD Reclamation Standard applies only to the top 4' of soil in non-production areas.

#### 4.0 INITIAL SITE ASSESSMENT

On December 19, 2019, Etech conducted an initial site assessment. During the initial site assessment, a series of hand-augered soil bores (SP1 through SP4) were advanced within the release margins in an effort to determine the vertical extent of impacted soil. In addition, hand-augered soil bores (NHB, EHB, SH, and WHB) were advanced at the inferred edges of the affected area in an effort to determine the horizontal extent of impacted soil. During advancement of the hand-augered soil bores, soil samples were collected and field-screened for the presence of Volatile Organic Compounds utilizing a Photoionization Detector (PID) and/or concentrations of chloride utilizing a Hach Quantab ® chloride test kit.

Based on field observations and field test data, sixteen (16) delineation soil samples (SP1 @ Surf, SP1 @ 2', SP2 @ Surf, SP2 @ 1', SP3 @ Surf, SP3 @ 1', SP4 @ Surf, SP4 @ 1', NHb @ Surf, NHb @ 1', EHb @ Surf, EHb @ 1', SH @ Surf, SH @ 1', WHb @ Surf, and WHb @ 1') were submitted to a certified commercial laboratory for analysis of BTEX, TPH, and chloride. Based on laboratory analytical results, soil was not affected above the NMOCD Closure Criteria beyond two (2) feet bgs in the area characterized by sample point SP1 and one (1) foot bgs in the areas characterized by sample points SP2 through SP4. The horizontal extent of impacted soil was adequately defined in the areas characterized by NHB and EHB. However, additional horizontal delineation was required in the areas characterized by sample points SH and WHb.

On December 31, 2019, Etech revisited the Site. During the site visit, two (2) additional hand-augered soil bores (SHb and WHc) were advanced at the inferred edges of the affected area in an effort to further investigate the horizontal extent of impacted soil in the areas characterized by sample points SH and WHb. During advancement of the soil bores, three (3) soil samples (SHB @ Surf, SHB @ 1', and WHC @ Surf) were collected and submitted to the laboratory for analysis of BTEX, TPH, and chloride. Based on laboratory analytical results, the horizontal extent of impacted soil was adequately defined.

Locations of the hand-augered soil bores are depicted in Figure 3A, "Site & Sample Location Map (Delineation)". A soil chemistry data table is provided as Table 1. Laboratory analytical reports are provided in Appendix C. General photographs of the Site are provided in Appendix D.

#### 5.0 FIELD ACTIVITIES SUMMARY

On February 17, 2020, remediation activities commenced at the Site. Impacted soil affected above the NMOCD Closure Criteria was excavated and stockpiled on-site, pending transfer to an NMOCD-approved surface waste facility for disposal. The floor and sidewalls of the excavation were advanced until field observations and test results suggested BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria or to the maximum extent practicable.

On February 18, 2020, Etech collected fifteen (15) excavation confirmation soil samples (BHS 1 @ 2', BH 2 @ 2' through BH 5 @ 2', NSW 1 @ 2', NSW 2b @ 2', NSW 3 @ 2', NSW 4 @ 1', NSW 5 @ 1', NSW 6 @ 1', ESW 1 @ 2', ESW 2 @ 2', SWSW 1 @ 2', and WSW 1 @ 2') from the floor and sidewalls of the excavated area. The soil samples were submitted to a certified commercial laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria in each of the submitted soil samples, with the exceptions of soil samples NSW 4 @ 1', NSW 5 @ 1', and NSW 6 @ 1', which exhibited chloride concentrations ranging from 640 mg/kg (NSW 5 @ 1') to 1,280 mg/kg (NSW 4 @ 1'). Additional excavation of the areas characterized by sample points NSW 4 @ 1', NSW 5 @ 1' and NSW 6 @ 1' was precluded by the presence of the lined tank battery containment.

On February 19, 2020, Etech collected fourteen (14) excavation confirmation soil samples (BH6 1 @ 1', BH7b @ 1.5', BH 8 @ 1' through BH 15 @ 1', BH 16D @ 4', BH 17D @ 4', ESW 3 @ 1', and ESW 4 @ 1') from the floor and sidewalls of the excavated area. The soil samples were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria in each of the submitted soil samples, with the exceptions of soil samples BH7b @ 1.5', BH 16D @ 4', and BH 17D @ 4', which exhibited chloride concentrations ranging from 624 mg/kg (BH7b @ 1.5') to 1,420 mg/kg (BH 16D @ 4'). The excavation was advanced in the area characterized by soil sample BH 7b @ 1.5'.

A test trench (ST BH 16/17) was also advanced north of the pumping unit, in the area characterized by sample points BH 16D @ 4' and BH 17D @ 4', to further investigate the vertical extent of impacted soil. During advancement of the test trench, three (3) soil samples (ST BH 16/17 @ 6', ST BH 16/17 @ 8', and ST BH 16/17 @ 12') were collected and submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX and TPH concentrations were below the applicable NMOCD Closure Criteria in each of the submitted soil samples. Chloride concentrations ranged from 1,330 mg/kg in soil sample ST BH 16/17 @ 12' to 1,680 mg/kg in soil sample ST BH 16/17 @ 8'. Based on laboratory analytical results, additional vertical delineation was required in the area characterized by test trench ST BH 16/17.

On February 20, 2020, Etech collected nine (9) excavation confirmation soil samples (BH-18 through BH-21, ESW 5b, SSW 1, SSW 2, SSW 3b, and SWSW 2) from the floor and sidewalls of the excavated area. The soil samples were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria in each of the submitted soil samples, with the exceptions of soil samples BH-20 and BH-21, which exhibited chloride concentrations of 864 mg/kg and 672 mg/kg, respectively. The excavation was advanced in the area characterized by soil sample BH-20.

On February 24, 2020, Etech collected twenty-five (25) excavation confirmation soil samples (FL-1 through FL-25) from the floor of the excavated area. The soil samples were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria in each of the submitted soil samples, with the exception of soil sample FL-25, which exhibited chloride concentration of 1,150 mg/kg.

A test trench (TT- 16/17) was also advanced in the area characterized by test trench ST BH 16/17 to further investigate the vertical extent of impacted soil. During advancement of the test trench, one (1) soil sample (TT-16/17 @ 19') was collected and submitted to the laboratory for analysis of chloride. Laboratory analytical results indicated the chloride concentration was below the NMOCD Closure Criteria, and the vertical extent of impacted soil was adequately defined.

Upon discovering impacted soil affected above the NMOCD Closure Criteria at depth adjacent to the pumping unit and beneath the lined containment, Etech prepared and submitted a *Site Assessement Report, Variance Request & Proposed Remediation Workplan* to the NMOCD and BLM, detailing delineation activities and the need for a variance and/or deferral to avoid a major facility deconstruction.

On February 25, 2020, Etech collected eighteen (18) excavation confirmation soil samples (FL-26 through FL-39, NSW 7 through NSW 9, and ESW 6) from the floor and sidewalls of the excavated area. The soil samples were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria in each of the submitted soil samples.

On March 3, 2020, Etech collected two (2) excavation confirmation soil samples (BH-7c and BH-20b) from the floor of the excavated area. The soil samples were submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations were below the NMOCD Closure Criteria in both of the soil samples.

Upon receiving laboratory analytical results from excavation confirmation soil samples, a 20-mil polyurethane liner was installed on the floor of the excavation atop impacted soil affected above the NMOCD Closure Criteria in the area characterized by soil samples BH-16D @ 4', BH-17D @ 4', BH-21, and FL-25, and test trenches ST BH 16/17 and TT-16/17. The liner was sloped to facilitate shedding of moisture outside both the footprint of the excavation and the maximum horizontal extent of impacted soil. This engineered control is designed to inhibit the vertical migration of chloride contamination remaining in-situ. During the installation of the liner, an approximate 6-inch layer of pad material was installed both above and below the liner in an effort to maintain its integrity during backfilling activities. Subsequent to installation of the liner and pad material, the excavated area was backfilled with locally sourced, non-impacted "like" material in an effort to reduce safety and environmental concerns associated with the open excavation and to restore access to the facility.

The final dimensions of the excavated area were 160 feet in length, twenty-five (25) to ninety (90) feet in width, and one (1) to four (4) feet in depth. During the course of remediation activities, approximately 1,160 cubic yards of impacted soil was excavated and transported to an NMOCD-approved surface waste facility for disposal.

Locations of confirmation soil samples, test trenches, and the extents of the excavation and liner are depicted in Figure 3B, "Site & Sample Location Map (Excavation)". A soil chemistry data table is provided as Table 2. Laboratory analytical reports are provided in Appendix C. General photographs of the Site are provided in Appendix D.

# 6.0 GROUNDWATER INVESTIGATION & IN-SITU CHLORIDE MIGRATION MODELING

Review of the most recent GIS map data published by the BLM's Carlsbad Field Office on January 14, 2021, indicates the Site is in an area of "medium" potential for karst occurrence. On December 8, 2020, an investigative soil boring/temporary monitor well was installed at the Site in an effort to further investigate site characteristics and confirm the depth to groundwater. The investigative soil bore was advanced to a total depth of approximately forty (40) feet bgs. During the advancement of the investigative soil bore, no karst characteristics were noted. The investigative soil bore was left open for seventy-two (72) hours, then gauged. Groundwater gauging data indicated that the original depth to groundwater estimate of approximately thirty-five (35) feet bgs was accurate. The soil boring log is provided in Appendix B.

Based on this information, Etech utilized the Environmental Protection Agency's (EPA) Multimedia Exposure Assessment Model (MULTIMED) to determine if the contamination remaining in-situ under the liner poses a threat to groundwater quality. The most appropriate and conservative parameters possible for the Site and karst/limestone were used for the assessment model in regard to unsaturated transport zone thickness (i.e., 16 feet between the maximum vertical extent of the spill and groundwater surface), contaminant concentration (1,680 mg/kg, the maximum concentration remaining in-situ), porosity (0.13), saturated hydraulic conductivity (1 m/day), etc. The model indicated that the peak concentration of chloride in the underlying groundwater contributed by the contamination remaining in-situ under the liner would be approximately 136.4 mg/L in 101 years, versus 714.1 mg/L in 28.3 years if the area was not lined (see Appendix E).

Etech also utilized the EPA MULTIMED simulator to determine if the contamination remaining in-situ under the lined containment area poses a threat to groundwater quality. Again, using the most appropriate and conservative parameters possible for the Site and area of interest, the model indicated that the peak concentration of chloride in the underlying groundwater contributed by the contamination remaining in-situ under the lined containment area would be approximately 70.39 mg/L in 193 years, versus 453.2 mg/L in 54.3 years if the containment area was not lined (see Appendix E).

The estimated increases in chloride concentration are below the New Mexico Water Quality Control Commission (NMWQCC) standard of 250.0 mg/L specified in Section 20.6.2.3103 B.(1) of the New Mexico Administrative Code (NMAC). Leaving the contamination in-situ "does not cause an imminent risk to human health, the environment, or ground water", pursuant to NMAC Section 19.15.29.12.C(3). In addition, the maximum concentration of chloride remaining in-situ under the excavation liner (1,680 mg/kg), which was utilized for the model, occurred at eight (8) feet bgs. Pursuant to Sections 19.15.29.13.E and 19.15.29.14.A(2) NMAC, the migration model effectively demonstrates that the 4-foot excavation/reclamation and liner installation performed at the Site provides an "equal...protection of fresh water, public health and the environment" as a deeper excavation to eight (8) feet bgs (or beyond), and additional excavation is not required at this time.

#### 7.0 VARIANCE & DEFERRAL REQUESTS

Based on laboratory analytical results from delineation soil samples and on in-situ chloride migration modeling, Etech, on behalf of COG Operating, LLC, requests a variance to the requirements of Section 19.15.29.12.C(3) NMAC and permission to leave the chloride contamination in the areas characterized by test trenches ST BH 16/17 and TT-16/17 and soil samples BH-16D @ 4', BH-17D @ 4', BH-21, FL-25, NSW 4 @ 1', NSW 5 @ 1', NSW 6 @ 1' in-situ. Etech also requests permission to leave the installed liner in place at four (4) feet bgs.

Etech recommends COG Operating, LLC, provide copies of this *Remediation Summary*, *Variance & Deferral Request* to the appropriate agencies and cease remediation activities at the Site. Remediation of impacted soil affected above the NMOCD Closure Criteria remaining in-situ beneath the liner and/or lined tank battery will be completed upon decommission and abandonment of the facility.

#### 8.0 RESTORATION, RECLAMATION & RE-VEGETATION PLAN

The release was limited to an active tank battery facility on a production pad. Final reclamation and re-vegetation will be conducted in accordance with NMAC Section 19.15.29.13 upon decommission and abandonment of the facility.

#### 9.0 LIMITATIONS

Etech Environmental & Safety Solutions, Inc., has prepared this *Remediation Summary, Variance & Deferral Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Etech has examined and relied upon documents reference in the report and on oral statements made by certain individuals. Etech has not conducted an independent examination of the facts contained in referenced materials and statements. Etech has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Etech has prepared the report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Etech notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of COG Operating, LLC. Use of the information contained in this report is prohibited within the consent of Etech and/or COG Operating, LLC.

#### 10.0 DISTRIBUTION

COG Operating, LLC 600 West Illinois Avenue Midland, TX 79701

New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division, District 2 811 S. First Street Artesia, NM 88210

United States Department of the Interior

Bureau of Land Management 620 E. Greene Street Carlsbad, NM 88220

(Electronic Submission)

# Figure 1 Topographic Map

**Eddy County** 

Drafted: bja

Checked: jwl

Date:

1/19/21

# Figure 2 Aerial Proximity Map



Showstopper 19 Fed Com #004H-005H GPS: 32.11037, -104.02296 **Eddy County** 



Drafted: bja Checked: jwl

Date:

2/22/21

# Figures 3A & 3B Site & Sample Location Maps

# Page 16 of 203 4/9/20 Date:

# Sample Point

Legend:

Impacted Area **Buried Pipeline** 

Test Trench



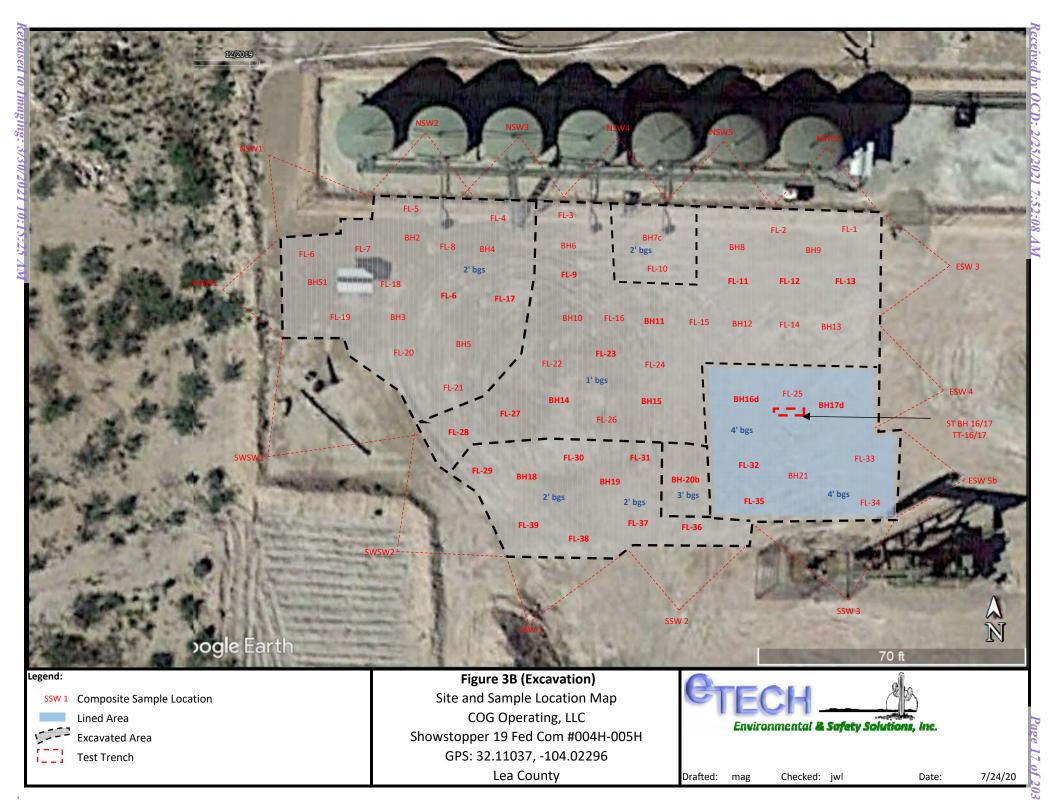
Excavated Area Original Release Margins

#### Figure 3A (Delineation)

Site & Sample Location Map COG Operating, LLC Showstopper 19 Fed Com #004H-005H GPS: 32.11037, -104.02296 Lea County

Environmental & Safety Solutions, Inc.

Drafted: mag Checked: jwl



# Tables 1 & 2 Concentrations of BTEX, TPH & Chloride in Soil

#### TABLE 1

### Concentrations of BTEX, TPH & Chloride in Soil (Delineation)

#### **COG Operating, LLC**

### Showstopper 19 Fed Com #004H-005H

**NMOCD Ref. #: 2RP-5703** 

				SW 846	6 8021B		SW	846 8015M	Ext.		4500 Cl
Sample ID	Date	Depth	Soil Status	Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/kg)	GRO + DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	ORO C <sub>28</sub> -C <sub>36</sub> (mg/kg)	TPH C <sub>6</sub> -C <sub>36</sub> (mg/kg)	Chloride (mg/kg)
SP 1 @ Surf	12/19/2019	Surf	Excavated	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	7,040
SP 1 @ 2'	12/19/2019	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	80.0
SP 2 @ Surf	12/19/2019	Surf	Excavated	< 0.050	< 0.300	<10.0	12.1	12.1	<10.0	12.1	2,360
SP 2 @ 1'	12/19/2019	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	544
SP 3 @ Surf	12/19/2019	Surf	Excavated	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,010
SP 3 @ 1'	12/19/2019	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	496
SP 4 @ Surf	12/19/2019	Surf	Excavated	< 0.050	< 0.300	<10.0	735	735	297	1,032	3,960
SP 4 @ 1'	12/19/2019	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	208
NH b @ 1'	12/19/2019	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
NH b @ Surf	12/19/2019	Surf	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
EH b @ 1'	12/19/2019	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	544
EH b @ Surf	12/19/2019	Surf	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	576
SH @ 1'	12/19/2019	1'	Excavated	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,070
SH @ Surf	12/19/2019	Surf	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	592
SHB @ 1	12/31/2019	1'	In-Situ	< 0.050	< 0.300	<10.0	78.9	78.9	<10.0	78.9	80.0
SHB @ Surf	12/31/2019	Surf	In-Situ	< 0.050	< 0.300	<10.0	22.9	22.9	12.6	35.5	144
WH b @ 1'	12/19/2019	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	512
WH b @ Surf	12/31/2019	Surf	Excavated	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	608
WHC @ Surf	12/31/2019	Surf	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
ST BH 16/17 @ 6'	2/19/2020	6'	Risked	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,460
ST BH 16/17 @ 8'	2/19/2020	8'	Risked	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,680
ST BH 16/17 @ 12'	2/19/2020	12'	Risked	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,330
TT - 16/17 @ 19'	2/24/2020	19'	In-Situ	-	-	-	-	-	-	-	320
Clo	sure Crite	ria		10	50	-	-	N/A	-	100	600

NOTES:

**Bold** text denotes a concentration that exceeds the NMOCD Closure Criteria

# TABLE 2 Concentrations of BTEX, TPH & Chloride in Soil (Excavation) COG Operating, LLC Showstopper 19 Fed Com #004H-005H

NMOCD Ref. #: 2RP-5703

NMOCD Ref. #: 2RP-5703											
	SW 846 8021B SW 846 8015M Ext.						4500 Cl				
Sample ID	Date	Depth	Soil Status	Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/kg)	GRO + DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	ORO C <sub>28</sub> -C <sub>36</sub> (mg/kg)	TPH C <sub>6</sub> -C <sub>36</sub> (mg/kg)	Chloride (mg/kg)
BHS 1 @ 2'	2/18/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
BH 2 @ 2'	2/18/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
BH 3 @ 2'	2/18/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
BH 4 @ 2'	2/18/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	144
BH 5 @ 2'	2/18/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
BH 6 @ 1'	2/19/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	464
BH 7b @ 1.5'	2/19/2020	1.5'	Excavated	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	624
BH - 7c	3/3/2020	2'	In-Situ	-	-	-	-	-	-	-	208
BH 8 @ 1'	2/19/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	400
BH 9 @ 1'	2/19/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	368
BH 10 @ 1'	2/19/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	192
BH 11 @ 1'	2/19/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	416
BH 12 @ 1'	2/19/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	336
BH 13 @ 1'	2/19/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	416
BH 14 @ 1'	2/19/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	144
BH 15 @ 1'	2/19/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	256
BH 16D @ 4'	2/19/2020	4'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,420
BH 17D @ 4'	2/19/2020	4'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	928
BH - 18	2/20/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	448
BH - 19	2/20/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	224
BH - 20	2/20/2020	2'	Excavated	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	864
BH - 20b	3/3/2020	3'	In-Situ	-	-	-	-	-	-	-	256
BH - 21	2/20/2020	4'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	672
FL - 1	2/24/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
FL - 2	2/24/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	96.0
FL - 3	2/24/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	80.0
FL - 4	2/24/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	80.0
FL - 5	2/24/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
FL - 6	2/24/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
FL - 7	2/24/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
FL - 8	2/24/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	544
FL - 9	2/24/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	480
FL - 10	2/24/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	384
FL - 11	2/24/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	432
FL - 12	2/24/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	368
FL - 13	2/24/2020	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	480
FL - 14	2/24/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	368
FL - 15	2/24/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	384
FL - 16	2/24/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	368
FL - 17	2/24/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	368
FL - 18	2/24/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	384
FL - 19	2/24/2020	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	416
Clo NOTES:	sure Crite	ria		10	50	-	-	N/A	-	100	600

