

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

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

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

Incident ID	NRM2024537991
District RP	
Facility ID	38325
Application ID	

Release Notification

Responsible Party

Responsible Party: Centennial Resource Production, Inc	OGRID: 372165
Contact Name: Jamon Hohensee	Contact Telephone: 432-241-4283
Contact email: jamon.hohensee@cdevinc.com	Incident # (assigned by OCD)
Contact mailing address: 500 W. Illinois Ave, Suite 500, Midland Texas 79705	

Location of Release Source

Latitude 32.68320 Longitude -103.72417
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Crazy Wolf Fed Com 1H	Site Type: Production Facility
Date Release Discovered: 8-16-20	API# 30025431350000

Unit Letter	Section	Township	Range	County
M	1	19S	32E	Lea

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name:)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 50	Volume Recovered (bbls) 15
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The threads on the transfer pump swedge had corroded and released the produced water. The free-standing fluids were recovered and properly disposed of. The square footage, porosity, and saturation was used in determining the amount of liquids released. The site will be delineated and remediated to the state standards and a final C141 closure report will be submitted.

Form C-141

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State of New Mexico
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Volume released was greater than 25bbbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Email notification was given to Jim Griswold and emnrd-ocd-district1spills.	

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Samon Hobensee</u> Signature: <u>Sam 11/2</u> email: <u>jamon.hobensee@cederinc.com</u>	Title: <u>Sr. Environmental Analyst</u> Date: <u>8-31-20</u> Telephone: <u>432-241-4283</u>
OCD Only Received by: _____ Date: _____	

State of New Mexico
Oil Conservation Division

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Site Assessment/Characterization

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

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

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

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

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

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

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Oil Conservation Division

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

Printed Name: Jamon Hohensee Title: Sr. Environmental Analyst

Signature: Ja H. Date: 3-17-21

email: jamon.hohensee@cdevinc.com Telephone: 432-241-4283

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: Jamon Hohensee Title: Sr. Environmental Analyst
Signature: [Signature] Date: 3-17-21
email: jamon.hohensee@cdevinc.com Telephone: 432-241-4283

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

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District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

Printed Name: Samon Hohensee Title: So. Environmental Analyst
Signature: [Signature] Date: 3-17-21
email: jamon.hohensee@cdovinc.com Telephone: 432-241-4283

OCD Only

Received by: Chad Hensley Date: 04/14/2021

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

Closure Approved by: [Signature] Date: 04/14/2021
Printed Name: Chad Hensley Title: Environmental Specialist Advanced



CLOSURE REQUEST AND REMEDIATION SUMMARY REPORT

**Centennial Resource Development, Inc.
Crazy Wolf Fed COM 1H
Lea County, New Mexico
Unit Letter "M", Section 01, Township 19 South, Range 32 East
Latitude 32.68320° North, Longitude 103.72417° West
NMOCD Reference # NRM2024537991**

Prepared For:

**Centennial Resource Development, Inc.
500 W. Illinois Avenue Suite 500
Midland, TX 79701**

Prepared By:

**Etech Environmental & Safety Solutions, Inc.
P.O. Box 62228
Midland, Texas 79711**

March 2021

A handwritten signature in blue ink that reads "Shannon English".

Shannon English, P.G.
Project Manager

A handwritten signature in blue ink that reads "Matthew Green".

Matthew Green, P.G.
Senior Project Manager

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APPENDICES

Appendix A – Photographic Documentation
Appendix B – Analytical Reports
Appendix C – Release Notification and Corrective Action (Form C-141)

INTRODUCTION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of Centennial Resource Development, Inc. (Centennial), has prepared this Closure Request and Remediation Summary Report for the Release Site known as Crazy Wolf Fed COM 1H. The legal description of the Release Site is Unit Letter "M", Section 01, Township 19 South, Range 32 East, in Lea County, New Mexico. The subject property is administered by the New Mexico U.S. Department of the Interior Bureau of Land Management (BLM). The Release Site GPS coordinates are 32.68320° North and 103.72417° West. Please reference Figure 1 for the Site Location Map, Figure 2, and Figure 3 for the Confirmation Soil Sample Location Map and Section Detail Map.

On August 16, 2020, the release was discovered by Centennial. The threads on the transfer pump swedge had corroded, resulting in the release. Approximately fifty (50) barrels of produced water was released with fifteen (15) barrels recovered, resulting in a net loss of approximately thirty-five (35) barrels of produced water. August 31, 2020, Centennial filed a *Release Notification and Corrective Action Form* (Form C-141) with the New Mexico Oil Conservation Division (NMOCD) and the Department of the Interior Bureau of Land Management (BLM) documenting the release. The Form C-141 is provided as Appendix C. Photographic documentation for the site are provided as Appendix A.

NMOCD SITE CLASSIFICATION

A search of the groundwater database maintained by United States Geological Survey (USGS) did not identify any registered water wells within a quarter (1/4) mile of the Crazy Wolf Fed COM 1H Release Site. A further search of the USGS database identified the closest registered water well is USGS Well #: 324224103444101 located approximately two (2) miles northwest of the Release Site. The average depth to groundwater for USGS Well #: 324224103444101 should be encountered at approximately 117 feet below ground surface (bgs). Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion. No water wells were observed within one thousand (1,000) feet of the Release Site. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion. No surface water was observed within one thousand (1,000) feet of the release. Based on the NMOCD site classification system, zero (0) points will be assigned to the Crazy Wolf Fed COM 1H Release Site as a result of this criterion.

On December 1, 2020, due to insufficient groundwater data, a soil boring was installed by Talon, LPE (Talon) in order to determine site specific depth to groundwater. The boring was advanced to 100 feet below ground surface. The boring was allowed to remain open for the allotted seventy-two (72) hours. On December 4, 2020, no groundwater was observed in the boring. Talon plugged the boring in accordance with New Mexico Office of State Engineer regulations. Please reference Figure 4 for the log of soil boring. Based on the site-specific groundwater data, the soil remediation levels for this site are as follows:

- Benzene – 10 mg/Kg (ppm)
- BTEX – 50 mg/Kg (ppm)
- TPH – 2,500 mg/Kg (ppm)
- Chloride – 10,000 mg/Kg (ppm)

SUMMARY OF SOIL REMEDIATION ACTIVITIES

October 7, 2020, Etech commenced excavation activities at the Release Site utilizing heavy equipment and manual means. Excavated soil was stockpiled on site and remediated utilizing blending and aeration techniques with surrounding clean soil and forty (40) bags of gypsum. Excavation activities were conducted in a manner that protected the integrity of the production equipment. Etech hand spotted around all surface equipment and excavated by hand all impacted material within two (2) feet of any production equipment and utilities in the release area were spotted utilizing a hydro-vac.

Between November 11 through 13, 2020, concurrent with remediation activities, Etech, on behalf of Centennial, collected ten (10) composite bottom hole soil samples (BH-1 @ 1', BH-1 @ 1.5', BH-2 @ 1.5', BH-2 @ 1.5', BH-3 @ 1.5', BH-3 @ 1.5', BH-4 @ 2', BH-4 @ 6', BH-5 @ 1.5', and BH-7 @ 1') from the excavated area and six (6) composite sidewall confirmation soil sample (SSW-1 @ 1.5', WSW-2 @ 1.5', NSW-2 @ 1.5', NSW-3 @ 1.5', ESW-1 @ 1', and ESW-2 @ 1.5') from the sidewalls of the excavated area. Soil samples were submitted to Eurofins in Midland, Texas and analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX) using EPA Method SW 846-8021B, Total Petroleum Hydrocarbons (TPH) using EPA Method SW 846-8015M, and chloride using EPA Method E 300.0. A review of laboratory analytical results indicated all collected soil samples were below applicable NMOCD limits and/or laboratory method detection limits. Please reference Figure 2 and Figure 3 for site details and soil sampling locations.