NOTES:

-=

# TABLE 2 Concentrations of BTEX, TPH & Chloride in Soil (Excavation) COG Operating, LLC Showstopper 19 Fed Com #004H-005H

**NMOCD Ref. #: 2RP-5703** 

		CWOACCOOLD CWOACCOOLD CWOACCOOLD A								4500 CI	
				SW 840	5 8021B		SW I	846 8015M	Ext.	Ī	4500 CI
Sample ID	Date	Depth	Soil Status	Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/kg)	GRO + DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	ORO C <sub>28</sub> -C <sub>36</sub> (mg/kg)	TPH C <sub>6</sub> -C <sub>36</sub> (mg/kg)	Chloride (mg/kg)
FL - 20	2/24/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	208
FL - 21	2/24/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	336
FL - 22	2/24/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	288
FL - 23	2/24/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	240
FL - 24	2/24/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	272
FL - 25	2/24/2020	4'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,150
FL - 26	2/25/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	256
FL - 27	2/25/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	288
FL - 28	2/25/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	256
FL - 29	2/25/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	320
FL - 30	2/25/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	256
FL - 31	2/25/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	256
FL - 32	2/25/2020	4'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	336
FL - 33	2/25/2020	4'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	352
FL - 34	2/25/2020	4'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	272
FL - 35	2/25/2020	4'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	368
FL - 36	2/25/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	320
FL - 37	2/25/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	352
FL - 38	2/25/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	10.40	10.40	<10.0	10.40	272
FL - 39	2/25/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	256
NSW 1 @ 2'	2/18/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
NSW 2b @ 2'	2/18/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
NSW 3 @ 2'	2/18/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
NSW 4 @ 1'	2/18/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,280
NSW 5 @ 1'	2/18/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	640
NSW 6 @ 1'	2/18/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,020
NSW 7	2/25/2020	NA	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	352
NSW 8	2/25/2020	NA	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	352
NSW 9	2/25/2020	NA	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	384
ESW 1 @ 2'	2/18/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	96.0
ESW 2 @ 2'	2/18/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	224
ESW 3 @ 1'	2/19/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	272
ESW 4 @ 1'	2/19/2020	1'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	448
ESW 5b	2/20/2020	NA	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	352
ESW 6	2/25/2020	NA	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	320
SSW 1	2/20/2020	NA	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	80.0
SSW 2	2/20/2020	NA	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	320
SSW 3b	2/20/2020	NA	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	192
SWSW 1 @ 2'	2/18/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
SWSW 2	2/20/2020	NA	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	224
WSW 1 @ 2'	2/18/2020	2'	In-Situ	< 0.050	< 0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
Clo	sure Crite	ria		10	50			N/A		100	600

NOTES:

**Bold** text denotes a concentration that exceeds the NMOCD Closure Criteria

# Appendix A Depth to Groundwater Information



# Water Column/Average Depth to Water

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

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

closed)

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

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

30 feet

POD Sub-

 Code
 basin
 County 64
 16
 4
 Sec
 Tws
 Rng

 C
 ED
 2
 1
 30
 25S
 29E

**X Y** 591926 3552642\*

**Water DistanceDepthWellDepthWater Column**511 180 30 150

Average Depth to Water:

Minimum Depth: 30 feet

Maximum Depth: 30 feet

Record Count: 1

**POD Number** 

C 01337

UTMNAD83 Radius Search (in meters):

**Easting (X):** 592177.89 **Northing (Y):** 3553087.27 **Radius:** 804.67

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/13/19 2:00 PM

WATER COLUMN/ AVERAGE DEPTH TO



# Water Column/Average Depth to Water

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

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

closed)

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

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

Water

30

40

**POD** Sub-

QQQ basin County 64 16 4 Sec Tws Rng Code 2 1 30 25S 29E  $\mathbf{C}$ C

ED

591926 3552642\* 589096 3552612\* DistanceDepthWellDepthWater Column 511 180 3118

Average Depth to Water: 35 feet

> Minimum Depth: 30 feet 40 feet Maximum Depth:

Record Count: 2

**POD Number** 

C 01337

C 01453

UTMNAD83 Radius Search (in meters):

**Easting (X):** 592177.89

Radius: 3220 **Northing (Y):** 3553087.27

1 2 26 25S 28E

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/13/19 2:03 PM

WATER COLUMN/ AVERAGE DEPTH TO



# **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag POD Number C 01337 **Q64 Q16 Q4 Sec Tws Rng**2 1 30 25S 29E

X Y

3552642\*

**Driller License: 24** 

**Driller Company:** BRININSTOOL, M.D.

Driller Name: HO

HOWARD HEMLER

**Drill Start Date:** 08/25/1966

966 **Drill Finish Date:** 

08/30/1966

Plug Date:

Log File Date:

01/26/1967

PCW Rcv Date:

Source:

Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

**Casing Size:** 

7.00

Depth Well:

180 feet **Depth Water:** 

591926

30 feet

Water Bearing Stratifications:

73

93 Sandstone/Gravel/Conglomerate

163

172 Sandstone/Gravel/Conglomerate

**Casing Perforations:** 

Top Bottom

163 172

Top Bottom Description

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/13/19 2:01 PM

POINT OF DIVERSION SUMMARY

<sup>\*</sup>UTM location was derived from PLSS - see Help



# **Point of Diversion Summary**

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

589096

Well Tag POD Number C 01453 Q64 Q16 Q4 Sec Tws Rng

X

3552612\*

Driller Company: BARRON, EMMETT

Driller License: 30
Driller Name: BA

BARRON, EMMETT

**Drill Start Date:** 07/

07/17/1971 **Drill I** 

**Drill Finish Date:** 07/20/1971

26 25S 28E

Plug Date:

Log File Date:

08/02/1971

**PCW Rcv Date:** 

Source:

Shallow

Pump Type:

Pipe Discharge Size:

**Estimated Yield:** 

Casing Size:

6.00

Depth Well:

70 feet

Depth Water:

40 feet

Water Bearing Stratifications:

Top Bottom Description

50

70 Shale/Mudstone/Siltstone

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/13/19 2:03 PM

POINT OF DIVERSION SUMMARY

<sup>\*</sup>UTM location was derived from PLSS - see Help

**Eddy County** 

Drafted: bja

Checked: jwl

Date:

2/1/21

## Released to Imaging: 3/30/2021 10:15:25 AM



**USGS Water Resources** 

ata Category:	Geographic Area:		
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• 320518104031401

#### Minimum number of levels = 1

Save file of selected sites to local disk for future upload

#### USGS 320518104031401 25S.28E.35.2324

Available data for this site Groundwater: Field measurements 

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

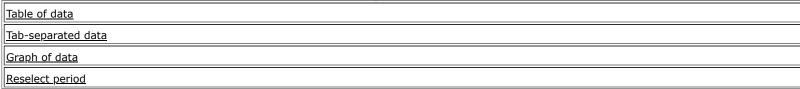
Latitude 32°05'19.0", Longitude 104°03'17.3" NAD83

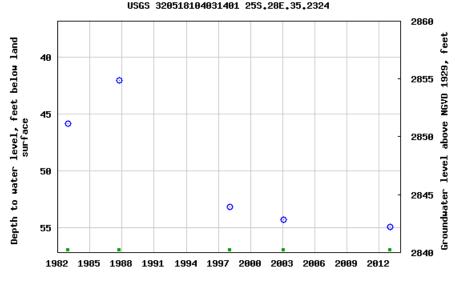
Land-surface elevation 2,897 feet above NGVD29

The depth of the well is 180 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

#### **Output formats**





- Period of approved data



**USGS Water Resources** 

Data Category:		Geographic Area:		
Groundwater	▼	United States	▼	GO

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Groundwater levels for the Nation

#### Search Results -- 1 sites found

Agency code = usgs site\_no list =

• 320532104001701

#### Minimum number of levels = 1

Save file of selected sites to local disk for future upload

#### USGS 320532104001701 25S.29E.32.21111

Available data for this site Groundwater: Field measurements 

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

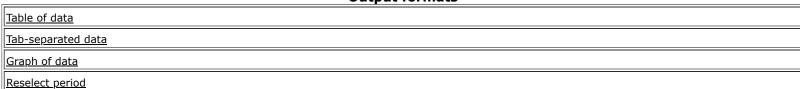
Latitude 32°05'32", Longitude 104°00'17" NAD27

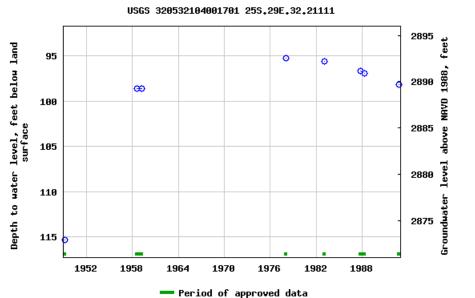
Land-surface elevation 2,988 feet above NAVD88

The depth of the well is 128 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

#### **Output formats**





**USGS Water Resources** 

Data Category:		Geographic Area:		
Groundwater	▼ ]	United States	▼	GO

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- Full News

Groundwater levels for the Nation

#### Search Results -- 1 sites found

Agency code = usgs site\_no list =

• 320719103584601

#### Minimum number of levels = 1

Save file of selected sites to local disk for future upload

#### USGS 320719103584601 25S.29E.16.44444

Available data for this site Groundwater: Field measurements 

GO

Fiddy County New Mexico

Eddy County, New Mexico

Hydrologic Unit Code 13060011

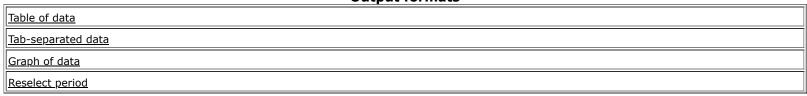
Latitude 32°07'19", Longitude 103°58'46" NAD27

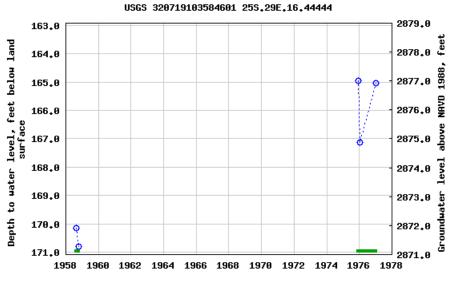
Land-surface elevation 3,042 feet above NAVD88

The depth of the well is 200 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

#### **Output formats**





- Period of approved data



**USGS Water Resources** 

Data Category:		Geographic Area:		
Groundwater	▼	United States	▼	GO

#### Click to hideNews Bulletins

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

Groundwater levels for the Nation

#### Search Results -- 1 sites found

Agency code = usgs site\_no list =

320739103584201

#### Minimum number of levels = 1

Save file of selected sites to local disk for future upload

#### USGS 320739103584201 25S.29E.15.31134

Available data for this site Groundwater: Field measurements GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

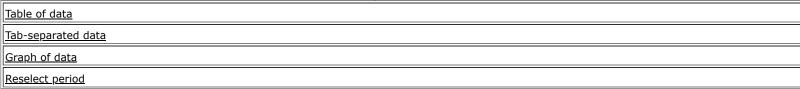
Latitude 32°07'39", Longitude 103°58'42" NAD27

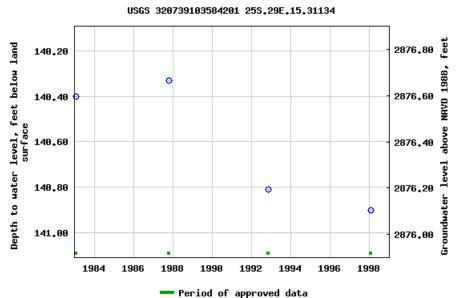
Land-surface elevation 3,017 feet above NAVD88

The depth of the well is 192 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

#### **Output formats**







**USGS Water Resources** 

ata Category:		Geographic Area:		
Groundwater •	7	United States	•	GO

#### Click to hideNews Bulletins

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- Full News

Groundwater levels for the Nation

#### Search Results -- 1 sites found

Agency code = usgs site\_no list =

• 320749104041001

#### Minimum number of levels = 1

Save file of selected sites to local disk for future upload

#### USGS 320749104041001 25S.28E.15.23000

Available data for this site Groundwater: Field measurements 

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

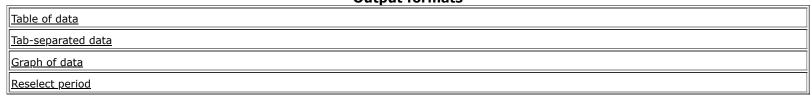
Latitude 32°07'54.6", Longitude 104°04'20.3" NAD83

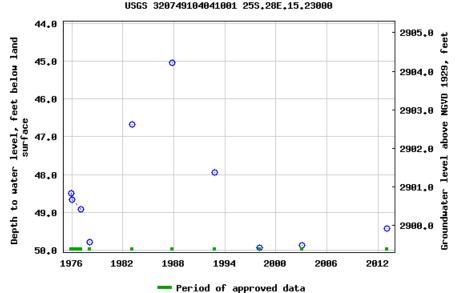
Land-surface elevation 2,949.30 feet above NGVD29

The depth of the well is 70 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

#### Output formats





Breaks in the plot represent a gap of at least one year between field measurements.

Download a presentation-quality graph

**USGS Water Resources** 

Data Category:		Geographic Area:			
Groundwater	▼	United States	•	GO	

#### Click to hideNews Bulletins

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

Groundwater levels for the Nation

#### Search Results -- 1 sites found

Agency code = usgs site\_no list =

• 320758104041601

#### Minimum number of levels = 1

Save file of selected sites to local disk for future upload

#### USGS 320758104041601 25S.28E.15.23231

Available data for this site Groundwater: Field measurements ▼ GO

Eddy County, New Mexico

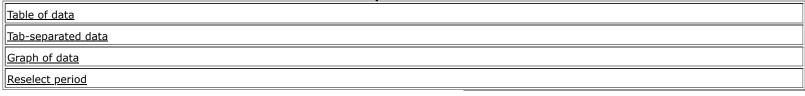
Hydrologic Unit Code 13060011

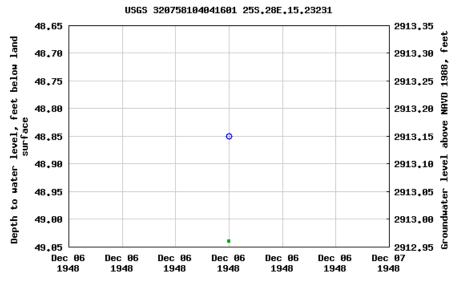
Latitude 32°07'58", Longitude 104°04'16" NAD27

Land-surface elevation 2,962 feet above NAVD88

This well is completed in the Rustler Formation (312RSLR) local aquifer.

#### **Output formats**





Period of approved data

# Appendix B Field Data & Soil Profile Logs



### Sample Log

Date:

12/19/19

Project:

Show Stopper 19 4H-5H

Project Number:

11626 Latitude:

32.11037

Longitude:

-104.02296

Sample ID	PID/Odor	Chloride Conc.	GPS
NH @ Swit.		2504	_
Elt @ Suf		848	_
SH @ Surf. WH @ Surf.		348 556 * [628	32.11011, 404.02285
WH @ Sout.		1628	_
NH @ 1			_
EH @ 1'		508	_
NH @ I' EH @ I' SH @ I' WH @ I'		780 508 4	32,11011, -104.02285
WA @ i'		848	-
SPI WELL		~ *	32,11034, -104,02306
SP 1 @ 1'		720 - A	il 4
5/2 @ Suf.		- A	32,11024, -104,02295
SP 1 @ 1' SP 2 @ Surf. SP 2 @ 1' SP 3 @ 5wf. SP 3 @ 1'		312 *	
5P3 C Swf		- #	32.11025, -104,02284
SP3 @ 1'		424 *	) <i>j</i>
SP4 19 Such		- A	32.11030, -104.02767
SPY Q 1' NH b R S NFM NH b R 1' SP 2 C Z'		196 X	// //
NHD N- Sactar		148	32.11049, -104.02277
NAB RI SP 1 @ Z'		124	11
SP 1 @ 2'		124	32,11034, -104,02300
WHO & Surf.		490	32.11023, -104,02309
WAG & I		444	I
EHD & Swf.		352	32,11024, -104.02258
WHO & Surt. WHO & Surt. EHD & Surt. EHD & Surt.		400	4
		12/3//19	
5Hb & 1 & Swtar	udne	580 9:00	32.11008, -104.02285
54 b @ T	none	380 9:15 172 9:30	$\iota \epsilon = \iota \iota$
WHC & SWE.	non	172 9:30	32,11023, -104.023/2
		<i>j</i>	
		à de la companya de l	*
			and an experience

Sample Point = SP #1 @ ## etc

Floor = FL #1 etc

Sidewall = SW #1 etc

Test Trench = TT #1 @ ##

Refusal = SP #1 @ 4'-R

Soil Intended to be Deferred = SP #1 @ 4' In-Situ

Resamples= SP #1 @ 5b or SW #1b

Stockpile = Stockpile #1

**GPS Sample Points, Center of Comp Areas** 



## **Soil Profile**

Date:

12/19/19

Project:	Show Stop	oper 19 4H-5H				
Project Number:	<u> </u>	11626	Latitude:	32.11037	Longitude:	-104.02296
Depth (ft. bgs)			. /	De	escription	
1		Co	rliche			
2	-					
3		Res	Sand			
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25 26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
S25.0						



### Soil Boring/Temporary Monitor Well BH-1

Company: COG Operating, LLC

Site: Showstopper 19 Fed Com #004H-005H NMOCD Reference #: nRM1932335844

Location: Eddy Co., NM

PLSS: Unit 'O' (SW/SE), Sec. 19, T25S, R29E

Well/Borehole ID: BH-1

Coordinates (NAD 83): 32.110111,-104.022302

Drilling Date: 12/8/2020 Depth of Boring (ft): 40 Depth to Groundwater (ft): 35

Plugging Date: 12/8/2020

Drilling Company: Scarborough Drilling, Inc.

Driller: L. Scarborough
Drilling Method: Air Rotary
Logged By: L. Scarborough
Drafted By: B. Arguijo
Draft Date: 2/14/2021

Completion: N/A Casing: N/A Screen: N/A

Comments: N/A

00111														
Depth (ft)	Graphic Log	Groundwater	Material Description	PID	Chloride Field Test	Petroleum Odor	Petroleum Stain	Moisture	Lab	ТРН	Benzene	втех	Chloride	Well Construction
0	177		Topsoil											
_ 5	0. L		Caliche	-	-	-	-	-	-	-	-	-	-	
_ 10				-	-	-	-	-	-	-	-	-	-	
_ _ _ 15	9.90			-	-	-	-	-	-	-	-	-	-	
20			Brown clay	-	-	-	-	-	-	-	-	-	-	Bentonite
- - - 25	1//// 19. D		Tight gravel w/ streaks of clay	-	-	-	-	-	-	-	-	-	-	
30				-	-	-	-	-	-	-	-	-	-	
_ 35		⊻		-	-	-	-	Y	-	-	-	-	-	⊉
- - <del>- 40</del> -	7.8		Notes:	-	-	-	-	Υ	-	-	-	-	-	
- - - 45			Lines between material types represent approximate boundaries. Actual transitions may be gradual.											
_ _ 50			, ,											
_ 55 														
60														
_ _ 65														
- - - 70														
- 75 														
- 80 														
- 85														
90														
_ _ 95 _														

# Appendix C Laboratory Analytical Reports



December 30, 2019

JOEL LOWRY

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: SHOWSTOPPER 19 4H-5H

Enclosed are the results of analyses for samples received by the laboratory on 12/20/19 15:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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

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

Accreditation applies to public drinking water matrices.

Celey D. Keine

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:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: 12/30/2019 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: EDDY CO NM

### Sample ID: NH b @ SURFACE (H904266-01)

BTEX 8021B	mg/	/kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	2.00	99.8	2.00	7.39	
Toluene*	<0.050	0.050	12/27/2019	ND	2.00	100	2.00	7.26	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	2.02	101	2.00	7.16	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.99	99.9	6.00	6.43	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	114 9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/26/2019	ND	400	100	400	3.92	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	210	105	200	1.11	
DRO >C10-C28*	<10.0	10.0	12/26/2019	ND	208	104	200	0.713	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	91.3	% 41-142	•						
Surrogate: 1-Chlorooctadecane	91.0	% 37.6-14	7						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene



### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301

Lovington NM, 88260 Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: 12/30/2019 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: me

Project Location: EDDY CO NM

### Sample ID: NH b @ 1' (H904266-02)

RTFY 8021R

Analyte ene*	Result	Danastina Limit							
ene*		Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
	<0.050	0.050	12/27/2019	ND	2.00	99.8	2.00	7.39	
ene*	<0.050	0.050	12/27/2019	ND	2.00	100	2.00	7.26	
lbenzene*	<0.050	0.050	12/27/2019	ND	2.02	101	2.00	7.16	
l Xylenes*	<0.150	0.150	12/27/2019	ND	5.99	99.9	6.00	6.43	
BTEX	<0.300	0.300	12/27/2019	ND					
ogate: 4-Bromofluorobenzene (P	ID 111 9	% 73.3-12	9						
ride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
oride	32.0	16.0	12/26/2019	ND	400	100	400	3.92	
8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
C6-C10*	<10.0	10.0	12/26/2019	ND	210	105	200	1.11	
>C10-C28*	<10.0	10.0	12/26/2019	ND	208	104	200	0.713	
DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
ogate: 1-Chlorooctane	94.1	% 41-142	•						
ogate: 1-Chlorooctadecane	96.0	% 37.6-14	7						
ogate: 1-Chlorooctane	94.1	% 41-142	,	ND					

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Celey D. Keene



### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: 12/30/2019 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: me

Project Location: EDDY CO NM

### Sample ID: EH b @ SURFACE (H904266-03)

RTFY 8021R

B1EX 8021B	mg	/ <b>kg</b>	Anaiyze	a By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	114	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	12/26/2019	ND	400	100	400	3.92	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	210	105	200	1.11	
DRO >C10-C28*	<10.0	10.0	12/26/2019	ND	208	104	200	0.713	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	86.2	% 41-142	•						
Surrogate: 1-Chlorooctadecane	87.1	% 37.6-14	7						

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Celey D. Keene



### Analytical Results For:

Etech Environmental & Safety Solutions
JOEL LOWRY
P.O. Box 301

Lovington NM, 88260 Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: 12/30/2019 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: me

Project Location: EDDY CO NM

ma/ka

### Sample ID: EH b @ 1' (H904266-04)

RTFY 8021R

B1EX 8021B	mg	/кд	Anaiyze	ea By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	115	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	12/26/2019	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	210	105	200	1.11	
DRO >C10-C28*	<10.0	10.0	12/26/2019	ND	208	104	200	0.713	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	84.2	% 41-142							
Surrogate: 1-Chlorooctadecane	84.9	% 37.6-14	7						

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Celey D. Keine



### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301

Lovington NM, 88260

Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: Sampling Type: Soil 12/30/2019

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact Sample Received By: Project Number: 11626 Tamara Oldaker

Project Location: EDDY CO NM

### **Sample ID: SH @ SURFACE (H904266-05)**

BTEX 8021B	mg/	'kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	114 9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	12/26/2019	ND	400	100	400	3.92	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	210	105	200	1.11	
DRO >C10-C28*	<10.0	10.0	12/26/2019	ND	208	104	200	0.713	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	82.0	% 41-142	ı						
Surrogate: 1-Chlorooctadecane	81.6	% 37.6-14	7						

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### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: Sampling Type: Soil 12/30/2019

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker Project Number: 11626

Project Location: EDDY CO NM

### Sample ID: SH @ 1' (H904266-06)

BTEX 8021B	mg/	/kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	115 9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1070	16.0	12/26/2019	ND	400	100	400	3.92	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	210	105	200	1.11	
DRO >C10-C28*	<10.0	10.0	12/26/2019	ND	208	104	200	0.713	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	81.2	% 41-142	1						
Surrogate: 1-Chlorooctadecane	82.7	% 37.6-14	7						

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### Analytical Results For:

Etech Environmental & Safety Solutions
JOEL LOWRY
P.O. Box 301

Lovington NM, 88260 Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: 12/30/2019 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: me

Project Location: EDDY CO NM

### Sample ID: WH b @ SURFACE (H904266-07)

RTFY 8021R

B1EX 8021B	mg	/кд	Anaiyze	ea By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	113	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	12/26/2019	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	210	105	200	1.11	
DRO >C10-C28*	<10.0	10.0	12/26/2019	ND	208	104	200	0.713	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	91.7	% 41-142	•						
Surrogate: 1-Chlorooctadecane	92.4	% 37.6-14	7						

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Celey D. Keine



Tamara Oldaker

### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301

Lovington NM, 88260 Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: Sampling Type: Soil 12/30/2019 Sampling Condition: Cool & Intact

Project Name: SHOWSTOPPER 19 4H-5H Sample Received By: Project Number: 11626

Project Location: EDDY CO NM

### Sample ID: WH b @ 1' (H904266-08)

BTEX 8021B	mg/	'kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	113 9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	12/26/2019	ND	400	100	400	3.92	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	210	105	200	1.11	
DRO >C10-C28*	<10.0	10.0	12/26/2019	ND	208	104	200	0.713	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	87.9	% 41-142	ı						
Surrogate: 1-Chlorooctadecane	89.0	% 37.6-14	7						

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### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: 12/30/2019 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: me

Project Location: EDDY CO NM

### Sample ID: SP 1 @ SURFACE (H904266-09)

RTFY 8021R

B1EX 8021B	mg	/ kg	Anaiyze	ea By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	113	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7040	16.0	12/26/2019	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	210	105	200	1.11	
DRO >C10-C28*	<10.0	10.0	12/26/2019	ND	208	104	200	0.713	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	83.4	% 41-142							
Surrogate: 1-Chlorooctadecane	83.9	% 37.6-14	7						

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### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301

Lovington NM, 88260 Fax To:

(575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: Sampling Type: Soil 12/30/2019 SHOWSTOPPER 19 4H-5H

Project Name: Sampling Condition: Cool & Intact Sample Received By: Project Number: 11626 Tamara Oldaker

Project Location: EDDY CO NM

### Sample ID: SP 1 @ 2' (H904266-10)

BTEX 8021B	mg,	/kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	113 9	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	12/26/2019	ND	416	104	400	0.00	
TPH 8015M	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	210	105	200	1.11	
DRO >C10-C28*	<10.0	10.0	12/26/2019	ND	208	104	200	0.713	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	85.6	% 41-142	ı						
Surrogate: 1-Chlorooctadecane	86.7	% 37.6-14	7						

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12/19/2019

### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301

Lovington NM, 88260 Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date:

Reported: Sampling Type: Soil 12/30/2019

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker Project Number: 11626

Project Location: EDDY CO NM

### Sample ID: SP 2 @ SURFACE (H904266-11)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	114 9	6 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2360	16.0	12/26/2019	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	210	105	200	1.11	
DRO >C10-C28*	12.1	10.0	12/26/2019	ND	208	104	200	0.713	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	90.4	% 41-142	ı						
Surrogate: 1-Chlorooctadecane	92.7	% 37.6-14	7						

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### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301

Lovington NM, 88260 Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: Sampling Type: Soil 12/30/2019

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact Sample Received By: Project Number: 11626 Tamara Oldaker

Project Location: EDDY CO NM

### Sample ID: SP 2 @ 1' (H904266-12)

BTEX 8021B	mg/	/kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	114 9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	12/26/2019	ND	416	104	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	210	105	200	1.11	
DRO >C10-C28*	<10.0	10.0	12/26/2019	ND	208	104	200	0.713	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	95.3	% 41-142	!						
Surrogate: 1-Chlorooctadecane	95.7	% 37.6-14	7						

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Tamara Oldaker

### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301

Lovington NM, 88260 Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: Sampling Type: Soil 12/30/2019 Cool & Intact

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Sample Received By: Project Number: 11626

Project Location: EDDY CO NM

### Sample ID: SP 3 @ SURFACE (H904266-13)

BTEX 8021B	mg/	/kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	113 9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1010	16.0	12/26/2019	ND	416	104	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	204	102	200	1.50	
DRO >C10-C28*	<10.0	10.0	12/26/2019	ND	211	106	200	2.24	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	70.9	% 41-142	ı						
Surrogate: 1-Chlorooctadecane	72.2	% 37.6-14	7						

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: 12/30/2019 Sampling Type: Soil Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Coo

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: me

Project Location: EDDY CO NM

ma/ka

### Sample ID: SP 3 @ 1' (H904266-14)

RTFY 8021R

B1EX 8021B	mg	/кд	Anaiyze	a By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	117	% 73.3-12	9						
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	12/26/2019	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	204	102	200	1.50	
DRO >C10-C28*	<10.0	10.0	12/26/2019	ND	211	106	200	2.24	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	69.0	% 41-142	•						
Surrogate: 1-Chlorooctadecane	69.5	% 37.6-14	7						

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Celey D. Keine



### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: Sampling Type: Soil 12/30/2019

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact Sample Received By: Project Number: 11626 Tamara Oldaker

Project Location: EDDY CO NM

### Sample ID: SP 4 @ SURFACE (H904266-15)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	118 9	73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3960	16.0	12/26/2019	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	204	102	200	1.50	
DRO >C10-C28*	735	10.0	12/26/2019	ND	211	106	200	2.24	
EXT DRO >C28-C36	297	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	69.4	% 41-142	1						
Surrogate: 1-Chlorooctadecane	91.7	% 37.6-14	7						

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### Analytical Results For:

Etech Environmental & Safety Solutions
JOEL LOWRY
P.O. Box 301

Lovington NM, 88260 Fax To: (575) 396-1429

Received: 12/20/2019 Sampling Date: 12/19/2019

Reported: 12/30/2019 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: me

Project Location: EDDY CO NM

ma/ka

### Sample ID: SP 4 @ 1' (H904266-16)

RTFY 8021R

B1EX 8021B	mg	/кд	Anaiyze	a By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/27/2019	ND	1.76	88.1	2.00	9.56	
Toluene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.4	
Ethylbenzene*	<0.050	0.050	12/27/2019	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	12/27/2019	ND	5.24	87.4	6.00	10.6	
Total BTEX	<0.300	0.300	12/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	117	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	12/26/2019	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/26/2019	ND	204	102	200	1.50	
DRO >C10-C28*	<10.0	10.0	12/26/2019	ND	211	106	200	2.24	
EXT DRO >C28-C36	<10.0	10.0	12/26/2019	ND					
Surrogate: 1-Chlorooctane	74.7	% 41-142	•						
Surrogate: 1-Chlorooctadecane	74.3	% 37.6-14	7						

Cardinal Laboratories \*=Accredited Analyte

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### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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Celeg D. Freene

Received by OCD: 2/25/2021 7:52:08 AM

# Released to Imaging: 3/30/2021 10:15:25 AM



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

	(575) 393-2326 FAX (575) 393-2	476																									
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Project Name:	Showstopper 19 44	-5	H				Stat			Zip:																	
Project Location	: Eddy Co, New 1		**********	3			*************	ne #:	***************************************	ZIP.									1								
Sampler Name:	Mighel Rumirez					200000000000000000000000000000000000000	Fax																				
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FORM-006 R 2.0

# Received by OCD: 2/25/2021 7:52:08 AM



Project Manager: Suel Lowr-

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ANALYSIS REQUEST

Released to Imaging: 3/30/2021 10:15:25 AM

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

Etech Environmental

Address: 3100 Plains Ituy		Company:		1	1					
City: Louington State: Num	Zip: 66260	Attn:		1						
Phone #: 432-446-4450 Fax #:		Address:						1		
Project #: // 626 Project Owner:		City:		1						
Project Name: Showstopper 19 4H-St	!/			1						1
Project Location: Eddy Co, New M		State: Zip: Phone #:								8
Sampler Name: Migyal Rujniyez		Fax #:		1	s.					
FOR LAB USE ONLY	MATRIX	The state of the s	PLING							
Lab I.D. Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL	OTHER: ACID/BASE: ICE/COOL OTHER:		Chloride	ТРН	BTEX 8021				
11 SP2@ SV fuce		x 2.15		X	2	7				
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EASE NOTE: Liability and Damages, Cardinal's liability and client's exclusive remedy for any clar lyses. All claims: including those for negligence and any other cause whatsoever shall be deeme				***************************************						
AGE. In no every shall Cardinal be liable for incidental or consequental de-	and lec	elved by Cardinal Within 30 days aft	r completion of the ar	plicable						
ares or successors arising out of or related to the performance of services hereunder by Cardin	nal, regardless of whether such claim is b	of use, or loss of profits incurred by assed upon any of the above stated	client, its subsidiaries,							
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ampler - UPS - Bus - Other:	Sample Condition Cool Intact	CHECKED BY: (Initials)								
aricle -	1.5 Yes Yes	Teg_								
Cardinal cannot accept verbal changes. Please fax writ M-006 R 2.0	tten changes to 575-393	3-2476					·			

BILL TO

P.O. #:



January 06, 2020

JOEL LOWRY

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: SHOWSTOPPER 19 4H-5H

Enclosed are the results of analyses for samples received by the laboratory on 12/31/19 16:08.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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

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

Accreditation applies to public drinking water matrices.

Celey D. Keine

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:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 12/31/2019 Sampling Date: 12/31/2019

Reported: 01/06/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Jodi Henson

A ... - L ... - - - I D. .. MC

Project Location: COG - EDDY CO NM

### Sample ID: SHB @ SURFACE (H904326-01)

BTEX 8021B	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/03/2020	ND	1.95	97.7	2.00	2.10	
Toluene*	<0.050	0.050	01/03/2020	ND	1.95	97.6	2.00	1.84	
Ethylbenzene*	<0.050	0.050	01/03/2020	ND	2.00	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	01/03/2020	ND	5.83	97.1	6.00	2.08	
Total BTEX	<0.300	0.300	01/03/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.8	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	01/02/2020	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/03/2020	ND	215	107	200	4.76	
DRO >C10-C28*	22.9	10.0	01/03/2020	ND	239	119	200	2.39	
EXT DRO >C28-C36	12.6	10.0	01/03/2020	ND					
Surrogate: 1-Chlorooctane	100 5	% 41-142	,						
Surrogate: 1-Chlorooctadecane	108 9	% 37.6-14	7						

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Celey & Keene



### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301

Lovington NM, 88260 Fax To: (575) 396-1429

(5,5) 556 2.1

ma/ka

Received: 12/31/2019 Sampling Date: 12/31/2019

Reported: 01/06/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Jodi Henson

Analyzed By: MC

Project Location: COG - EDDY CO NM

### Sample ID: SHB @ 1 (H904326-02)

RTFY 8021R

BIEX 8021B	mg	/ <b>kg</b>	Anaiyze	а ву: м5					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/03/2020	ND	1.95	97.7	2.00	2.10	
Toluene*	<0.050	0.050	01/03/2020	ND	1.95	97.6	2.00	1.84	
Ethylbenzene*	<0.050	0.050	01/03/2020	ND	2.00	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	01/03/2020	ND	5.83	97.1	6.00	2.08	
Total BTEX	<0.300	0.300	01/03/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.5	% 73.3-12	9						
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	01/02/2020	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/03/2020	ND	215	107	200	4.76	
DRO >C10-C28*	78.9	10.0	01/03/2020	ND	239	119	200	2.39	
EXT DRO >C28-C36	<10.0	10.0	01/03/2020	ND					
Surrogate: 1-Chlorooctane	96.1	% 41-142	•						
Surrogate: 1-Chlorooctadecane	108	% 37.6-14	7						

### Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene



### Analytical Results For:

Etech Environmental & Safety Solutions JOEL LOWRY P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 12/31/2019 Sampling Date: 12/31/2019

Reported: 01/06/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Jodi Henson

Applyzod By: MC

Project Location: COG - EDDY CO NM

### Sample ID: WHC @ SURFACE (H904326-03)

RTFY 8021R

B1EX 8021B	mg,	кg	Anaiyze	а ву: мѕ					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/03/2020	ND	1.95	97.3	2.00	1.53	
Toluene*	<0.050	0.050	01/03/2020	ND	1.96	97.8	2.00	2.20	
Ethylbenzene*	<0.050	0.050	01/03/2020	ND	2.00	100	2.00	2.45	
Total Xylenes*	<0.150	0.150	01/03/2020	ND	5.82	97.0	6.00	2.28	
Total BTEX	<0.300	0.300	01/03/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.9	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/02/2020	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/03/2020	ND	215	107	200	4.76	
DRO >C10-C28*	<10.0	10.0	01/03/2020	ND	239	119	200	2.39	
EXT DRO >C28-C36	<10.0	10.0	01/03/2020	ND					
Surrogate: 1-Chlorooctane	95.0	% 41-142							
Surrogate: 1-Chlorooctadecane	103	% 37.6-14	7						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene



### **Notes and Definitions**

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

ecovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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Celeg D. Freene

Received by OCD: 2/25/2021 7:52:08 AM

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Etech Environmental	BILL TO	ANALYSIS REQUEST
Project Manager: Suel Lowr-1	P.O. #:	
Address: 3100 Plains Huy	Company:	
City: Lovington State: IVM Zip: 88260	Attn:	
Phone #: 432-446-4450 Fax #:	Address:	
Project #: 16 06 Project Owner: CCG aperating of	City:	
Project #: 1606 Project Owner: COG operating all Project Name: Show Stopper 19 4H-5H	State: Zip:	
Project Location: Eddy Co, New Wester	Phone #:	_
Sampler Name: Leeter Villa	Fax #:	_
FOR LAB USE (INLY MATI	X PRESERV. SAMPLING	
N EER E	# # # # # # # # # # # # # # # # # # #	
(G)RAB OR (C)ONTAINERS GROUNDWATER WASTEWATER SOIL	) JC	de
LEW NITA AB	OGE COO	Chloride BTEX 80
Lab I.D. Sample I.D. 860. Sample I.D. Soll. Soll.	SLUDGE OTHER: ACID/BASE: ICE / COOL OTHER:	Chlori TPH BTEX
1 SHB @ Surface GI	12-3149 9:00	
2 SHBQ1 91 /	1 12-31-19 9:15	
3 WHC @ Purpage   A 1 /	1 10-719 9:30	
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in	ntract or tort, shall be limited to the amount paid by the client	or the

analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries,

affiliates or successors arising out of or related to the performance	of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated h	easons of otherwise.	
Relinquished By: 1/2 A-0 0-1 MA	Date: 181-19 Received By:	Phone Result:    Yes    No	Add'l Phone #:
Reinquished By: Ideotol Ull	1. 10	Fax Result: ☐ Yes ☐ No	Add'l Fax #:
	Time: 30 Must from	112111111111111111111111111111111111111	joel p etech env. com
Relinguished By:	Date: A 31. (4 Received By:		lance Petechons.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 0.11	Sample Condition CHECKED BY:		ehenv.com

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

Page 6 of 6



February 27, 2020

LANCE CRENSHAW

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: SHOWSTOPPER 19 FED COM 4H-5H

Enclosed are the results of analyses for samples received by the laboratory on 02/20/20 13:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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

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

Celey D. Keine

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



Tamara Oldaker

Sample Received By:

### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

A ... - I. ... - - - I D. ... CK

Received: 02/20/2020 Sampling Date: 02/19/2020 Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626

Project Location: COG - EDDY CO NM

### Sample ID: ST BH 16/17 @ 6' (H000547-01)

BTEX 8021B	mg,	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1460	16.0	02/24/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	91.1	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane 91.2 % 42.		% 42.2-15	6						

### Cardinal Laboratories \*=Accredited Analyte

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Celey & Keene



### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

 Received:
 02/20/2020
 Sampling Date:
 02/19/2020

 Reported:
 02/27/2020
 Sampling Type:
 Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

### Sample ID: ST BH 16/17 @ 8' (H000547-02)

BTEX 8021B

DIEX GOZID	ıııg,	- Kg	Allulyzo	u by. ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	urrogate: 4-Bromofluorobenzene (PID 99.7 %		9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	02/24/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0 10.0		02/27/2020	ND					
Surrogate: 1-Chlorooctane	86.6	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane 88.3 % 42		% 42.2-15	6						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene



### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

 Received:
 02/20/2020
 Sampling Date:
 02/19/2020

 Reported:
 02/27/2020
 Sampling Type:
 Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

### Sample ID: ST BH 16/17 @ 12' (H000547-03)

BTEX 8021B	mg/	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID		% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1330	16.0	16.0 02/24/2020		416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	85.6	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	87.3	% 42.2-15	6						

### Cardinal Laboratories \*=Accredited Analyte

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Celey D. Kreene



### **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  $6^{\circ}\text{C}$ 

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories \*=Accredited Analyte

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# Received by OCD: 2/25/2021 7:52:08 AM

Page 6 of 6

### ARDINAL LABORATORIES

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

CHAIN-OF-CU	STODY	AND	ANAL'	YSIS	REQ	UEST
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Released to Imaging: 3/30/2021 10:15:25 AM

Company Name: Etech Environmental & Safety Solutions, Inc.				37470				ANALYSIS REQUEST																	
Project Manager	t Manager: Lance Crenshaw				P.	P.O. #:																			
Address: P.O					Co	Company: COG				)G															
City: Lovingto	ty: Lovington State: NM Zip: 88260				At	Attn:																			
Phone #: (57	5) 396-2378 F	Fax #: (575) 39	6-14	29				Ac	ldres	ss:															
Project #: 116	26 F	Project Owner:		CO	G			Ci	ty:						(	<u>∞</u>									
Project Name:	Showstopper 19 Fed Com 4	4H - 5H						St	ate:			Zip:		de	15M	(8021B)									
Project Location	: Rural Eddy, NM			umojajuna				Př	one	#:		••••••		Chloride	TPH (8015M)	(80									
Sampler Name:	David Robinson		_					Fa	x#:		_			<del>ပ</del>	표	втех		ŀ							
FOR LAB USE ONLY			٥.		<u>-</u>	MAT	RIX	7	PRI	ESEF	₹V.	SAMPLII	NG		-	Ö									
Lab I.D. H000547	Sample I.D	).	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	SOIL	OIL	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME									c			
	ST BH 16/17 @ 6'		G	1		Х				Х		2/19/20		Х	Х	Х		Š.							
2	ST BH 16/17 @ 8'		G	1		Х				Х		2/19/20		Х	X	Х									
3	ST BH 16/17 @ 12'		G	1		X				Х		2/19/20		Х	X	Х									
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	d Damages. Cardinal's liability and client's exc those for negligence and any other cause wh																								
service. In no event shall Ca	rdinal be liable for incidental or consequental or og out of or related to the performance of serv	damages, including withou	t limita	tion, bu	siness inte	ruptions	loss of	use, or	loss of	profits i	ncurre	ed by client, its sub	sidiaries,												
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Delivered By	: (Circle One)		<u></u>		Sai	nple (	Cond	ition	1	CHE	CK	ED BY:	Please e	Please email results to pm@etechenv.com											
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FORM-006 Revision 1.0



February 27, 2020

LANCE CRENSHAW

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: SHOWSTOPPER 19 FED COM 4H-5H

Enclosed are the results of analyses for samples received by the laboratory on 02/26/20 8:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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

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

Accreditation applies to public drinking water matrices.