On November 20, 2020, following further excavation activities, four (4) additional composite bottom hole soil samples (BH-9 @ 3', BH-10 @ 3', BH-11 @ 3', and BH-12 @ 6"). At this time, thirty-four (34) additional composite sidewall soil samples (WSW-5 @ 1', WSW-6 @ 1.5', WSW-9 @ 3', WSW-10 @ 3', WSW-11 @ 3', WSW-12 @ 6", NSW-1 @ 1', NSW-2 @ 1.5', NSW-4 @ 2', NSW-5 @ 1', NSW-7 @ 1.5', NSW-8 @ 1.5', NSW-11 @ 3', NSW-12 @ 6", SSW-2 @ 1.5', SSW-4 @ 2', SSW-5 @ 1', SSW-6 @ 1.5', SSW-7 @ 1.5', SSW-8 @ 1.5', SSW-12 @ 6", ESW-4 @ 2', ESW-5 @ 1', ESW-8 @ 1.5', ESW-9 @ 3', ESW-10 @ 3', ESW-11 @ 3', ESW-12 @ 6", ESS-1 @ 1' through ESS-3 @ 1', and WSS-1 @ 1' through WSS-3 @ 1') were collected from the excavated area. Soil samples were submitted to Eurofins and analyzed for BTEX, TPH, and chloride concentrations. A review of laboratory analytical results indicated all collected soil samples were below applicable NMOCD limits and/or laboratory method detection limits with the exception of ESW-12 @ 6" and NSW-12 @ 6" which exhibited chloride concentrations above NMOCD limits. Please reference Figure 2 and Figure 3 for site details and soil sampling locations.

On November 24, 2020, following further excavation activities, six (6) additional composite bottom hole soil samples (BH-5 @ 1.5', BH-6 @ 1', BH-8 @ 1.5', BH-13 @ 6", BH-14 @ 1', and BH-15 @ 1') along with nine (9) additional composite sidewall soil samples (ESW-13 @ 3", ESW-14 @ 1', ESW-15 @ 1', WSW-14 @ 1', WSW-15 @ 1', SSW-13 @ 3", NSW-13 @ 3", NSW-14 @ 1', and NSW-15 @ 1') were collected from the excavated area. Soil samples were submitted to Eurofins and analyzed for BTEX, TPH, and chloride concentrations. A review of laboratory analytical results indicated all collected soil samples were below applicable NMOCD limits and/or laboratory method detection limits. Please reference Figure 2 and Figure 3 for site details and soil sampling locations.

On December 14, 2020, following further excavation activities, two (2) additional composite bottom hole soil samples (Bottom Hole 11 @ 4' and Bottom Hole 16 @ 1.5') and three (3) additional composite sidewall soil samples (ESW-12 @ 3", WSW-16 @ 6", and NSW-16 @ 6") were collected from the excavated area. Soil samples were submitted to Eurofins and analyzed for BTEX, TPH, and chloride concentrations. A review of laboratory analytical results indicated all collected soil samples were below applicable NMOCD limits and/or laboratory method detection limits. Please reference Figure 2 and Figure 3 for site details and soil sampling locations.

On December 23, 2020, following further excavation activities, one (1) additional composite sidewall soil sample (NSW-12 @ 6") was collected from the excavated area. The soil sample was submitted to Eurofins and analyzed for chloride concentrations. A review of laboratory analytical results indicated all collected soil samples were below applicable NMOCD limits and/or laboratory method detection limits.

On January 7, 2021, two (2) composite soil samples were collected from the remediated, excavated stockpiled material (Stockpile A and Stockpile B). Soil samples were submitted to Eurofins and analyzed for BTEX, TPH, and chloride concentrations. A review of laboratory analytical results indicated all collected soil samples were below applicable NMOCD limits and/or laboratory method detection limits.

Table 1 summarizes the Concentrations of Benzene, BTEX, TPH, and Chlorides in Soil. Analytical reports are provided as Appendix B.

BACKFILL ACTIVITIES

January 18th through 21st, 2021, the excavated area was backfilled with the stockpile material and the site was restored and contoured to fit the surrounding area.

SITE CLOSURE REQUEST

Based on the analytical results of confirmation soil samples collected from the excavation, impacted soils were brought to surface and confirmation soil samples below applicable NMOCD regulatory limits. Etech, on behalf of Centennial, respectfully request that the NMOCD District 1 Office grant site closure to the Crazy Wolf Fed COM 1H Release Site (NMOCD Incident ID#: NRM2024537991).

LIMITATIONS

Etech has prepared this Closure Request and Remediation Summary Report to the best of its ability. No other warranty, expressed or implied, is made or intended. Etech has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Etech has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. Etech has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Etech also 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 Centennial Resource Development, Inc. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Etech and/or Centennial Resource Development, Inc.