Celey D. Keine

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:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: TT - 16/17 @ 19' (H000608-01)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	02/27/2020	ND	432	108	400	0.00	

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Celey D. Keene



#### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keine

## CARDINAL Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Mariand, Hopps, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name	, ,			-	кт. г.д.ч. г.ден	Magazana (17	Mark-				BIL	L TO						ANA	LYS	S RE	QUE	ST			
Project Manage	r: Lance Crenshav	N	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					P	0. #									1	T						
Address: 310	00 Plains Hwy							С	omp	any:	: c	OG		1											
City: Lovingto	on	State: NM	Zip	):	8826	0		A	ttn:	Dak	ota N												1		
Phone #: 575	-396-2378	Fax #: 575-396-1	429				***************************************		ddre																N.
Project #: 116	26	Project Owner:		cog	Opera	ting, I	LLC	c	ity:	***************************************	***************************************														
Project Name:	Showstopper 19 Fed	Com #004H-005H							ate:		Z	ip:													
Project Location	n: Rural Eddy				***************************************		***************************************	PI	none	#:			***************************************	1											1
Sampler Name:	Duce de	vu					***************************************		1x #:																
FOR LAB USE ONLY	1 0	9	<u></u>			MAT	RIX		PR	ESEF	RV.	SAMPLI	NG	j											
Lab I.D. <i>H000 6</i> 08	Sample	e I.D.	(G)RAB OR (C)OMF	# CONTAINERS	GROUNDWATER WASTEWATER	SOIL	OIL	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	Chloride	ТРН	BTEX 8021									
	TT-16/17 @ 19 Ft		С	1		Х				Х		2/24/20		X						+	+-		1	_	+
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service. In no event shall Ca affiliates or successors arisin	d Damages, Cardinal's liability and those for negligence and any oth rdinal be liable for incidental or co gout of or related to the performa	nsequental damages including a	without lie	nitotion	husinaa	e in wri	ting and	receiv	ed by C	ardinal	within 3	0 days after o	ompletion of the a	applicable	0										1
Relinquished By	the	Date: 2-26-20 Time: 080	Red	eive	d By:	1111	26	_	c/	0//	Va-	Lin	Phone Res Fax Result	sult:	☐ Yes		No No	Add'l I	Fax #:						
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TO.

Received by OCD: 2/25/2021 7:52:08 AM

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476



February 28, 2020

LANCE CRENSHAW

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: SHOWSTOPPER 19 FED COM 4H-5H

Enclosed are the results of analyses for samples received by the laboratory on 02/20/20 13:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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

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

Accreditation applies to public drinking water matrices.

Celey D. Keine

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



Tamara Oldaker

Sample Received By:

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Applyand By CV

 Received:
 02/20/2020
 Sampling Date:
 02/18/2020

 Reported:
 02/28/2020
 Sampling Type:
 Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626

Project Location: COG - EDDY CO NM

#### Sample ID: WSW 1 @ 2' (H000548-01)

DTEV 0021D

BTEX 8021B	mg/	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.0	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg/	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	92.3	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	92.3	% 42.2-15	6						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Kreene



Tamara Oldaker

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/18/2020

Reported: 02/28/2020 Sampling Type: Soil
Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition:
Project Number: 11626 Sample Received By:

Project Location: COG - EDDY CO NM

#### Sample ID: BHS 1 @ 2' (H000548-02)

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.2	% 73.3-12	9						
Chloride, SM4500CI-B	mg	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	90.6	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane	94.0	% 42.2-15	6						

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Celey D. Keene



02/18/2020

Soil

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Sampling Date:

Received: 02/20/2020

Reported: 02/28/2020 Sampling Type:

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: NSW 1 @ 2' (H000548-03)

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.9	% 73.3-12	9						
Chloride, SM4500CI-B	mg	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	85.9	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane	90.0	% 42.2-15	6						

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Celey D. Keine



Sample Received By:

Tamara Oldaker

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

 Received:
 02/20/2020
 Sampling Date:
 02/18/2020

 Reported:
 02/28/2020
 Sampling Type:
 Soil

Reported: 02/28/2020 Sampling Type: Soil
Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626

Project Location: COG - EDDY CO NM

#### Sample ID: NSW 2b @ 2' (H000548-04)

BTEX 8021B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 73.3-12	9						
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	87.3	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	88.3	% 42.2-15	6						

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Celey D. Keene



#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/18/2020

Reported: 02/28/2020 Sampling Type: Soil Project Name: SHOWSTOPPER 19 FED COM 4H-5H

Sampling Condition: Cool & Intact Sample Received By: Project Number: 11626 Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: NSW 3 @ 2' (H000548-05)

BTEX 8021B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 %	6 73.3-12	9						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	88.5 9	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	90.3 9	% 42.2-15	6						

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Celey D. Keine



02/18/2020

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date:

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: BH 2 @ 2' (H000548-06)

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	76.3	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	84.3	% 42.2-15	6						

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Celey D. Keine



02/18/2020

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Sampling Date:

02/20/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: BH 3 @ 2' (H000548-07)

Received:

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	86.0	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane	90.2	% 42.2-15	6						

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

\*=Accredited Analyte



#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/18/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: BH 4 @ 2' (H000548-08)

BTEX 8021B

DIEX GOZID	1119/	<u>ng</u>	Allulyzo	u by. ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	88.5	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	93.8	% 42.2-15	6						

#### Cardinal Laboratories \*=Accredited Analyte

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/18/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: BH 5 @ 2' (H000548-09)

BTEX 8021B

DILX GOZID	ıııg,	, kg	Andryzo	u by. cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.99	99.5	2.00	5.45	
Toluene*	<0.050	0.050	02/26/2020	ND	2.00	99.8	2.00	5.21	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.00	100	2.00	5.12	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.92	98.6	6.00	5.18	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.3	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	90.2	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	94.0	% 42.2-15	6						

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Celey D. Keene



Tamara Oldaker

Sample Received By:

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

 Received:
 02/20/2020
 Sampling Date:
 02/18/2020

 Reported:
 02/28/2020
 Sampling Type:
 Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626
Project Location: COG - EDDY CO NM

#### Sample ID: ESW 1 @ 2' (H000548-10)

BTEX 8021B	mg,	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	QR-03
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	QR-03
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	QR-03
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	QR-03
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.1	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	89.5	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	92.9	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Analyzed By: CK

,

mg/kg

 Received:
 02/20/2020
 Sampling Date:
 02/18/2020

 Reported:
 02/28/2020
 Sampling Type:
 Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: ESW 2 @ 2' (H000548-11)

BTEX 8021B

DILX GOZID	ıııg,	K9	Allulyzo	a by. cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.3	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	'kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg/	'kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	92.4	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	96.8	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/18/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

#### Sample ID: SWSW 1 @ 2' (H000548-12)

BTEX 8021B

	9/	9	7	7 5.1					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.9	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	207	104	200	0.537	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	220	110	200	10.8	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	94.2	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	97.4	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/18/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

#### Sample ID: NSW 4 @ 1' (H000548-13)

BTEX 8021B

DILX GOZID	ıııg,	, kg	Andryzo	a by. Cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.6	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1280	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	83.2	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	82.9	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

 Received:
 02/20/2020
 Sampling Date:
 02/18/2020

 Reported:
 02/28/2020
 Sampling Type:
 Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: NSW 5 @ 1' (H000548-14)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.2	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	84.6	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	85.0	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/18/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

#### Sample ID: NSW 6 @ 1' (H000548-15)

BTEX 8021B

	9,	9	7	7: - 0::					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.3	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1020	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	78.9	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	79.9	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/19/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: ESW 3 @ 1' (H000548-16)

BTEX 8021B

DILX GOZID	ıııg,	, kg	Andryzo	a by. Cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.8	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	02/25/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	79.4	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	75.8	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/19/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Applyzod By: CK

Project Location: COG - EDDY CO NM

#### Sample ID: ESW 4 @ 1' (H000548-17)

RTFY 8021R

B1EX 8021B	mg	/кд	Anaiyze	а ву: СК					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.2	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	02/25/2020	ND	432	108	400	0.00	QM-07
TPH 8015M	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	80.0	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	78.6	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/19/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: BH 6 @ 1' (H000548-18)

Toluene*         <0.050	BTEX 8021B	mg	/kg	Analyze	d By: CK					
Toluene* < 0.050 0.050 02/26/2020 ND 1.92 95.9 2.00  Ethylbenzene* < 0.050 0.050 02/26/2020 ND 1.93 96.5 2.00  Total Xylenes* < 0.150 0.150 02/26/2020 ND 5.61 93.5 6.00  Total BTEX < 0.300 0.300 02/26/2020 ND 5.61 93.5 6.00  Surrogate: 4-Bromofluorobenzene (PID 98.8 % 73.3-129  Chloride, SM4500Cl-B mg/kg Analyzed By: AC  Chloride A64 16.0 02/25/2020 ND 432 108 400  The B015M mg/kg Analyzed By: CK  Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC  Chloride Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC  GRO C6-C10* < 10.0 10.0 02/28/2020 ND 205 102 200  DRO >C10-C28* < 10.0 10.0 02/28/2020 ND 207 104 200  EXT DRO >C28-C36 < 10.0 10.0 02/28/2020 ND  Surrogate: 1-Chlorooctane 80.2 % 44.3-144	Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Ethylbenzene* <0.050 0.050 02/26/2020 ND 1.93 96.5 2.00  Total Xylenes* <0.150 0.150 02/26/2020 ND 5.61 93.5 6.00  Total BTEX <0.300 0.300 02/26/2020 ND  Surrogate: 4-Bromofluorobenzene (PID 98.8 % 73.3-129  Chloride, SM4500Cl-B mg/ky Analyzed By: AC  Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC  Chloride 464 16.0 02/25/2020 ND 432 108 400  TPH 8015M ng/ky Analyzed By: CK  Analyte Result Reporting Limit Analyzed By: CK  Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC  GRO C6-C10* <10.0 10.0 02/28/2020 ND 205 102 200  DRO >C10-C28* <10.0 10.0 02/28/2020 ND 207 104 200  EXT DRO >C28-C36 <10.0 10.0 02/28/2020 ND  Surrogate: 1-Chlorooctane 80.2 % 44.3-144	Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Total Xylenes*         <0.150         0.150         02/26/2020         ND         5.61         93.5         6.00           Total BTEX         <0.300	Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Total BTEX	Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Surrogate: 4-Bromofluorobenzene (PID         98.8 % 73.3-129           Chloride, SM4500Cl-B         mg/ky         Analyzed By: AC           Analyte         Result Reporting Limit Reporting Limit PH 8015M         Analyzed By: CK           TPH 8015M         mg/ky         Analyzed By: CK           Analyte         Result Reporting Limit Reporting Limit Analyzed Method Blank BS Recovery True Value QC           GRO C6-C10*         <10.0	Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Chloride, SM4500Cl-B         mg/kg         Analyzed By: AC           Analyte         Result Reporting Limit Reporting Limit Analyzed Method Blank BS Mecovery True Value QC           Chloride         464         16.0         02/25/2020 ND 432 108 400           TPH 8015M         mg/kg         Analyzed By: CK           Analyte         Result Reporting Limit Reporting Limit Analyzed Method Blank BS Mecovery True Value QC           GRO C6-C10*         <10.0	Total BTEX	<0.300	0.300	02/26/2020	ND					
Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC  Chloride 464 16.0 02/25/2020 ND 432 108 400  TPH 8015M mg/kg Analyzed By: CK  Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC  GRO C6-C10* <10.0 10.0 02/28/2020 ND 205 102 200  DRO >C10-C28* <10.0 10.0 02/28/2020 ND 207 104 200  EXT DRO >C28-C36 <10.0 10.0 02/28/2020 ND  Surrogate: 1-Chlorooctane 80.2 % 44.3-144	Surrogate: 4-Bromofluorobenzene (Pl	D 98.8	% 73.3-12	?9						
Chloride         464         16.0         02/25/2020         ND         432         108         400           TPH 8015M         mg/kg         Analyzed By: CK         CK	Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
TPH 8015M         mg/kg         Analyzed By: CK           Analyte         Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery         True Value QC           GRO C6-C10*         <10.0	Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC  GRO C6-C10* <10.0 10.0 02/28/2020 ND 205 102 200  DRO >C10-C28* <10.0 10.0 02/28/2020 ND 207 104 200  EXT DRO >C28-C36 <10.0 10.0 02/28/2020 ND  Surrogate: 1-Chlorooctane 80.2 % 44.3-144	Chloride	464	16.0	02/25/2020	ND	432	108	400	0.00	
GRO C6-C10* <10.0 10.0 02/28/2020 ND 205 102 200 DRO >C10-C28* <10.0 10.0 02/28/2020 ND 207 104 200  EXT DRO >C28-C36 <10.0 10.0 02/28/2020 ND  Surrogate: 1-Chlorooctane 80.2 % 44.3-144	TPH 8015M	mg	/kg	Analyze	d By: CK					
DRO >C10-C28* < 10.0 10.0 02/28/2020 ND 207 104 200  EXT DRO >C28-C36 <10.0 10.0 02/28/2020 ND  Surrogate: 1-Chlorooctane 80.2 % 44.3-144	Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
EXT DRO >C28-C36 <10.0 10.0 02/28/2020 ND  Surrogate: 1-Chlorooctane 80.2 % 44.3-144	GRO C6-C10*	<10.0	10.0	02/28/2020	ND	205	102	200	1.57	
Surrogate: 1-Chlorooctane 80.2 % 44.3-144	DRO >C10-C28*	<10.0	10.0	02/28/2020	ND	207	104	200	3.81	
	EXT DRO >C28-C36	<10.0	10.0	02/28/2020	ND					
0.016	Surrogate: 1-Chlorooctane	80.2	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane 79.1 % 42.2-156	Surrogate: 1-Chlorooctadecane	79.1	% 42.2-15	56						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/19/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: BH 8 @ 1' (H000548-19)

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	< 0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.8	% 73.3-12	9						
Chloride, SM4500CI-B	mg	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	02/25/2020	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/28/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/28/2020	ND					
Surrogate: 1-Chlorooctane	79.7	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane	76.3	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/19/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: BH 9 @ 1' (H000548-20)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.7	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	02/25/2020	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/28/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/28/2020	ND					
Surrogate: 1-Chlorooctane	81.6	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	81.3	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/19/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: BH 10 @ 1' (H000548-21)

BTEX 8021B

DIEX GOZID	11197	- Kg	Alldiyac	a by. cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.6	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	02/25/2020	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/28/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/28/2020	ND					
Surrogate: 1-Chlorooctane	83.0	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	82.4	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/19/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: BH 11 @ 1' (H000548-22)

BTEX 8021B

	9/	9	7	7 0.1					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.8	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	02/25/2020	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/28/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/28/2020	ND					
Surrogate: 1-Chlorooctane	79.0	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	75.5	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/19/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: BH 12 @ 1' (H000548-23)

BTEX 8021B

	9,	9	7	7: - 0::					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020						
Surrogate: 4-Bromofluorobenzene (PID	98.7	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	02/25/2020	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/28/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/28/2020	ND					
Surrogate: 1-Chlorooctane	86.6	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	85.5	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/19/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: BH 13 @ 1' (H000548-24)

BTEX 8021B

DILX GOZID	ıııg,	, kg	Andryzo	a by. Cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.8	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AC					
Analyte	Result Reporting Limit		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	02/25/2020	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/28/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0 10.0		02/28/2020	ND					
Surrogate: 1-Chlorooctane	83.2	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	81.5	% 42.2-15	6						

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Celey D. Keine



02/19/2020

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date:

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: BH 7b @ 1.5' (H000548-25)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.4	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result Reporting Limit		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	02/25/2020	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/28/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/28/2020	ND					
Surrogate: 1-Chlorooctane	81.0	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	78.2	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/20/2020 Sampling Date: 02/19/2020

Reported: 02/28/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: BH 14 @ 1' (H000548-26)

BTEX 8021B

DILX GOZID	ıııg,	- Kg	Andryzo	a by. Cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	26/2020 ND		95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.8	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	02/25/2020	ND	432	108	400	0.00	
TPH 8015M	mg/kg		Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/28/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/28/2020	ND					
Surrogate: 1-Chlorooctane	84.7	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	81.5	% 42.2-15	6						

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Celey D. Keene



#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

 Received:
 02/20/2020
 Sampling Date:
 02/19/2020

 Reported:
 02/28/2020
 Sampling Type:
 Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: BH 15 @ 1' (H000548-27)

BTEX 8021B	mg	/kg	Analyze	d By: CK					
Analyte	Result Reporting Lir		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020 ND		5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.2	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result Reporting Limit		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	02/25/2020	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/28/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/28/2020	ND					
Surrogate: 1-Chlorooctane	80.5	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane	76.9	% 42.2-15	6						

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Tamara Oldaker

Sample Received By:

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Analyzed By: CK

 Received:
 02/20/2020
 Sampling Date:
 02/19/2020

 Reported:
 02/28/2020
 Sampling Type:
 Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626

Project Location: COG - EDDY CO NM

#### Sample ID: BH 16D @ 4' (H000548-28)

BTEX 8021B

DILX GOZID	ıııg,	, kg	Andryzo	a by. Cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.4	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AC					
Analyte	Result Reporting Limit		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1420	16.0	02/25/2020	ND	432	108	400	0.00	
TPH 8015M	mg/kg		Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/28/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/28/2020	ND					
Surrogate: 1-Chlorooctane	79.6 % 44.3-144		4						
Surrogate: 1-Chlorooctadecane	75.2	% 42.2-15	6						

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Sample Received By:

02/19/2020

Tamara Oldaker

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Analyzed By: CK

Received: 02/20/2020 Sampling Date:

Reported: 02/28/2020 Sampling Type: Soil
Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626

Project Location: COG - EDDY CO NM

#### Sample ID: BH 17D @ 4' (H000548-29)

BTEX 8021B

	9,	9	7	7: - 0::					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.91	95.6	2.00	1.20	
Toluene*	<0.050	0.050	02/26/2020	ND	1.92	95.9	2.00	1.33	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.93	96.5	2.00	1.37	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	1.40	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.9	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	02/25/2020	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2020	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	02/28/2020	ND	207	104	200	3.81	
EXT DRO >C28-C36	<10.0	10.0	02/28/2020	ND					
Surrogate: 1-Chlorooctane	71.5	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	68.8	% 42.2-15	6						

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#### **Notes and Definitions**

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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# Received by OCD: 2/25/2021 7:52:08 AM

Page 32 of 34

## ARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUES	<b>CHAIN-OF</b>	CUSTODY	'AND A	VALYSIS	REQUES
--------------------------------------	-----------------	---------	--------	---------	--------

Released to Imaging: 3/30/2021 10:15:25 AM

Company Name	Etech Environmental & Safety Solution		c.						Z	3/L	LL TO						ANA	YSIS	RE	QUEST	ń	
Project Manager	: Lance Crenshaw						P.	0. #		1010101		.,						1	T T			
Address: P.O	. Box 301		***************************************	***************************************	***************************************		c	omp	any:		CC	OG .							1			
City: Lovingto	n State: NM	Zip	882	60		***************************************		tn:														1 1
Phone #: (57	5) 396-2378 <b>Fax #</b> : (575) 39	6-14	29				A	ddre	ess:													1 1
Project #: 116	26 Project Owner:		СО	G				ty:				X 22 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0										
Project Name:	Showstopper 19 Fed Com 4H - 5H							ate:			Zip:	((POSTATA BARANTA BARA		(M	1B)							1 1
Project Location	: Rural Eddy County, NM							none					rig	100	802							1 1
Sampler Name:	David Robinson							ıx #:	***************************************				Chloride	TPH (8015M)	BTEX (8021B)							1 1
FOR LAB USE ONLY					MAT	RIX		_	RESEF	R۷.	SAMPLI	NG		르	BTE							1 1
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	SOIL	OIL	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME										
ľ	WSW 1 @ 2'	G	1		Х				X		2/18/20	8:45	Х	Х	Х							
2	BHS 1 @ 2'	G	1		X				Х		2/18/20	9:30	Х	Х	Х							
3	NSW 1 @ 2'	G	1		Х				X	Ī	2/18/20	9:45	Х	Х	Х							
4	NSW 2b @ 2'	G	1		X				X		2/18/20	10:15	Х	Х	Х							
5	NSW 3 @ 2'	G	1		X				X		2/18/20	10:20	Х	Х	Х							
6	BH 2 @ 2'	G	1		X				X		2/18/20	10:22	Х	Х	Х							
7	BH 3 @ 2'	G	1		X				X		2/18/20	10:30	Х	Х	Х							
	BH 4 @ 2'	G	1		X			<u> </u>	X		2/18/20	10:35	Х	Х	Х							
9	BH 5 @ 2'	G	1		Х			_	X		2/18/20	10:38	Х	Х	Х							
10	ESW 1 @ 2'	G	1		X				X		2/18/20	10:45	Х	X	Х							
analyses. All claims including service. In no event shall Ca affiliates or successors arisin	Damages. Cardinar's liability and client's exclusive remedy for any clai those for negligence and any other cause whatsoever shall be deeme drinat be fable for incidental or consequental damages, including without a out of or related to the performance of services hereunder by Cardin	d waive t limitat al, rega	d unless ion, bus rdless o	made in iness inte f whether	writing a ruptions such cla	nd receiv	ed by ( use, or	Cardina loss of	al within 3 f profits ir	0 day:	s after completion d by client, its sub	of the applicable sidiaries, therwise.										
Relinquished By Relinquished By	Z/20/20 Time: /3:10		1	ed By	ak	9	4	d	al	6	ge .	Phone Resul	t:	□ Ye		No No		Phone Fax #:	#:	***************************************		
Vaccino «Statingeros»	(Circle One)			Co	ol I	Condi				CKE Initia	ED BY:	Please er	mail re	sults	o pm(	@ete	chenv.	com				
Sampler - UPS	Bus - Other: 40.66 #	1/3	3	E	Yes No		es Vo	Y	10	•												

FORM-006 Revision 1.0 Page 33 of 34

## Received by OCD: 2/25/2021 7:52:08 AM

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Released to Imaging: 3/30/2021 10:15:25 AM

#### RDINAL LABORATORIES

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

Company Name			BILL TO									ANA	YSIS	RE	QUE	ST						
Project Manager	r: Lance Crenshaw			•)			P.	0. #:										1				
Address: P.C	). Box 301						Co	ompa	ny:	С	og	1	ľ									
City: Lovingto	on State: NM	Zip	88	260			At	tn:				Ì										
Phone #: (57	5) 396-2378 <b>Fax #:</b> (575) 39	6-14	29				Ad	dres	s:	<del>.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>	<del>  </del>	1										
Project #: 116	26 Project Owner:		CC	G			Ci	ty:		***************************************	***************************************	1										
Project Name:	Showstopper 19 Fed Com 4H - 5H							ate:		Zip:		l o	2M)	18								
Project Location	: Rural Eddy County, NM	***************************************			***************************************			one i	ŧ:			Į į	301	802								
Sampler Name:	David Robinson							x#:				Chloride	TPH (8015M)	BTEX (8021B)								
FOR LAB USE ONLY					MAT	RIX		-	SERV	. SAMPL	NG	1	且	BTI								
Lab I.D. <i>Hoco548</i>	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER WASTEWATER	SOIL	OIL	OTHER:	ACID/BASE:	ICE / COOL OTHER:	DATE	TIME											
	ESW 2 @ 2'	G	1		Х				X	2/18/20	10:50	Х	Х	Х								
12	SWSW 1 @ 2'	G	1		X				X	2/18/20	11:20	Х	Х	Х								
13	NSW 4 @ 1'	G	1		Х				X	2/18/20	12:45	Х	Х	Х								
14	NSW 5 @ 1'	G	1		х				X	2/18/20	13:15	Х	Х	Х								
15	NSW 6 @ 1'	G	1		Х				X	2/18/20	13:30	Х	Х	Х								
16	ESW 3 @ 1'	G	1		Х				X	2/19/20	8:00	Х	Х	X								
17	ESW 4 @ 1'	G	1		Х				X	2/19/20	8:10	Х	Х	X								
18	BH 6 @ 1'	G	1		X				X	2/19/20	9:00	Х	X	X								
	BH 8 @ 1'	G	1		Х				X	2/19/20	9:10	Х	Х	X								
	BH 9 @ 1'	G	1		X			_	X	2/19/20	9:15	Х	Х	X								
analyses. All claims including service. In no event shall Ca	2/20/20 Time:	d waive at limita al, rega	ed unles tion, bu irdless	s made in w siness interr	riting ar uptions, such clai	nd receiv	ed by C use, or	Cardinal w loss of pr	ithin 30 d ofits incur	ays after completion red by client, its su	n of the applicable bsidiaries,	sult: lt:	□ Ye		l No		Phone Fax #:	#:			 	
Relinquished By  Delivered By	Date: Time:	Re	ceiv			Condi				KED BY:	Please e	mail re	esults	to pm	ı@ete	chenv	.com.					
Sampler - UPS	- Bus - Other: - 0.6 4	411	3	Cod []	Yes No	ntact	es lo	1	(Ini	tials)												

Page 34 of 34

# Received by OCD: 2/25/2021

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST ARDINAL LABORATORIES

	101 East Marland, Hobbs, NM 88: (575) 393-2326 FAX (575) 393-2																								
Company Name	Etech Environmental & Safety Solution		nc.								B	ILL TO						ANI	AL VC	IC D	FOLI	===			
Project Manage	r: Lance Crenshaw		***************************************			***************************************	***************************************	P	O. ‡						Т		T	AN	ALTS	15 K	EQUE	=51		<del></del>	
Address: P.0	D. Box 301		***************************************					6	omr	any	*		cog	1											
City: Lovingto	on State: NM	Zip	: 88	3260	0	***************************************	***************************************		ttn:	Jany	•		JUG											1	
Phone #: (57	75) 396-2378	96-1	429			***************************************	***************************************		ddre									1				1	ľ	N.	
Project #: 116	526 Project Owner	•	C	OG		***************************************				ess:													l.		
Project Name:	Showstopper 19 Fed Com 4H - 5H								ty:			2234-5		-	=	8	1								
Project Location									ate:			Zip:		de	TPH (8015M)	BTEX (8021B)									
Sampler Name:	David Robinson	***************************************							one		********			Chloride	(80	(8									
FOR LAB USE ONLY			Г	Т	M	ATRI	Y	Fa	X #:	ESE	ВV	SAMPL	1110	ठं	F	Ē		1							
Lab I.D. H000548	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	T			OTHER:	نن	) <u> </u>	OTHER:	DATE	TIME			В									
	BH 10 @ 1'	G	1		X					Х		2/19/20	9:20	Х	Х	Х		+		+	+-	+-	+-	-	
AND THE CONTRACTOR OF THE PARTY	BH 11 @ 1'	G	1		X	(				Х		2/19/20	9:25	X	X	X			1		_		_	-	
23	BH 12 @ 1'	G	1		X					х		2/19/20	9:30	Х	X	X			-		+-	-	-		
	BH 13 @ 1'	G	1		X	(				Х		2/19/20	9:35	X	X	X		1		-	+-	+	+		
	BH 7b @ 1.5'	G	1		X					Х		2/19/20	11:20	Х	X	X					1 -	+-	+		
	BH 14 @ 1'	G	1		X					X		2/19/20	11:35	Х	х	X					_	+-	+		
	BH 15 @ 1'	G	1		X					X		2/19/20	11:30	Х	Х	Х						_	+		
70	BH 16D @ 4'	G	1	<u> </u>	X	<u> </u>	_			Х		2/19/20	13:00	Х	Х	Х						1	1		
01	BH 17D @ 4'	G	1		X		ļ			X		2/19/20	13:30	Х	Х	X									
LEASE NOTE: Liability and	Damages. Cardinal's liability and client's exclusive remedy for any clair those for negligence and any other cause whatspever shall be deeper	m arisir	n who	ther ha	ood in oor		L																		
ervice. In no event shall Care	dinal be liable for incidental or consequental damages, including with	walve	unes	s made	e in writing	and re	eceived	by Ca	rdinal v	within 3	0 day	s after completion	of the applicable												
filiates or successors arising Relinquished By:	The state of the s	ii, regai	01622	or whet	ther such c	daim is	base	e, or lo	ss of p any of	the abo	ve sta	d by client, its sub ated reasons or of	sidiaries, therwise.												
Relinquished By:	Time: 21/20/22			ed E	MO	r Ka	<u></u>	d	la	da	1	GR	Phone Res Fax Result REMARKS	:	□ Yes □ Yes		No No		Phone Fax #:	#:			***************************************		
	Time:																								
Delivered By:	(Circle One)	***************************************		s	Sample	Con	ıditi	on	(	CHE	CKE	D BY:	Please em	nail res	sults to	pm(	@ete	chenv.	.com						
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FORM-006 Revision 1.0 Released to Imaging: 3/30/2021 10:15:25 AM



February 27, 2020

LANCE CRENSHAW

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: SHOWSTOPPER 19 FED COM 4H-5H

Enclosed are the results of analyses for samples received by the laboratory on 02/26/20 8:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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

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

Accreditation applies to public drinking water matrices.

Celey D. Keine

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



02/20/2020

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date:

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

A ... - I. ... - - - I D. ... CI/

Project Location: COG - EDDY CO NM

... .. /1...

#### Sample ID: BH - 18 (H000609-01)

DTEV 0021D

BTEX 8021B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.88	94.2	2.00	3.07	
Toluene*	<0.050	0.050	02/26/2020	ND	1.89	94.5	2.00	3.02	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.91	95.5	2.00	3.87	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	3.96	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.7	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	02/27/2020	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	187	93.3	200	3.77	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	213	107	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	88.9	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	94.7	% 42.2-15	6						

# Cardinal Laboratories \*=Accredited Analyte

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Celey D. Krene



Sample Received By:

Tamara Oldaker

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

02/26/2020 Sampling Date: 02/20/2020 Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626

Project Location: COG - EDDY CO NM

Sample ID: BH - 19 (H000609-02)

Received:

BTEX 8021B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.88	94.2	2.00	3.07	
Toluene*	<0.050	0.050	02/26/2020	ND	1.89	94.5	2.00	3.02	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.91	95.5	2.00	3.87	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	3.96	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	02/27/2020	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	187	93.3	200	3.77	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	213	107	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	90.7	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	95.8	% 42.2-15	6						

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Celey D. Keene



#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Applyzod By: CK

Received: 02/26/2020

ma/ka

Reported: 02/27/2020
Project Name: SHOWSTOPPER 19 FED COM 4H-5H

Project Number: 11626

Project Location: COG - EDDY CO NM

Sampling Date: 02/20/2020

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

#### Sample ID: BH - 20 (H000609-03)

RTFY 8021R

BIEX 8021B	mg	/ <b>kg</b>	Anaiyze	а ву: СК					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.88	94.2	2.00	3.07	
Toluene*	<0.050	0.050	02/26/2020	ND	1.89	94.5	2.00	3.02	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.91	95.5	2.00	3.87	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	3.96	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.8	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	864	16.0	02/27/2020	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	187	93.3	200	3.77	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	213	107	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	93.1	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane	96.4	% 42.2-15	6						

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Celey D. Keene



#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

 Received:
 02/26/2020
 Sampling Date:
 02/20/2020

 Reported:
 02/27/2020
 Sampling Type:
 Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: BH - 21 (H000609-04)

BTEX 8021B	mg,	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.88	94.2	2.00	3.07	
Toluene*	<0.050	0.050	02/26/2020	ND	1.89	94.5	2.00	3.02	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.91	95.5	2.00	3.87	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	3.96	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.9	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	02/27/2020	ND	432	108	400	0.00	
TPH 8015M	mg,	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	187	93.3	200	3.77	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	213	107	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	90.3	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane	96.3	% 42.2-15	6						

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Celey D. Keene



#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/20/2020

Reported: 02/27/2020 Sampling Type: Soil Project Name: SHOWSTOPPER 19 FED COM 4H-5H

Sampling Condition: Cool & Intact Project Number: Sample Received By: 11626 Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: SSW 1 (H000609-05)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.88	94.2	2.00	3.07	
Toluene*	<0.050	0.050	02/26/2020	ND	1.89	94.5	2.00	3.02	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.91	95.5	2.00	3.87	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	3.96	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.8	% 73.3-12	9						
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	02/27/2020	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	187	93.3	200	3.77	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	213	107	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	92.0	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	95.5	% 42.2-15	6						

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Celey D. Keene



02/20/2020

Tamara Oldaker

Soil

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date:
Reported: 02/27/2020 Sampling Type:

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626 Sample Received By:

Project Location: COG - EDDY CO NM

#### Sample ID: SSW 2 (H000609-06)

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.88	94.2	2.00	3.07	
Toluene*	<0.050	0.050	02/26/2020	ND	1.89	94.5	2.00	3.02	
Ethylbenzene*	< 0.050	0.050	02/26/2020	ND	1.91	95.5	2.00	3.87	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	3.96	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 73.3-12	9						
Chloride, SM4500CI-B	mg	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	02/27/2020	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	187	93.3	200	3.77	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	213	107	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	84.7	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	89.5	% 42.2-15	6						

#### Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keine



Sample Received By:

Tamara Oldaker

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/20/2020 Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: Project Location: COG - EDDY CO NM

11626

#### Sample ID: SWSW 2 (H000609-07)

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.88	94.2	2.00	3.07	
Toluene*	<0.050	0.050	02/26/2020	ND	1.89	94.5	2.00	3.02	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.91	95.5	2.00	3.87	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	3.96	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 73.3-12	9						
Chloride, SM4500CI-B	mg	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	02/27/2020	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	187	93.3	200	3.77	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	213	107	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	90.6	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane	95.4	% 42.2-15	6						

#### Cardinal Laboratories \*=Accredited Analyte

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Sample Received By:

Tamara Oldaker

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/20/2020 Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626

COG - EDDY CO NM Project Location:

#### Sample ID: SSW 3b (H000609-08)

BTEX 8021B	mg/	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.88	94.2	2.00	3.07	
Toluene*	<0.050	0.050	02/26/2020	ND	1.89	94.5	2.00	3.02	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.91	95.5	2.00	3.87	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	3.96	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	02/27/2020	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	187	93.3	200	3.77	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	213	107	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	93.4	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	98.8	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/20/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact Tamara Oldaker Project Number: 11626 Sample Received By:

Project Location: COG - EDDY CO NM

#### Sample ID: ESW 5b (H000609-09)

BTEX 8021B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.88	94.2	2.00	3.07	
Toluene*	<0.050	0.050	02/26/2020	ND	1.89	94.5	2.00	3.02	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.91	95.5	2.00	3.87	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	3.96	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 %	6 73.3-12	9						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	02/27/2020	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	187	93.3	200	3.77	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	213	107	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	91.9	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	93.2	% 42.2-15	6						

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#### **Notes and Definitions**

The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or S-06 matrix interference's. QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values. QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery. ND Analyte NOT DETECTED at or above the reporting limit RPD Relative Percent Difference Samples not received at proper temperature of 6°C or below. Insufficient time to reach temperature. Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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Released to Imaging: 3/30/2021 10:15:25 AM

# **CARDINAL** Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Mariand, Hopps, NM 88240

Company Name						B	LL TO					10	ANALYSIS	REQ	UEST			
Project Manage	r: Lance Crenshaw				P.	O. #:									.0_0	$\top$		Т
ddress: 310	00 Plains Hwy				C	ompany:	COG		1									
ity: Lovingto	on State: NM	Zip	);	88260	A	Attn: Dakota Neel			1									
hone #: 575	5-396-2378 <b>Fax #</b> : 575-396-1	429	***************************************			ddress:												
roject#: 116	26 Project Owner:		COG	Operating, LLC		ty:												
roject Name:	Showstopper 19 Fed Com #004H-005H			3)		ate:	Zip:											1
	n: _Rural Eddy		/			none #:	ZIP.	***************************************										
Sampler Name:	Queller					x #:			1	1	1							
FOR LAB USE ONLY		u.	П	MATRIX		PRESERV	SAMPLI	NG	1									
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMF	# CONTAINERS	GROUNDWATER WASTEWATER SOIL OIL	SLUDGE OTHER:	ACID/BASE: ICE / COOL OTHER:	DATE	TIME	Chloride	ТРН	BTEX 8021							
	BH-18	С	1	X		X	2/20/20	And the second of the second	Х	×	x					$\neg$		一
	BH-19	С	1	x		x	2/20/20		Х	X	X		***************************************					<b> </b>
	BH-20	С	1	x		x	2/20/20		X	X	Х							ļ
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	SSW1	С	1	×		x	2/20/20		Х	Х	х			***************************************				
6	SSW2	С	1	×		x	2/20/20		Х	Х	Х							ļ
7	SWSW2	С	1	x		x	2/20/20		Х	Х	Х							
8	SSW3b	С	1	x		x	2/20/20	***************************************	Х	X	X							
CI I	ESW5b	С	4	×		x	2/20/20		X	Χ.	X						ļ	

service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries.

1-26-20	ived By:	4 /// //		□ Yes	□ No	Add'I Phone #: Add'I Fax #:
te: Recei	wed By: Wara	Wilday)	ŔEMARKS:	Email re		lance@etechenv.com
me: #///2	Sample Condition Cool Intact Tes Tes	CHECKED BY: (Initials)				ASAP!
1	1850 V	ne: Received By: Sample Condition Cool Intact	re: Received By:  Received By:  Sample Condition CHECKED BY:  (Initials)  Yes Yes	Received By:  Received By:  Received By:  REMARKS:  REMARKS:  REMARKS:  REMARKS:  REMARKS:  REMARKS:  REMARKS:  REMARKS:	Received By:  Re	REMARKS: Email results to Received By:  Sample Condition CHECKED BY:  Cool Intact (Initials)

T Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476



February 27, 2020

LANCE CRENSHAW

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: SHOWSTOPPER 19 FED COM 4H-5H

Enclosed are the results of analyses for samples received by the laboratory on 02/26/20 8:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

Celey D. Keine

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



02/24/2020

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date:

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 1 (H000606-01)

BTEX 8021B	mg/	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.2	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	'kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/26/2020	ND	416	104	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	97.5	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	99.8	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact Project Number: Sample Received By: 11626 Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 2 (H000606-02)

BTEX 8021B	mg,	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 5	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	02/26/2020	ND	416	104	400	0.00	
TPH 8015M	mg,	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	101	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	105	% 42.2-15	6						

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02/24/2020

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date:

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 3 (H000606-03)

BTEX 8021B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	02/26/2020	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	100	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	104	% 42.2-15	6						

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Sampling Condition:

Sample Received By:

02/24/2020

Cool & Intact

Tamara Oldaker

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date:

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H
Project Number: 11626

Project Location: COG - EDDY CO NM

Sample ID: FL - 4 (H000606-04)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.3	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	02/26/2020	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	100	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	103	% 42.2-15	6						

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Celey D. Keene



#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 5 (H000606-05)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 :	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/26/2020	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	101	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	107	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: FL - 6 (H000606-06)

BTEX 8021B

DIEX GOZID	11197	- Kg	Allulyzo	a by. cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/26/2020	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	96.4	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	101	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 7 (H000606-07)

BTEX 8021B	mg,	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 73.3-12	9						
Chloride, SM4500CI-B	mg	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	02/26/2020	ND	416	104	400	0.00	
TPH 8015M	mg	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	103	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	106	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: FL - 8 (H000606-08)

BTEX 8021B

	9,	9	7	7: - 0::					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.9	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	02/26/2020	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	96.8	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	100	% 42.2-15	6						

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02/24/2020

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Sampling Date:

Received: 02/26/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 9 (H000606-09)

BTEX 8021B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	02/26/2020	ND	416	104	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	96.1	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	100	% 42.2-15	6						

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Sampling Condition:

Sample Received By:

02/24/2020

Cool & Intact

Tamara Oldaker

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date:

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H
Project Number: 11626

Project Location: COG - EDDY CO NM

Sample ID: FL - 10 (H000606-10)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	02/26/2020	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	96.6	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	101	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact Tamara Oldaker Project Number: 11626 Sample Received By:

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 11 (H000606-11)

BTEX 8021B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	02/26/2020	ND	416	104	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	92.7	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	97.9	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact Tamara Oldaker Project Number: 11626 Sample Received By:

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 12 (H000606-12)

BTEX 8021B	mg/	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg/	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	96.6	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	99.1	% 42.2-15	6						

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Tamara Oldaker

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil Cool & Intact

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Project Number: 11626 Sample Received By:

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 13 (H000606-13)

BTEX 8021B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	73.3-12	9						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	97.3	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	98.6	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020

Reported: 02/27/2020

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Project Number: 11626

Project Location: COG - EDDY CO NM

Sampling Date: 02/24/2020

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

# Sample ID: FL - 14 (H000606-14)

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	98.7	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane	99.6	% 42.2-15	6						

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Celey D. Keine



02/24/2020

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Sampling Date:

Received: 02/26/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact Project Number: Sample Received By: 11626 Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 15 (H000606-15)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.4	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	99.8	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	103	% 42.2-15	6						

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Celey D. Keene



Tamara Oldaker

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil
Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition:
Project Number: 11626 Sample Received By:

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 16 (H000606-16)

BTEX 8021B	mg,	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	94.3	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	100	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: FL - 17 (H000606-17)

BTEX 8021B

DILX GOZID	mg/	ng .	Andryzo	a by. cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.9	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	83.0	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	89.2	% 42.2-15	6						

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Celey D. Keene



#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 18 (H000606-18)

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	< 0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	86.8	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	92.5	% 42.2-15	6						

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Celey D. Keine



Tamara Oldaker

Sample Received By:

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil
Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Name: SHOWSTOPPER 19 FED COM 4H-5H
Project Number: 11626

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 19 (H000606-19)

BTEX 8021B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.6	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	94.7	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	99.5	% 42.2-15	6						

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02/24/2020

Soil

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

mg/kg

02/26/2020 Sampling Date: Reported: 02/27/2020 Sampling Type:

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact Project Number: Sample Received By: 11626 Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 20 (H000606-20)

Received:

BTEX 8021B

DILX GOZID	ıııg,	K9	Alldiyzo	a by. cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	2.06	103	2.00	3.62	
Toluene*	<0.050	0.050	02/26/2020	ND	2.08	104	2.00	3.95	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	2.09	105	2.00	3.83	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	6.15	102	6.00	3.89	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	'kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg/	'kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	204	102	200	1.56	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	196	98.2	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	94.7	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	98.6	% 42.2-15	6						

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Celey D. Keene



#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Applyzod By: CK

Received: 02/26/2020

ma/ka

Reported: 02/27/2020

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Project Number: 11626

Project Location: COG - EDDY CO NM

Sampling Date: 02/24/2020

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

#### Sample ID: FL - 21 (H000606-21)

RTFY 8021R

BIEX 8021B	mg	/ <b>kg</b>	Anaiyze	а ву: СК					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.3	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	88.5	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane	93.7	% 42.2-15	6						