DISTRIBUTION

- Copy 1: New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 1
1624 N. French Drive
Hobbs, New Mexico 88210
- Copy 2: Jamon Hohensee
Centennial Resource Development, Inc.
500 W. Illinois Avenue Suite 500
Midland, TX 79701
- Copy 3: U.S. Department of the Interior
Bureau of Land Management
2909 West Second Street
Roswell, NM 88201-2019
- Copy 4: Etech Environmental & Safety Solutions, Inc.
P.O. Box 62228
Midland, TX 79711

FIGURES

Figure 1 – Site Location Map

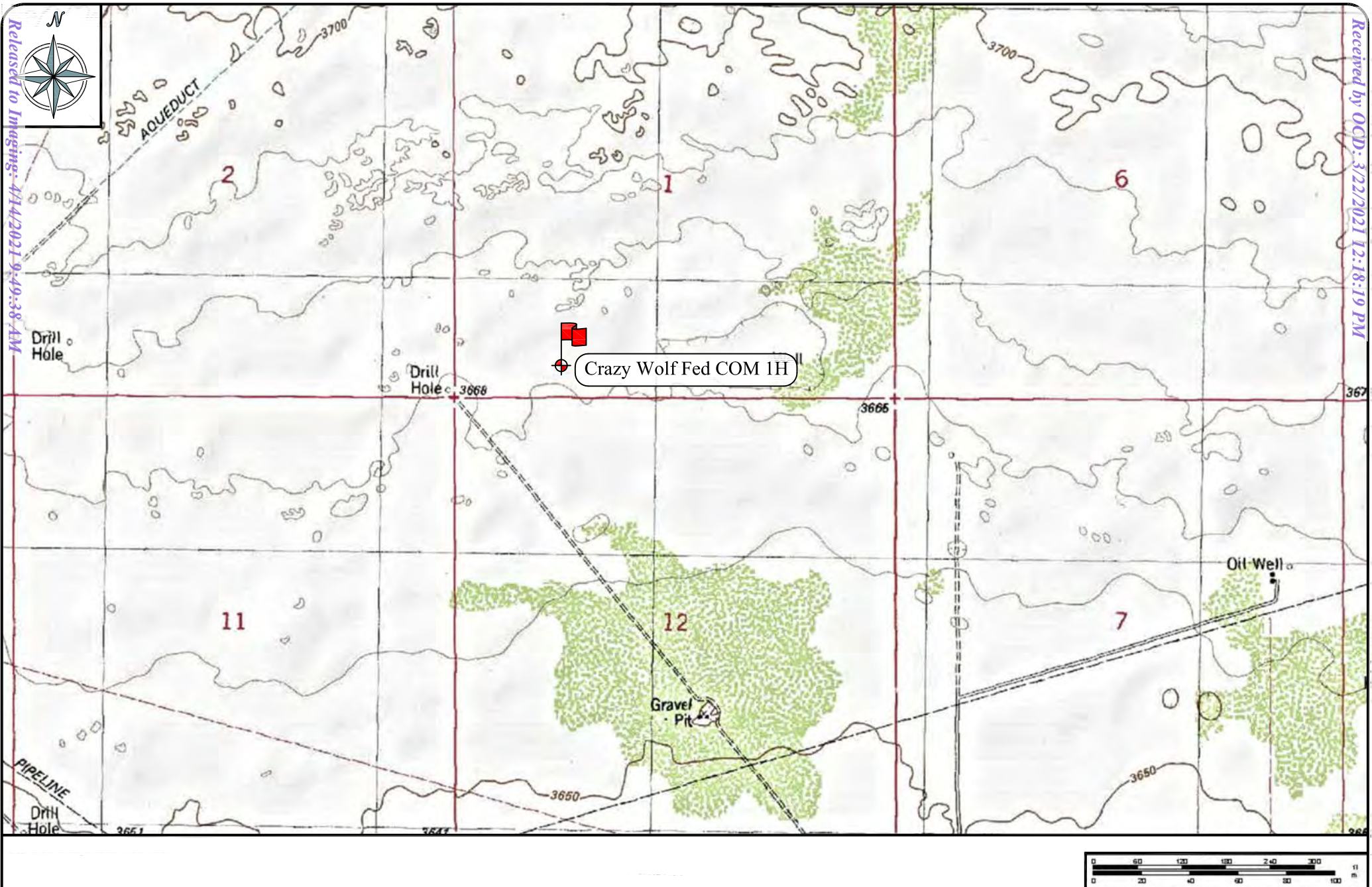
Figure 2 – Confirmation Sample Location Map