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Celey D. Keine



Tamara Oldaker

Sample Received By:

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

 Received:
 02/26/2020
 Sampling Date:
 02/24/2020

 Reported:
 02/27/2020
 Sampling Type:
 Soil

Reported: 02/27/2020 Sampling Type: Soil
Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Location: COG - EDDY CO NM

11626

Sample ID: FL - 22 (H000606-22)

Project Number:

BTEX 8021B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.7	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	93.0	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane	98.1	% 42.2-15	6						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene



Sampling Condition:

Sample Received By:

02/24/2020

Cool & Intact

Tamara Oldaker

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date:

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Project Number: 11626

COG - EDDY CO NM

Project Location:

#### Sample ID: FL - 23 (H000606-23)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.0	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	97.9	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	101	% 42.2-15	6						

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Celey D. Keene



#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/24/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: FL - 24 (H000606-24)

BTEX 8021B

DILX GOZID	11197	- Kg	Allulyzo	a by. cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.2	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	98.5	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	101	% 42.2-15	6						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Kreine



Sample Received By:

02/24/2020

Tamara Oldaker

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date:

Reported: 02/27/2020 Sampling Type: Soil
Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 25 (H000606-25)

BTEX 8021B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	< 0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 73.3-12	9						
Chloride, SM4500CI-B	M4500Cl-B mg/kg								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1150	16.0	02/26/2020	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	87.1	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane	92.8	% 42.2-15	6						

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Celey D. Keine

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

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Celeg D. Freene

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# CARDINAL Laboratories

### **CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

101 East Mariand, Hopps, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name	: COG Operating, LLC							B	LL TO					ANALYS	S RI	EQUES	T		
roject Manage	r: Lance Crenshaw	Made-State Bares				P.0	D. #:												
ddress: 310	00 Plains Hwy					Со	mpa	ny:	cog		1								
ity: Lovingto	on State: NM	Zip	•	88260		Att	n:	Dakota	Neel										
hone #: 575	5-396-2378 Fax #: 575-396-1	429	***************************************			Ad	dres	ss:											
roject #: 116			COG	Operating,	LLC	Cit	v:												
roject Name:	Showstopper 19 Fed Com #004H-005H						ite:		Zip:										
roject Location	65- 86- 86-	***************************************					one	#:											
ampler Name:	Ched vous	,			***********		x #:												
FOR LAB USE ONLY	X	1000	П	MAT	RIX		100170000	SERV	SAMPLI	NG									
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMF	# CONTAINERS	GROUNDWATER WASTEWATER SOIL	OIL	SLUDGE OTHER:	ACID/BASE:	ICE / COOL OTHER:	DATE	TIME	Chloride	ТРН	BTEX 8021						
	FL-1	С	1	X				X	2/24/20		Х	Х	X						
	FL-2	С	1	X				X	2/24/20		Х	Х	X						
3	FL-3	С	1	X				X	2/24/20		X	Х	X				100		
	FL-4	С	1	X				X	2/24/20		X	X	X						
5	FL-5	С	1	X				X	2/24/20		Х	Х	X						
	FL-6	С	1	X				X	2/24/20		X	X	X						Company of the compan
	FL-7	С	1	X				X	2/24/20		X	Х	X	620 9120 J. Consult to 100 200 C. Saltina Carlo V.		1111 121 BAN 21 BBB 111 BB 121 BB			
	FL-8	С	1	X				X	2/24/20		Х	Х	X					SASTETION (STREET, A	
	FL-9	С	1	X				X	2/24/20		Х	Х	X						
10	FL-10	C	1	X				X	2/24/20		X	X	X		x00043040000000000000000000000000000000	5011005 Fas/111_0_00000000000000000000000000000000			

Relinquished By:	Date: 36 - 20	Received By:	0//1/	Phone Result: Fax Result:	☐ Yes ☐ No ☐ Yes ☐ No	Add'l Phone #: Add'l Fax #:	
March Cho	Time:	Lamara	WIRALE	REMARKS:	Email results to	lance@etechenv.com	
Relinquished By:	Date:	Received By:				om elechen on	
	Time:					4	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	-6.8°	Sample Condition Cool Intact Yes Yes No No	CHECKED BY: (Initials)			ASMI	

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Mariand, Hopps, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name	: COG Operating, LLC								Bli	LL TO					ANALYSIS	REQ	UEST	
Project Manage	r: Lance Crenshaw						P.O.									Ī		
Address: 310	00 Plains Hwy					•••••	Com	pany	/:	COG								
City: Lovingto	on State: NM	Zip	ė	88260			Attn	: Da	kota	Neel								
Phone #: 575	5-396-2378 <b>Fax #:</b> 575-396-1	429			***************************************		Add	ress:										
Project #: 116	S26 Project Owner:	(	COG	Operati	ng, Ll	_C	City	!										
Project Name:	Showstopper 19 Fed Com #004H-005H	***************************************					State	e:		Zip:								
Project Location		117401252550403	er/000eee/40	Canala Mareana a sare-fi			Pho	ne #:										
Sampler Name:	Quel dour		***************				Fax	#:										
FOR LAB USE ONLY		T.,			//ATR	IX		RESE	RV.	SAMPLII	NG							
<b>Lab I.D.</b>	Sample I.D.	(G)RAB OR (C)OMF	# CONTAINERS	GROUNDWATER WASTEWATER	SOIL	SLUDGE	OTHER:	ICE / COOL	OTHER:	DATE	TIME	Chloride	НЫ	BTEX 8021				¥
	FL-11	C	1		X			X		2/24/20		X	Х	X				
	FL-12	С	1		X			X		2/24/20		Х	Х	Х				
······································	FL-13	С	1		X			X		2/24/20		Х	X	X				
	FL-14	C	1		X	_		X		2/24/20		X	Х	X				
	FL-15	С	1		X			X		2/24/20		X	X	X				
	FL-16	С	1		X	4	-	X		2/24/20		X	Х	X				
	FL-17	С	1		X			X		2/24/20		Х	X	X				
	FL-18	С	1		X	-		X		2/24/20		Х	Х	X				
	FL-19	С	1		X	-		X		2/24/20		X	X	X				
1/D	FL-20	С	11		X			X		2/24/20		X	X	X				

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Relinquished By:	426/20	Received By:	od upon any of the above stated rea	Phone Result: Fax Result:	☐ Yes ☐ No ☐ Yes ☐ No	Add'l Phone #: Add'l Fax #:
Man ans	Time: 08; 95	Received By:	Wilder	REMARKS:	Email results to	lance@etechenv.com
Relinquished By:	Date:	Received By:				pmoelechens.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	-6.8° 7	Sample Condition Cool Intact Pes Pes No No	CHECKED BY: (Initials)			ASAP!

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

Released to Imaging: 3/30/2021 10:15:25 AM

# CARDINAL Laboratories

# **CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

101 East Mariand, Hopps, NM 88240

Company Name	: COG Operatir	ng, LLC	100000 State Land							BI	LL TO						ANALY	/SIS	REC	UES	Т			_
Project Manage	er: Lance Crensh	aw			***************************************	000000000000000000000000000000000000000	040101230	P.	0.#												Ī			T
Address: 310	00 Plains Hwy							C	ompa	any:	COG		1											ŀ
City: Lovingt	on	State: NM	Zip	:	88260	0		At	tn:	Dakota	Neel													
Phone #: 575	5-396-2378	Fax #: 575-396-1	429					A	dre	ss:														
Project #: 116	626	Project Owner:		COG	Opera	ting, I	LC	Ci	ty:	***************************************														1
Project Name:	Showstopper 19 F	ed Com #004H-005H							ate:		Zip:													
Project Locatio	22-22-21 P. 22 P. 2-2-22-22 P. 2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-								one															
Sampler Name:		low				***************************************			x#:		***************************************													
FOR LAB USE ONLY	7		D.			MAT	RIX		100000000000000000000000000000000000000	ESERV.	SAMPLI	NG												
Lab I.D.	Samp	le I.D.	(G)RAB OR (C)OM	# CONTAINERS	GROUNDWATER	SOIL	OIL	SLUDGE OTHER:	ACID/BASE:	ICE / COOL OTHER:	DATE	TIME	Chloride	ТРН	BTEX 8021									
21	FL-21		С	1		Х				X	2/24/20		Х	Х	Х							$\Box$		$\vdash$
72	FL-22		С	1		Х				X	2/24/20		Х	Х	X									
23	FL-23		С	1		Х				X	2/24/20		Х	Х	X	***************************************								1
	FL-24		С	1		X				X	2/24/20		Х	Х	X	. H 1000. U 1000								
75	FL-25		С	1		X				X	2/24/20		Х	Х	X		C.S						***************************************	
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Relinquished By:	Date: Received By:	THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED I	Phone Result: Fax Result:	☐ Yes ☐ No ☐ Yes ☐ No	Add'l Phone #: Add'l Fax #:
m ve	Time: 55 fallacta	Neldalse	REMARKS:	Email results to	lance@etechenv.com
Relinquished By:	Date: Received By:				pul election
	Time:				
Delivered By: (Circle One)	Sample Condition				ASAP (
Sampler - UPS - Bus - Other:	-Le8c #113 Cool Intact Pres Pres No No	(Initials)			

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476



February 27, 2020

LANCE CRENSHAW

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: SHOWSTOPPER 19 FED COM 4H-5H

Enclosed are the results of analyses for samples received by the laboratory on 02/26/20 9:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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

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

Accreditation applies to public drinking water matrices.

Celey D. Keine

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:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/25/2020 Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

#### Sample ID: ESW 6 (H000607-01)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.3	% 73.3-12	9						
Chloride, SM4500CI-B	mg/kg		Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	97.3	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	102	% 42.2-15	6						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene



02/25/2020

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date:

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact Tamara Oldaker Project Number: 11626 Sample Received By:

Project Location: COG - EDDY CO NM

#### Sample ID: NSW 7 (H000607-02)

BTEX 8021B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.5	% 73.3-12	9						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	104 9	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	106 9	% 42.2-15	6						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene



#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/25/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: NSW 8 (H000607-03)

BTEX 8021B

	9/	9	7	7 5.1					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.5	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	98.3	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	99.9	% 42.2-15	6						

Cardinal Laboratories \*=Accredited Analyte

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Celey & Keene



Tamara Oldaker

Sample Received By:

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/25/2020

Reported: 02/27/2020 Sampling Type: Soil
Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Name: SHOWSTOPPER 19 FED COM 4H-5H
Project Number: 11626

Project Location: COG - EDDY CO NM

#### Sample ID: NSW 9 (H000607-04)

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.0	% 73.3-12	9						
Chloride, SM4500CI-B	mg	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	99.9	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	102	% 42.2-15	6						

#### Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Kreine



Tamara Oldaker

Sample Received By:

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/25/2020

Reported: 02/27/2020 Sampling Type: Soil
Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Name: SHOWSTOPPER 19 FED COM 4H-5H
Project Number: 11626

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 26 (H000607-05)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.3	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	93.5	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	94.3	% 42.2-15	6						

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Celey D. Keene



Tamara Oldaker

Sample Received By:

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/25/2020

Reported: 02/27/2020 Sampling Type: Soil
Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Name: SHOWSTOPPER 19 FED COM 4H-5H
Project Number: 11626

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 27 (H000607-06)

BTEX 8021B	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.8	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	96.6	% 44.3-14	14						
Surrogate: 1-Chlorooctadecane	98.9	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Analyzed By: CK

 Received:
 02/26/2020
 Sampling Date:
 02/25/2020

 Reported:
 02/27/2020
 Sampling Type:
 Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: FL - 28 (H000607-07)

BTEX 8021B

	9/	9	71.14.1, = 0	7 0.1					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.7	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	02/27/2020	ND	416	104	400	3.77	QM-07
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	97.1	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	103	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/25/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Applyzod By: CK

Project Location: COG - EDDY CO NM

ma/ka

#### Sample ID: FL - 29 (H000607-08)

RTFY 8021R

B1EX 8021B	mg,	rky	Апатуге	а ву: СК					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.7	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	98.4	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	102	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/25/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact Sample Received By: Project Number: 11626 Tamara Oldaker

COG - EDDY CO NM Project Location:

#### Sample ID: FL - 30 (H000607-09)

BTEX 8021B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.7 9	73.3-12	9						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	94.6 9	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	98.5 9	42.2-15	6						

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Celey D. Keine



#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/25/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: FL - 31 (H000607-10)

BTEX 8021B

DILX GOZID	11197	ng .	Allulyzo	a by. cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	97.7	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	99.1	% 42.2-15	6						

Cardinal Laboratories \*=Accredited Analyte

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Analyzed By: CK

Received: 02/26/2020 Sampling Date: 02/25/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: FL - 32 (H000607-11)

BTEX 8021B

	9,	9	7	7: - 0::					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.7	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	95.1	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	98.7	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/25/2020 Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact Tamara Oldaker Project Number: 11626 Sample Received By:

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 33 (H000607-12)

BTEX 8021B	mg/	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.9	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg/	'kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	99.2	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	102 9	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

(0,0)000 1 1

mg/kg

 Received:
 02/26/2020
 Sampling Date:
 02/25/2020

 Reported:
 02/27/2020
 Sampling Type:
 Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 34 (H000607-13)

BTEX 8021B

DILX GOZID	ıııg,	, kg	Andryzo	a by. Cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.0	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	96.4	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	99.1	% 42.2-15	6						

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Tamara Oldaker

Sample Received By:

#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/25/2020

Reported: 02/27/2020 Sampling Type: Soil
Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact

Project Number: 11626

Project Location: COG - EDDY CO NM

#### Sample ID: FL - 35 (H000607-14)

BTEX 8021B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.2	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	93.4	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	99.4	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020

Reported: 02/27/2020

Project Name: SHOWSTOPPER 19 FED COM 4H-5H

Project Number: 11626

Project Location: COG - EDDY CO NM Sampling Date: 02/25/2020

Sampling Type: Soil

Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker

#### Sample ID: FL - 36 (H000607-15)

BTEX 8021B	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.89	94.3	2.00	8.83	
Toluene*	<0.050	0.050	02/26/2020	ND	1.91	95.3	2.00	9.44	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.92	96.2	2.00	9.33	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.60	93.3	6.00	9.74	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.1	% 73.3-12	9						
Chloride, SM4500CI-B	mg	/kg	Analyze						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/27/2020	ND	205	103	200	0.165	
DRO >C10-C28*	<10.0	10.0	02/27/2020	ND	203	102	200	0.254	
EXT DRO >C28-C36	<10.0	10.0	02/27/2020	ND					
Surrogate: 1-Chlorooctane	92.8	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	98.3	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Applyzod By: CK

ma/ka

Received: 02/26/2020 Reported: 02/27/2020

Project Name: SHOWSTOPPER 19 FED COM 4H-5H

Project Number: 11626

Project Location: COG - EDDY CO NM

Sampling Date: 02/25/2020

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

#### Sample ID: FL - 37 (H000607-16)

RTFY 8021R

BIEX 8021B	mg	/ <b>kg</b>	Anaiyze	а ву: СК					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.88	94.2	2.00	3.07	
Toluene*	<0.050	0.050	02/26/2020	ND	1.89	94.5	2.00	3.02	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.91	95.5	2.00	3.87	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	3.96	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	187	93.3	200	3.77	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	213	107	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	84.2	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	88.0	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020

Reported: 02/27/2020 Project Name: SHOWSTOPPER 19 FED COM 4H-5H

Project Number: 11626

Project Location: COG - EDDY CO NM Sampling Date: 02/25/2020

Sampling Type: Soil

Sampling Condition: Cool & Intact Tamara Oldaker Sample Received By:

#### Sample ID: FL - 38 (H000607-17)

BTEX 8021B	mg/	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.88	94.2	2.00	3.07	
Toluene*	<0.050	0.050	02/26/2020	ND	1.89	94.5	2.00	3.02	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.91	95.5	2.00	3.87	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	3.96	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 5	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg/	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	187	93.3	200	3.77	
DRO >C10-C28*	10.4	10.0	02/26/2020	ND	213	107	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	82.1	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	87.7	% 42.2-15	6						

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#### Analytical Results For:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received: 02/26/2020 Sampling Date: 02/25/2020

Reported: 02/27/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Analyzed By: CK

Project Location: COG - EDDY CO NM

mg/kg

#### Sample ID: FL - 39 (H000607-18)

BTEX 8021B

DILX GOZID	ıııg,	, kg	Andryzo	a by. cit					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.88	94.2	2.00	3.07	
Toluene*	<0.050	0.050	02/26/2020	ND	1.89	94.5	2.00	3.02	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.91	95.5	2.00	3.87	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.61	93.5	6.00	3.96	
Total BTEX	<0.300	0.300	02/26/2020	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	02/27/2020	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	187	93.3	200	3.77	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	213	107	200	7.76	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					
Surrogate: 1-Chlorooctane	85.7	% 44.3-14	4						
Surrogate: 1-Chlorooctadecane	91.1	% 42.2-15	6						

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#### **Notes and Definitions**

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Page 21 of 22





# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Released to Imaging: 3/30/2021 10:15:25 AM

101 East Mariand, Hopps, NM 88240

Company Name	AND THE PARTY OF T			SERVICE AVAILABLE		1000007				BI	LL TO					ANALY	'SIS	REC	OUES	T			_
Project Manage	er: Lance Crenshaw	0,000,000,000				***************************************		P.O	. #:							1	1		T				Т
Address: 310	00 Plains Hwy					LICONOLO		Con	npa	ny:	COG		1										
City: Lovingto	on State: NM	Zip	):	8826	60			Attr	1: [	akota	Neel	1	1										
Phone #: 575	5-396-2378 <b>Fax #</b> : 575-396-1	429						Add															
Project #: 116	S26 Project Owner:		COG	Opera	atina	. LL	С	City															1
roject Name:	Showstopper 19 Fed Com #004H-005H	**********						Stat			Zip:												
Project Locatio					***************************************		*******	Pho			<u> </u>												
Sampler Name:								Fax		•													
FOR LAB USE ONLY	136617 1504.225824	Т			MA	TRI	x		3030000	SERV.	SAMPLI	NG											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMF	# CONTAINERS	GROUNDWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	OTHER:	DATE	TIME	Chloride	НЫ	BTEX 8021								
	ESW6	С	1		X					<b>(</b>	2/25/20		Х	х	х	 							Т
	NSW 7	С	1	_	X		<u>                                      </u>			c	2/25/20		Х	Х	X							***************************************	
	NSW 8	С	1		X	ļ				<	2/25/20		X	Х	X	00000000000000000000000000000000000000				***************************************			
	NSW 9	С	1		X	<u> </u>				۲	2/25/20		Х	Х	X								
	FL-26	С	1		X					(	2/25/20		Х	Х	X		ľ						
	FL-27	С	1		x				3	(	2/25/20		Х	X	X					***************************************			**********
	FL-28	С	1		x				1	(	2/25/20		Х	Х	X	 							
	FL-29	С	1		x					(	2/25/20		Х	Х	Х	 					7		
	FL-30	С	1		x			100000	١,		2/25/20		Х	X	X	 							
10	FL-31  nd Damages, Cardinal's liability and client's exclusive remedy for an other for pediagraps and any other exemptions.		C20002629								2/25/20		,	·	V	 							

rdinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries,

Relinguished By:	Date: 2/26/su Time:	Received By:		Phone Result: Fax Result:		No Add'l Phone #: No Add'l Fax #:	
Relinquished By:	Date:	Received By:	What H	REMARKS:	Email results	s to <u>pm@etechenv.com</u>	
	Time:				191		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	-6.8° =	Sample Condition Cool Intact  ### Pres Pres No No	n CHECKED BY: (Initials)	P	19/41		

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

Page 22 of 22

# Received by OCD: 2/25/2021 7:52:08 AM



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Released to Imaging: 3/30/2021 10:15:25 AM

TUT East Mariand, Hopps, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name	e: COG Operating, LLC							B	ILL TO					ANALYSI	S RE	QUEST			
Project Manage	er: Lance Crenshaw						P.	O. #:											T
Address: 31	00 Plains Hwy						Co	mpany:	COG		1								
City: Lovingt	on State: NM	Zip	):	88260	0		At	tn: Dako	a Neel										
Phone #: 57	5-396-2378 Fax #: 575-396-1	429		- miner			Ac	ldress:											
Project #: 11	S26 Project Owner:		COG	Opera	ting, L	LC	Ci	ty:											
Project Name:	Showstopper 19 Fed Com #004H-005H						1	ate:	Zip:										ľ
	n: Rural Eddy							one #:									- 1		
The state of the s	Pavid Robinson							× #:										1	
FOR LAB USE ONLY		I	П		MATE	RIX		PRESER	. SAMPL	ING									
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMF	# CONTAINERS	GROUNDWATER WASTEWATER	SOIL	OIL	OTHER:	ACID/BASE: ICE / COOL OTHER :	DATE	TIME	Chloride	ТРН	BTEX 8021						
	FL-32	C	1		X			X	2/25/20		Х	х	х						Т
	FL-33	С	1		x			x	2/25/20		Х	×	X						
13	FL-34	С	1		x			x	2/25/20		Х	X	х						
14	FL-35	С	1		×			×	2/25/20		Х	Х	X						
15	FL-36	С	1		x			×	2/25/20		Х	Х	Х						
14	FL-37	С	1		x			x	2/25/20		Х	X	X						
17	FL-38	С	1		x			x	2/25/20		Х	X	X						
18	FL-39	С	1		x			x	2/25/20		Х	Х	Х						
	nd Damages. Cardinal's liability and client's exclusive remedy for a		Ш				1									- 110.00 million	Hance Paris 530		

Relinquished By:	Date: 7 726/20	Received By:	1111	Phone Result:	□ Yes	□ No	Add'l Phone #: Add'l Fax #:	
Que lows	Time:	Munral	Walter	REMARKS:			pm@etechenv.com	
Relinquished by:	Date:	Received By:	my y				)	
	Time:							
Delivered By: (Circle One)		Sample Condition	CHECKED BY:			RI	isu.	
Sampler - UPS - Bus - Other:	-10.8°	HII3 No No	(Initials)					

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476



March 04, 2020

LANCE CRENSHAW

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: SHOWSTOPPER 19 FED COM 4H-5H

Enclosed are the results of analyses for samples received by the laboratory on 03/03/20 16:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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

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

Accreditation applies to public drinking water matrices.

Celey D. Keine

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:

Etech Environmental & Safety Solutions LANCE CRENSHAW P.O. Box 301 Lovington NM, 88260

Fax To: (575) 396-1429

Received: 03/03/2020 Sampling Date: 03/03/2020

Reported: 03/04/2020 Sampling Type: Soil

Project Name: SHOWSTOPPER 19 FED COM 4H-5H Sampling Condition: Cool & Intact
Project Number: 11626 Sample Received By: Tamara Oldaker

Project Location: COG - EDDY CO NM

Sample ID: BH - 20B (H000694-01)

Chloride, SM4500Cl-B mg/kg Analyzed By: AC Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Oualifier Analyte Result Chloride 256 16.0 03/04/2020 ND 416 104 400 10.9

Sample ID: BH - 7C (H000694-02)

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 03/04/2020 ND 416 104 400 10.9

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 whistoever 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



#### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories \*=Accredited Analyte

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 whistoever 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 related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Freene

Page 4 of 4



## **CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

101 East Mariand, Hopps, NM 88240

Company Name	: COG Operating	g, LLC						- 1			BI	LL TO					ANA	LYSIS	REC	QUES	Т		
Project Manage	er: Lance Crensha	aw.							P.O.	#:								Ī		1	i –		Т
Address: 310	00 Plains Hwy								Com	pan	y:	cog		İ									
City: Lovingto	on	State: NM	Zip	o:	8826	0			Attn	: D:	akota	Neel		1									
Phone #: 575	5-396-2378	Fax #: 575-396-14	129						Addı	ress	:												
Project #: 116	626	Project Owner:		COG	Opera	iting,	LLC		City:					ĺ									
Project Name:	Showstopper 19 Fe	ed Com #004H-005H							State	e: N	М	Zip:											
Project Locatio	n: Rural Eddy								Phor	ne #:	1												
	Joel Lowry		0.000						Fax :	<b>#:</b>			***************************************										
FOR LAB USE ONLY	,		ı.			MA	TRIX	T	P	RES	ERV.	SAMPLI	NG										
Lab I.D.	Samp	le I.D.	(G)RAB OR (C)OMF	# CONTAINERS	GROUNDWATER	SOIL	OIL	SLUDGE	OTHER:	ICE / COOL	OTHER:	DATE	TIME	Chloride	ТРН	BTEX 8021							
	BH-20b		С	1		x				×		3/3/20	10:50	x			1						
2	BH-7c		С	1		x				×		3/320	10:55	×								 	
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service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, busipees interruptions, loss of use, or loss of profits incurred by client, its subsidiaries,

affiliates or successors arising out of or related to the per	formance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the	above stated reasons or otherwise	
Relinquished By:	Date: / Received By:	Phone Result: ☐ Yes ☐ No	Add'l Phone #:
066	3 7 24	Fax Result: ☐ Yes ☐ No	Add'l Fax #:
feel four	Time: 4.16	REMARKS: Email results to	pm@etechenv.com
Relinquished By:	Date: 3-3-26 Received By:		
De la constante de la constant	Time: 15   Qualer   / Mal	D (16/2)	×
Delivered By: (Circle One)	Sample Condition CHECKE	ED BY:	
Sampler - UPS - Bus - Other:	Cool Intact (Initia		
Camplet - 01 0 - Dus - Other.	-0. Je #113   No No	•	

Received by OCD: 2/25/2021 7:52:08 AM

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

# Appendix D Photographic Log

## Photographic Log

Photo Number:

1

Photo Direction:

East

**Photo Description:** 

Excavation



Photo Number:

2

**Photo Direction:** 

Southeast

**Photo Description:** 

Excavation



# Photographic Log

**Photo Number:** 

3

**Photo Direction:** Southwest

**Photo Description:** 

Excavation



**Photo Number:** 

**Photo Direction: East-Northeast** 

**Photo Description:** 

Test Trench TT-16/17



# Photographic Log

Photo Number: 5

Photo Direction: East

**Photo Description:** 

Liner Installation



Photo Number:

Photo Direction: West

**Photo Description:** 

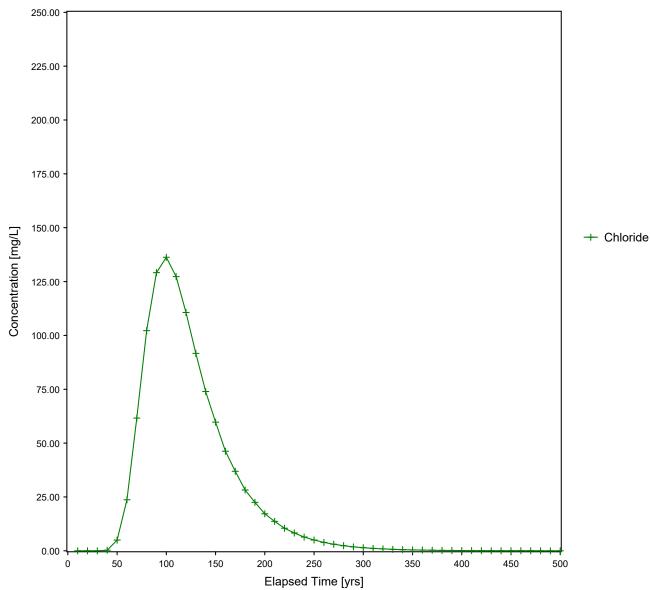
**Backfilled Excavation** 



# Appendix E Multimedia Exposure Assessment Model (MULTIMED)

Received by OCD: 2/25/2021 7:52:08 AM

# **Chloride Concentration at the Receptor Well** (Proximate to Pumping Unit, Liner at 4' bgs) COG Operating, LLC Showstopper 19 Fed Com #004H-005H



```
U.S.
    ENVIRONMENTAL PROTECTION AGENCY
```

EXPOSURE ASSESSMENT

MULTIMEDIA MODEL

MULTIMED (Version 1.50, 2005)

Rem options

Released to Imaging:

Co Operating, LLC

Showstopper 19 Fed Com #004H-005H

Chemical simulated is Chloride

Saturated and unsaturated zone models Option Chosen DETERMIN

Run was Infiltration Specified By User: 7.620E-03 m/yr

Run was transient

Well Times: Find Maximium Concentration

Reject runs if Y coordinate outside plume

Reject runs if Z coordinate outside plume

Gaussian source used in saturated zone model

UNSATURATED ZONE FLOW MODEL PARAMETERS (input parameter description and value)

NVFLAYR - Number of layers in flow model

NP - Total number of nodal points 240 NMAT - Number of different porous materials 1 KPROP - Van Genuchten or Brooks and Corey IMSHGN - Spatial discretization option 1

OPTIONS CHOSEN

Van Genuchten functional coefficients

User defined coordinate system

Layer information

LAYER NO. LAYER THICKNESS MATERIAL PROPERTY 4.88

# VADOSE ZONE MATERIAL VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LIMITS		
			MEAN	STD DEV	MIN	MAX	
Saturated hydraulic conductivity	cm/hr	CONSTANT	4.17	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	
Jnsaturated zone porosity		CONSTANT	0.130	-999.	-999.	-999.	
Air entry pressure head	m	CONSTANT	0.700	-999.	-999.	-999.	
Depth of the unsaturated zone	m	CONSTANT	4.88	0.000	0.000	0.000	

# DATA FOR MATERIAL 1

VADOSE ZONE FUNCTION VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAM	ETERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Residual water content		CONSTANT	0.116	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	
Brook and Corey exponent, EN		CONSTANT	-999.	-999.	-999.	-999.	
ALFA coefficient	1/cm	CONSTANT	0.500E-02	-999.	-999.	-999.	
Van Genuchten exponent, ENN		CONSTANT	1.09	-999.	-999.	-999.	

# UNSATURATED ZONE TRANSPORT MODEL PARAMETERS

NLAY	-	Number of different layers used	1
NTSTPS	_	Number of time values concentration calc	40
DUMMY	_	Not presently used	1
ISOL	_	Type of scheme used in unsaturated zone	2
N	_	Stehfest terms or number of increments	18
NTEL	_	Points in Lagrangian interpolation	3
NGPTS	_	Number of Gauss points	104
NIT	_	Convolution integral segments	2
IBOUND	_	Type of boundary condition	3
ITSGEN	_	Time values generated or input	1
TMAX	_	Max simulation time	0.0
WTFUN	_	Weighting factor	1.2

# OPTIONS CHOSEN

Convolution integral approach Exponentially decaying continuous source

Computer generated times for computing concentrations

DATA FOR LAYER 1

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LIMITS		
			MEAN	STD DEV	MIN	MAX	
Thickness of layer	m	CONSTANT	4.88	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	
Longitudinal dispersivity of layer	m	DERIVED	-999.	-999.	-999.	-999.	
Percent organic matter		CONSTANT	0.000	-999.	-999.	-999.	
Bulk density of soil for layer	g/cc	CONSTANT	1.99	-999.	-999.	-999.	
Biological decay coefficient	1/yr	CONSTANT	0.000	-999.	-999.	-999.	

# CHEMICAL SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LIMITS			
			MEAN	STD DEV	MIN	MAX		
olid phase decay coefficient	1/yr	DERIVED	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>		
issolved phase decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.		
verall chemical decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.		
cid catalyzed hydrolysis rate	1/M-yr	CONSTANT	0.000	-999.	-999.	-999.		
eutral hydrolysis rate constant	1/yr	CONSTANT	0.000	-999.	-999.	-999.		
ase catalyzed hydrolysis rate	l/M-yr	CONSTANT	0.000	-999.	-999.	-999.		
eference temperature	C	CONSTANT	25.0	-999.	-999.	-999.		
ormalized distribution coefficient	ml/g	CONSTANT	0.000	-999.	-999.	-999.		
istribution coefficient		DERIVED	-999.	-999.	-999.	-999.		
iodegradation coefficient (sat. zone)	1/yr	CONSTANT	0.000	-999.	-999.	-999.		
ir diffusion coefficient	cm2/s	CONSTANT	-999.	-999.	-999.	-999.		
eference temperature for air diffusion	С	CONSTANT	-999.	-999.	-999.	-999.		
olecular weight	g/M	CONSTANT	-999.	-999.	-999.	-999.		
ole fraction of solute		CONSTANT	-999.	-999.	-999.	-999.		
apor pressure of solute	mm Hg	CONSTANT	-999.	-999.	-999.	-999.		
	tm-m^3/M	CONSTANT	-999.	-999.	-999.	-999.		
verall 1st order decay sat. zone	1/yr	DERIVED	0.000	0.000	0.000	1.00		
ot currently used	_	CONSTANT	0.000	0.000	0.000	0.000		
ot currently used		CONSTANT	0.000	0.000	0.000	0.000		

# SOURCE SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAMI	ETERS	LI	MITS	
			MEAN	STD DEV	MIN	XAM	
Infiltration rate	m/yr	CONSTANT	0.762E-02	-999.	-999 <b>.</b>	-999 <b>.</b>	
Area of waste disposal unit	m^2	CONSTANT	186.	-999.	-999.	-999.	
Duration of pulse	yr	DERIVED	0.100E-08	-999.	-999.	-999.	
Spread of contaminant source	m	DERIVED	-999.	-999.	-999.	-999.	-
Recharge rate	m/yr	CONSTANT	0.000	-999.	-999.	-999.	ag
Source decay constant	1/yr	CONSTANT	0.250E-01	0.000	0.000	0.000	e
Initial concentration at landfill	mg/l	CONSTANT	0.168E+04	-999.	-999.	-999.	7%
Length scale of facility	m	DERIVED	-999.	-999.	-999.	-999.	.0
Width scale of facility	m	DERIVED	-999.	-999.	-999.	-999.	72
Near field dilution		DERIVED	1.00	0.000	0.000	1.00	93

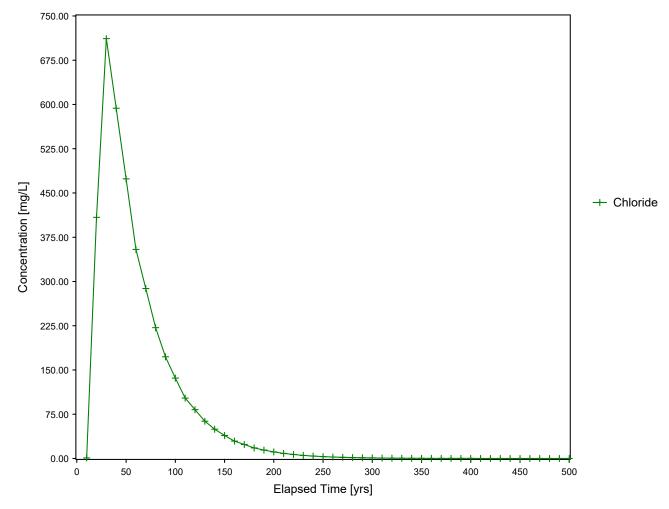
VARIABLE NAME	UNITS	DISTRIBUTION	PARAM	METERS	LI	MITS	l by
			MEAN	STD DEV	MIN	MAX	0
Particle diameter		CONSTANT	-999.	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	cp:
Aquifer porosity		CONSTANT	0.300	-999.	-999.	-999.	2/
Bulk density	g/cc	CONSTANT	1.86	-999.	-999.	-999.	2/25/2021
Aquifer thickness	m	CONSTANT	6.10	-999.	-999.	-999.	20
Source thickness (mixing zone depth)	m	DERIVED	-999.	-999.	-999.	-999.	21
Conductivity (hydraulic)	m/yr	CONSTANT	315.	-999.	-999.	-999.	7:5
Gradient (hydraulic)		CONSTANT	0.300E-02	-999.	-999.	-999.	52
Groundwater seepage velocity	m/yr	DERIVED	-999.	-999.	-999.	-999.	2:08
Retardation coefficient		DERIVED	-999.	-999.	-999.	-999.	<b>&amp;</b>
Longitudinal dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	$\equiv$
Transverse dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	•
Vertical dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	
Temperature of aquifer	С	CONSTANT	20.0	-999.	-999.	-999.	
рН		CONSTANT	7.00	-999.	-999.	-999.	
Organic carbon content (fraction)		CONSTANT	0.000	-999.	-999.	-999.	
Well distance from site	m	CONSTANT	1.00	-999.	-999.	-999.	
Angle off center	degree	CONSTANT	0.000	-999.	-999.	-999.	
Well vertical distance	m	CONSTANT	0.000	-999.	-999.	-999.	

MAXIMUM WELL CONCENTRATION IS 136.4 AT 101 YEARS

Received by OCD: 2/25/2021 7:52:08 AM

# **Chloride Concentration at the Receptor Well**

(Proximate to Pumping Unit, No Liner)
COG Operating, LLC
Showstopper 19 Fed Com #004H-005H



```
U.S.
    ENVIRONMENTAL PROTECTION AGENCY
```

EXPOSURE ASSESSMENT

MULTIMEDIA MODEL

MULTIMED (Version 1.50, 2005)

Released to Imaging: Rem options

Co Operating, LLC

Showstopper 19 Fed Com #004H-005H

Chemical simulated is Chloride

Saturated and unsaturated zone models Option Chosen DETERMIN

Run was Infiltration Specified By User: 3.048E-02 m/yr

Run was transient

Well Times: Find Maximium Concentration Reject runs if Y coordinate outside plume Reject runs if Z coordinate outside plume

Gaussian source used in saturated zone model

UNSATURATED ZONE FLOW MODEL PARAMETERS (input parameter description and value)

NP - Total number of nodal points 240 NMAT - Number of different porous materials 1

KPROP - Van Genuchten or Brooks and Corey 1

IMSHGN - Spatial discretization option 1 NVFLAYR - Number of layers in flow model

OPTIONS CHOSEN

Van Genuchten functional coefficients User defined coordinate system

Layer information

LAYER NO. LAYER THICKNESS MATERIAL PROPERTY 4.88

DATA FOR MATERIAL 1

# VADOSE ZONE MATERIAL VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LIMITS		
			MEAN	STD DEV	MIN	MAX	
aturated hydraulic conductivity	cm/hr	CONSTANT	4.17	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	
Insaturated zone porosity		CONSTANT	0.130	-999.	-999.	-999.	
ir entry pressure head	m	CONSTANT	0.700	-999.	-999.	-999.	
epth of the unsaturated zone	m	CONSTANT	4.88	0.000	0.000	0.000	

# DATA FOR MATERIAL 1

VADOSE ZONE FUNCTION VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAM	 FTFDC	LIMITS		
VARIADDE NAME	OWITO		MEAN	STD DEV	MIN	MAX	
Residual water content		CONSTANT	0.116	 -999.	-999.	-999.	
Brook and Corey exponent, EN		CONSTANT	-999.	-999.	-999.	-999.	
ALFA coefficient	1/cm	CONSTANT	0.500E-02	-999.	-999.	-999.	
Van Genuchten exponent, ENN		CONSTANT	1.09	-999.	-999.	-999.	

# UNSATURATED ZONE TRANSPORT MODEL PARAMETERS

NLAY	-	Number of different layers used	1
NTSTPS	_	Number of time values concentration calc	40
DUMMY	_	Not presently used	1
ISOL	_	Type of scheme used in unsaturated zone	2
N	_	Stehfest terms or number of increments	18
NTEL	_	Points in Lagrangian interpolation	3
NGPTS	_	Number of Gauss points	104
NIT	_	Convolution integral segments	2
IBOUND	_	Type of boundary condition	3
ITSGEN	_	Time values generated or input	1
TMAX	_	Max simulation time	0.0
WTFUN	_	Weighting factor	1.2

# OPTIONS CHOSEN

Convolution integral approach Exponentially decaying continuous source Computer generated times for computing concentrations

DATA FOR LAYER 1

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LIMITS		
			MEAN	STD DEV	MIN	MAX	
Thickness of layer	m	CONSTANT	4.88	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	
Longitudinal dispersivity of layer	m	DERIVED	-999.	-999.	-999.	-999.	
Percent organic matter		CONSTANT	0.000	-999.	-999.	-999.	
Bulk density of soil for layer	g/cc	CONSTANT	1.99	-999.	-999.	-999.	
Biological decay coefficient	1/yr	CONSTANT	0.000	-999.	-999.	-999.	

# CHEMICAL SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LIMITS			
			MEAN	STD DEV	MIN	MAX		
olid phase decay coefficient	1/yr	DERIVED	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>		
issolved phase decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.		
verall chemical decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.		
cid catalyzed hydrolysis rate	1/M-yr	CONSTANT	0.000	-999.	-999.	-999.		
eutral hydrolysis rate constant	1/yr	CONSTANT	0.000	-999.	-999.	-999.		
ase catalyzed hydrolysis rate	l/M-yr	CONSTANT	0.000	-999.	-999.	-999.		
eference temperature	C	CONSTANT	25.0	-999.	-999.	-999.		
ormalized distribution coefficient	ml/g	CONSTANT	0.000	-999.	-999.	-999.		
istribution coefficient		DERIVED	-999.	-999.	-999.	-999.		
iodegradation coefficient (sat. zone)	1/yr	CONSTANT	0.000	-999.	-999.	-999.		
ir diffusion coefficient	cm2/s	CONSTANT	-999.	-999.	-999.	-999.		
eference temperature for air diffusion	С	CONSTANT	-999.	-999.	-999.	-999.		
olecular weight	g/M	CONSTANT	-999.	-999.	-999.	-999.		
ole fraction of solute		CONSTANT	-999.	-999.	-999.	-999.		
apor pressure of solute	mm Hg	CONSTANT	-999.	-999.	-999.	-999.		
	tm-m^3/M	CONSTANT	-999.	-999.	-999.	-999.		
verall 1st order decay sat. zone	1/yr	DERIVED	0.000	0.000	0.000	1.00		
ot currently used	_	CONSTANT	0.000	0.000	0.000	0.000		
ot currently used		CONSTANT	0.000	0.000	0.000	0.000		

# SOURCE SPECIFIC VARIABLES

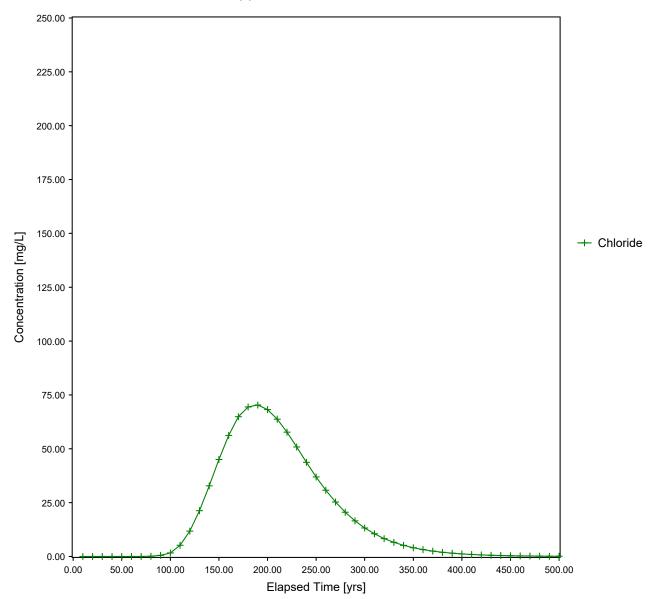
VARIABLE NAME	UNITS	DISTRIBUTION	PARAMI	ETERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Infiltration rate	m/yr	CONSTANT	0.305E-01	-999.	-999 <b>.</b>	-999 <b>.</b>	
Area of waste disposal unit	m^2	CONSTANT	186.	-999.	-999.	-999.	
Duration of pulse	yr	DERIVED	0.100E-08	-999.	-999.	-999.	
Spread of contaminant source	m	DERIVED	-999.	-999.	-999.	-999.	-
Recharge rate	m/yr	CONSTANT	0.000	-999.	-999.	-999.	ag
Source decay constant	1/yr	CONSTANT	0.250E-01	0.000	0.000	0.000	6
Initial concentration at landfill	mg/1	CONSTANT	0.168E+04	-999.	-999.	-999.	19
Length scale of facility	m	DERIVED	-999.	-999.	-999.	-999.	.0
Width scale of facility	m	DERIVED	-999.	-999.	-999.	-999.	<i>f</i> 2
Near field dilution		DERIVED	1.00	0.000	0.000	1.00	203

VARIABLE NAME	UNITS	DISTRIBUTION	PARAM	METERS	LI	MITS	l by
			MEAN	STD DEV	MIN	MAX	0
Particle diameter		CONSTANT	-999.	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	cp:
Aquifer porosity		CONSTANT	0.300	-999.	-999.	-999.	2/
Bulk density	g/cc	CONSTANT	1.86	-999.	-999.	-999.	2/25/2021
Aquifer thickness	m	CONSTANT	6.10	-999.	-999.	-999.	20
Source thickness (mixing zone depth)	m	DERIVED	-999.	-999.	-999.	-999.	21
Conductivity (hydraulic)	m/yr	CONSTANT	315.	-999.	-999.	-999.	7:5
Gradient (hydraulic)		CONSTANT	0.300E-02	-999.	-999.	-999.	52
Groundwater seepage velocity	m/yr	DERIVED	-999.	-999.	-999.	-999.	2:08
Retardation coefficient		DERIVED	-999.	-999.	-999.	-999.	<b>&amp;</b>
Longitudinal dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	$\equiv$
Transverse dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	•
Vertical dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	
Temperature of aquifer	С	CONSTANT	20.0	-999.	-999.	-999.	
рН		CONSTANT	7.00	-999.	-999.	-999.	
Organic carbon content (fraction)		CONSTANT	0.000	-999.	-999.	-999.	
Well distance from site	m	CONSTANT	1.00	-999.	-999.	-999.	
Angle off center	degree	CONSTANT	0.000	-999.	-999.	-999.	
Well vertical distance	m	CONSTANT	0.000	-999.	-999.	-999.	

MAXIMUM WELL CONCENTRATION IS 714.1 AT 28.3 YEARS

Received by OCD: 2/25/2021 7:52:08 AM

# Chloride Concentration at the Receptor Well (Lined Containment Area) COG Operating, LLC Showstopper 19 Fed Com #004H-005H



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ENVIRONMENTAL PROTECTION AGENCY
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EXPOSURE ASSESSMENT

MULTIMEDIA MODEL

MULTIMED (Version 1.50, 2005)

Released to Imaging: Run options

Operating, LLC

Showstopper 19 Fed Com #004H-005H Chemical simulated is Chloride

Option Chosen Saturated and unsaturated zone models

Run was DETERMIN

Infiltration Specified By User: 7.620E-03 m/yr

Run was transient

Well Times: Find Maximium Concentration Reject runs if Y coordinate outside plume Reject runs if Z coordinate outside plume Gaussian source used in saturated zone model

UNSATURATED ZONE FLOW MODEL PARAMETERS (input parameter description and value) NP - Total number of nodal points

240 TAMN - Number of different porous materials 1 KPROP - Van Genuchten or Brooks and Corey 1 IMSHGN - Spatial discretization option 1 NVFLAYR - Number of layers in flow model 1

OPTIONS CHOSEN

Van Genuchten functional coefficients User defined coordinate system

Layer information

1	10.06	1
LAYER NO.	LAYER THICKNESS	MATERIAL PROPERTY

# VADOSE ZONE MATERIAL VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Saturated hydraulic conductivity	cm/hr	CONSTANT	4.17	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	
Unsaturated zone porosity		CONSTANT	0.130	-999.	-999.	-999.	
Air entry pressure head	m	CONSTANT	0.700	-999.	-999.	-999.	
Depth of the unsaturated zone	m	CONSTANT	10.1	0.000	0.000	0.000	

# DATA FOR MATERIAL 1

VADOSE ZONE FUNCTION VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAM	IETERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Residual water content		CONSTANT	0.116	-999 <b>.</b>	-999.	-999 <b>.</b>	
Brook and Corey exponent, EN		CONSTANT	-999.	-999.	-999.	-999.	
ALFA coefficient	1/cm	CONSTANT	0.500E-02	-999.	-999.	-999.	
Van Genuchten exponent, ENN		CONSTANT	1.09	-999.	-999.	-999.	

# UNSATURATED ZONE TRANSPORT MODEL PARAMETERS

NLAY	_	Number of different layers used	1
NTSTPS	_	Number of time values concentration calc	40
DUMMY	_	Not presently used	1
ISOL	_	Type of scheme used in unsaturated zone	2
N	_	Stehfest terms or number of increments	18
NTEL	-	Points in Lagrangian interpolation	3
NGPTS	-	Number of Gauss points	104
NIT	_	Convolution integral segments	2
IBOUND	-	Type of boundary condition	3
ITSGEN	_	Time values generated or input	1
TMAX	_	Max simulation time	0.0
WTFUN	-	Weighting factor	1.2

### OPTIONS CHOSEN

Convolution integral approach Exponentially decaying continuous source

Computer generated times for computing concentrations

DATA FOR LAYER 1

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Thickness of layer	m	CONSTANT	10.1	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	
Longitudinal dispersivity of layer	m	DERIVED	-999.	-999.	-999.	-999.	
Percent organic matter		CONSTANT	0.000	-999.	-999.	-999.	
Bulk density of soil for layer	g/cc	CONSTANT	1.99	-999.	-999.	-999.	
Biological decay coefficient	1/yr	CONSTANT	0.000	-999.	-999.	-999.	

# CHEMICAL SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
olid phase decay coefficient	1/yr	DERIVED	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	
issolved phase decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.	
verall chemical decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.	
cid catalyzed hydrolysis rate	1/M-yr	CONSTANT	0.000	-999.	-999.	-999.	
eutral hydrolysis rate constant	1/yr	CONSTANT	0.000	-999.	-999.	-999.	
ase catalyzed hydrolysis rate	l/M-yr	CONSTANT	0.000	-999.	-999.	-999.	
eference temperature	C	CONSTANT	25.0	-999.	-999.	-999.	
ormalized distribution coefficient	ml/g	CONSTANT	0.000	-999.	-999.	-999.	
istribution coefficient		DERIVED	-999.	-999.	-999.	-999.	
iodegradation coefficient (sat. zone)	1/yr	CONSTANT	0.000	-999.	-999.	-999.	
ir diffusion coefficient	cm2/s	CONSTANT	-999.	-999.	-999.	-999.	
eference temperature for air diffusion	С	CONSTANT	-999.	-999.	-999.	-999.	
olecular weight	g/M	CONSTANT	-999.	-999.	-999.	-999.	
ole fraction of solute		CONSTANT	-999.	-999.	-999.	-999.	
apor pressure of solute	mm Hg	CONSTANT	-999.	-999.	-999.	-999.	
	tm-m^3/M	CONSTANT	-999.	-999.	-999.	-999.	
verall 1st order decay sat. zone	1/yr	DERIVED	0.000	0.000	0.000	1.00	
ot currently used	_	CONSTANT	0.000	0.000	0.000	0.000	
ot currently used		CONSTANT	0.000	0.000	0.000	0.000	

# SOURCE SPECIFIC VARIABLES

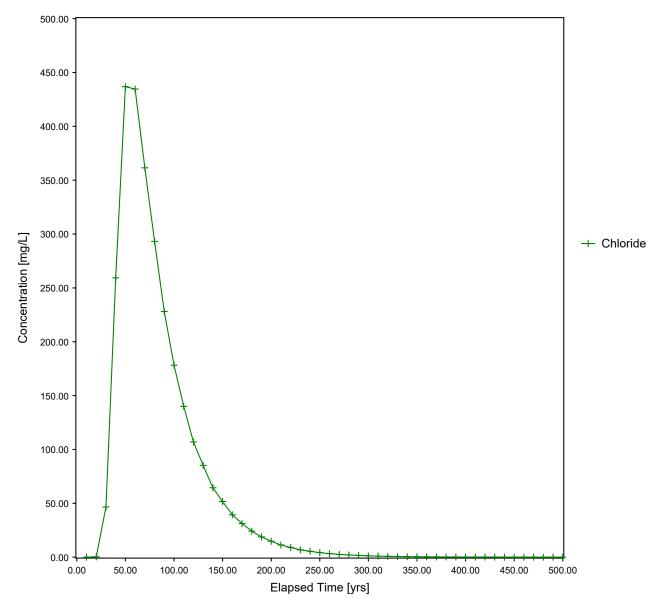
VARIABLE NAME	UNITS	DISTRIBUTION	PARAMI	ETERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Infiltration rate	m/yr	CONSTANT	0.762E-02	-999.	-999 <b>.</b>	-999 <b>.</b>	
Area of waste disposal unit	m^2	CONSTANT	92.9	-999.	-999.	-999.	
Duration of pulse	yr	DERIVED	0.100E-08	-999.	-999.	-999.	
Spread of contaminant source	m	DERIVED	-999.	-999.	-999.	-999.	-
Recharge rate	m/yr	CONSTANT	0.000	-999.	-999.	-999.	ag
Source decay constant	1/yr	CONSTANT	0.250E-01	0.000	0.000	0.000	e
Initial concentration at landfill	mg/l	CONSTANT	0.128E+04	-999.	-999.	-999.	196
Length scale of facility	m	DERIVED	-999.	-999.	-999.	-999.	.0
Width scale of facility	m	DERIVED	-999.	-999.	-999.	-999.	<i>f</i> 2
Near field dilution		DERIVED	1.00	0.000	0.000	1.00	203

VARIABLE NAME	UNITS	DISTRIBUTION	PARAI	METERS	LI	MITS	d by
			MEAN	STD DEV	MIN	MAX	
Particle diameter		CONSTANT	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	-999.	0CD:
Aquifer porosity		CONSTANT	0.300	-999.	-999.	-999.	2/
Bulk density	g/cc	CONSTANT	1.86	-999.	-999.	-999.	2/25/2021
Aquifer thickness	m	CONSTANT	6.10	-999.	-999.	-999.	20
Source thickness (mixing zone depth)	m	DERIVED	-999.	-999.	-999.	-999.	21
Conductivity (hydraulic)	m/yr	CONSTANT	315.	-999.	-999.	-999.	.7
Gradient (hydraulic)		CONSTANT	0.300E-02	2 -999.	-999.	-999.	7:52:08
Groundwater seepage velocity	m/yr	DERIVED	-999.	-999.	-999.	-999.	ë
Retardation coefficient		DERIVED	-999.	-999.	-999.	-999.	<b>&amp;</b>
Longitudinal dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	AM
Transverse dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	
Vertical dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	
Temperature of aquifer	С	CONSTANT	20.0	-999.	-999.	-999.	
рН		CONSTANT	7.00	-999.	-999.	-999.	
Organic carbon content (fraction)		CONSTANT	0.000	-999.	-999.	-999.	
Well distance from site	m	CONSTANT	1.00	-999.	-999.	-999.	
Angle off center	degree	CONSTANT	0.000	-999.	-999.	-999.	
Well vertical distance	m	CONSTANT	0.000	-999.	-999.	-999.	

MAXIMUM WELL CONCENTRATION IS 70.39 AT 193 YEARS

Received by OCD: 2/25/2021 7:52:08 AM

# Chloride Concentration At The Receptor Well (Unlined Containment Area) COG Operating, LLC Showstopper 19 Fed Com #004H-005H



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U.S.
    ENVIRONMENTAL PROTECTION AGENCY
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EXPOSURE ASSESSMENT

MULTIMEDIA MODEL

MULTIMED (Version 1.50, 2005)

Released to Imaging: 3/30/2021 1

Operating, LLC

Showstopper 19 Fed Com #004H-005H Chemical simulated is Chloride

Option Chosen Saturated and unsaturated zone models

Run was DETERMIN

Infiltration Specified By User: 3.048E-02 m/yr

Run was transient

Well Times: Find Maximium Concentration Reject runs if Y coordinate outside plume Reject runs if Z coordinate outside plume Gaussian source used in saturated zone model

UNSATURATED ZONE FLOW MODEL PARAMETERS (input parameter description and value)

NVFLAYR - Number of layers in flow model

NP - Total number of nodal points 240 NMAT - Number of different porous materials 1 KPROP - Van Genuchten or Brooks and Corey 1 IMSHGN - Spatial discretization option 1

OPTIONS CHOSEN

Van Genuchten functional coefficients User defined coordinate system

LAYER NO.	LAYER THICKNESS	MATERIAL PROPERTY
1	10.06	1

1

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# VADOSE ZONE MATERIAL VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Saturated hydraulic conductivity	cm/hr	CONSTANT	4.17	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	
Jnsaturated zone porosity		CONSTANT	0.130	-999.	-999.	-999.	
Air entry pressure head	m	CONSTANT	0.700	-999.	-999.	-999.	
Depth of the unsaturated zone	m	CONSTANT	10.1	0.000	0.000	0.000	

# DATA FOR MATERIAL 1

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VADOSE ZONE FUNCTION VARIABLES

VARIABLE NAME	UNITS DISTRIBUTION		PARAM	ETERS	LIMITS		
			MEAN	STD DEV	MIN	MAX	
Residual water content		CONSTANT	0.116	 -999.	-999 <b>.</b>	-999 <b>.</b>	
Brook and Corey exponent, EN		CONSTANT	-999.	-999.	-999.	-999.	
ALFA coefficient	1/cm	CONSTANT	0.500E-02	-999.	-999.	-999.	
Van Genuchten exponent, ENN		CONSTANT	1.09	-999.	-999.	-999.	

# UNSATURATED ZONE TRANSPORT MODEL PARAMETERS

NLAY	_	Number of different layers used	1
NTSTPS	_	Number of time values concentration calc	40
DUMMY	_	Not presently used	1
ISOL	_	Type of scheme used in unsaturated zone	2
N	_	Stehfest terms or number of increments	18
NTEL	_	Points in Lagrangian interpolation	3
NGPTS	_	Number of Gauss points	104
NIT	_	Convolution integral segments	2
IBOUND	_	Type of boundary condition	3
ITSGEN	_	Time values generated or input	1
TMAX	_	Max simulation time	0.0
WTFUN	_	Weighting factor	1.2

# OPTIONS CHOSEN

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Convolution integral approach Exponentially decaying continuous source Computer generated times for computing concentrations

computer generated times for computing concentr .

DATA FOR LAYER 1

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	PARAMETERS		LIMITS	
			MEAN	STD DEV	MIN	MAX	
Thickness of layer	m	CONSTANT	10.1	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	
Longitudinal dispersivity of layer	m	DERIVED	-999.	-999.	-999.	-999.	
Percent organic matter		CONSTANT	0.000	-999.	-999.	-999.	
Bulk density of soil for layer	g/cc	CONSTANT	1.99	-999.	-999.	-999.	
Biological decay coefficient	1/yr	CONSTANT	0.000	-999.	-999.	-999.	

# CHEMICAL SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARA	METERS	LI	MITS		
			MEAN	STD DEV	MIN	MAX	AN	
 Solid phase decay coefficient	1/yr	DERIVED	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>		
Dissolved phase decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.		
Overall chemical decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.		
Acid catalyzed hydrolysis rate	1/M-yr	CONSTANT	0.000	-999.	-999.	-999.		
Neutral hydrolysis rate constant	1/yr	CONSTANT	0.000	-999.	-999.	-999.		
Base catalyzed hydrolysis rate	1/M-yr	CONSTANT	0.000	-999.	-999.	-999.		
Reference temperature	С	CONSTANT	25.0	-999.	-999.	-999.		
Normalized distribution coefficient	ml/g	CONSTANT	0.000	-999.	-999.	-999.		
Distribution coefficient		DERIVED	-999.	-999.	-999.	-999.		
Biodegradation coefficient (sat. zone)	1/yr	CONSTANT	0.000	-999.	-999.	-999.		
Air diffusion coefficient	cm2/s	CONSTANT	-999.	-999.	-999.	-999.		
Reference temperature for air diffusion	С	CONSTANT	-999.	-999.	-999.	-999.		
Molecular weight	g/M	CONSTANT	-999.	-999.	-999.	-999.		
Mole fraction of solute		CONSTANT	-999.	-999.	-999.	-999.		
Vapor pressure of solute	mm Hg	CONSTANT	-999.	-999.	-999.	-999.		
Henry`s law constant a	itm-m^3/M	CONSTANT	-999.	-999.	-999.	-999.		
Overall 1st order decay sat. zone	1/yr	DERIVED	0.000	0.000	0.000	1.00		
Not currently used		CONSTANT	0.000	0.000	0.000	0.000		
Not currently used		CONSTANT	0.000	0.000	0.000	0.000		

# SOURCE SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	IBUTION PARAME		LI	MITS	
			MEAN	STD DEV	MIN	MAX	
Infiltration rate	m/yr	CONSTANT	0.305E-01	-999.	-999 <b>.</b>	-999 <b>.</b>	
Area of waste disposal unit	m^2	CONSTANT	92.9	-999.	-999.	-999.	
Duration of pulse	yr	DERIVED	0.100E-08	-999.	-999.	-999.	
Spread of contaminant source	m	DERIVED	-999.	-999.	-999.	-999.	-
Recharge rate	m/yr	CONSTANT	0.000	-999.	-999.	-999.	Page
Source decay constant	1/yr	CONSTANT	0.250E-01	0.000	0.000	0.000	
Initial concentration at landfill	mg/l	CONSTANT	0.128E+04	-999.	-999.	-999.	201
Length scale of facility	m	DERIVED	-999.	-999.	-999.	-999.	l of
Width scale of facility	m	DERIVED	-999.	-999.	-999.	-999.	<i>f</i> 2
Near field dilution		DERIVED	1.00	0.000	0.000	1.00	203

VARIABLE NAME	UNITS	DISTRIBUTION	PARAMETERS		LIMITS		d by
			MEAN	STD DEV	MIN	MAX	
Particle diameter		CONSTANT	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	-999 <b>.</b>	OCD:
Aguifer porosity		CONSTANT	0.300	-999.	-999.	-999.	
Bulk density	g/cc	CONSTANT	1.86	-999.	-999.	-999.	2/25/2021
Aquifer thickness	m	CONSTANT	6.10	-999.	-999.	-999.	20
Source thickness (mixing zone depth)	m	DERIVED	-999.	-999.	-999.	-999.	21
Conductivity (hydraulic)	m/yr	CONSTANT	315.	-999.	-999.	-999.	.7
Gradient (hydraulic)		CONSTANT	0.300E-02	-999.	-999.	-999.	7:52:08
Groundwater seepage velocity	m/yr	DERIVED	-999.	-999.	-999.	-999.	ë
Retardation coefficient		DERIVED	-999.	-999.	-999.	-999.	
Longitudinal dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	AM
Transverse dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	
Vertical dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.	
Temperature of aquifer	С	CONSTANT	20.0	-999.	-999.	-999.	
рН		CONSTANT	7.00	-999.	-999.	-999.	
Organic carbon content (fraction)		CONSTANT	0.000	-999.	-999.	-999.	
Well distance from site	m	CONSTANT	1.00	-999.	-999.	-999.	
Angle off center	degree	CONSTANT	0.000	-999.	-999.	-999.	
Well vertical distance	m	CONSTANT	0.000	-999.	-999.	-999.	

MAXIMUM WELL CONCENTRATION IS 453.2 AT 54.3 YEARS

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720 District III
1000 Rio Brazos Rd., Aztec, NM 87410

Phone:(505) 334-6178 Fax:(505) 334-6170 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 18908

# **CONDITIONS OF APPROVAL**

Operator:			OGRID:	Action Number:	Action Type:
COG OPERATING LLC	600 W Illinois Ave	Midland, TX79701	229137	18908	C-141

OCD Reviewer	Condition
chensley	While the Oil Conservation Division (OCD) appreciates your efforts to date regarding this incident, we do have some concerns:
chensley	With groundwater at a nominal six (35) feet below ground surface, the OCD feels it is incumbent upon us as environmental regulators, to ensure that ground water will not be impacted.
chensley	Sample(s) NSW 4, 5 & 6 please remove as much of the contaminated soil with shovels and a hydrovac. If you believe a certain area will require a deferral, please make sure that it has been fully delineated and include a picture of the area to validate the request.
chensley	OCD reserves the right to approve / deny liner installations. Installing a liner prior to OCD approval puts the operator at risk. OCD request the operator to excavate area of trench only, leaving in place the liner minus the entry point to the trench.
chensley	Sample(s) ID "BH-16D/17D & FL-25" are all over the limit for chloride. Please excavate soil samples BH-16D / 17D to 19 feet bgs or 600mg/kg Chloride, which ever come first and FL-25 to a closure criterion of 600mg/kg Chloride.