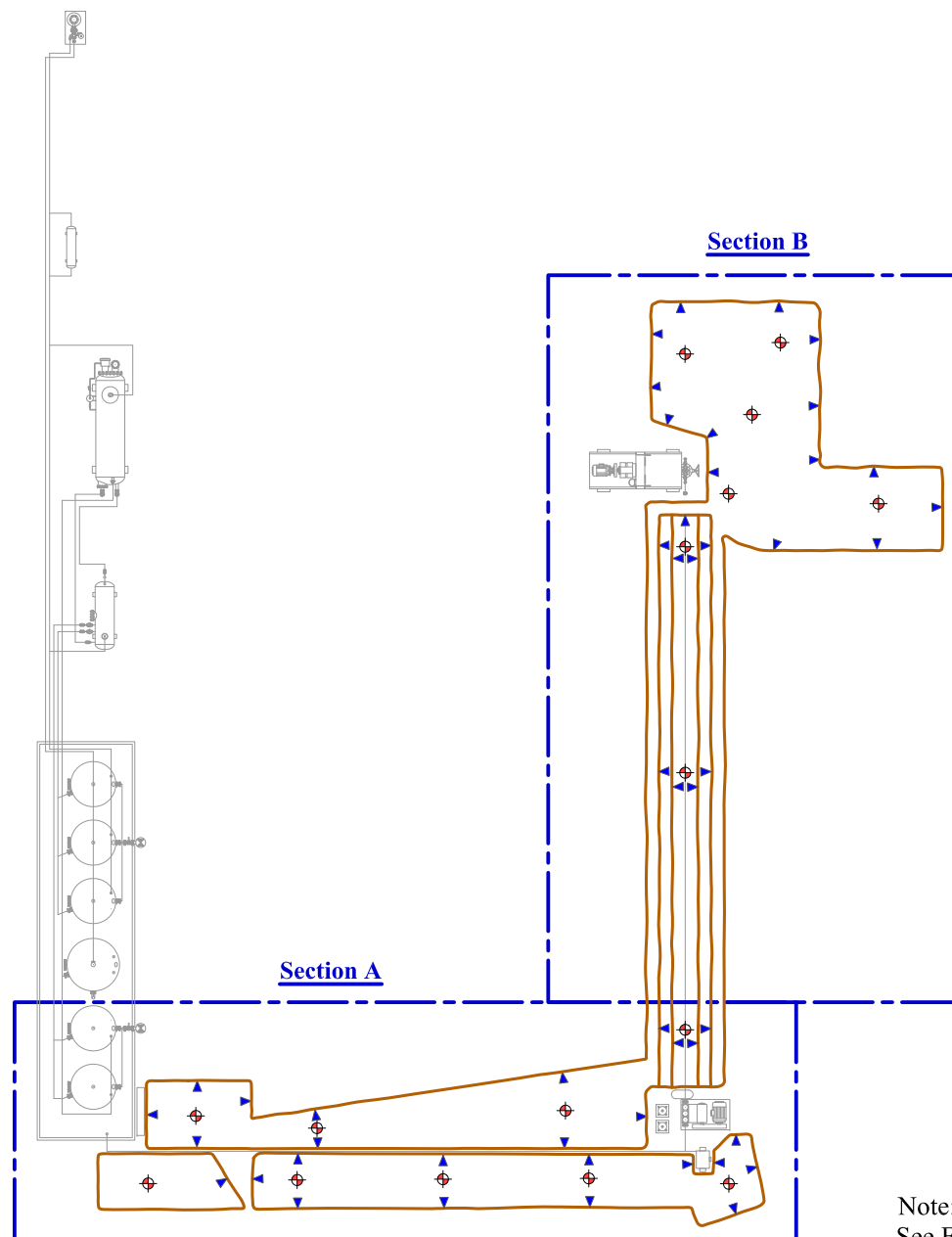
Figure 3 – Section Details

Figure 4 – Soil Boring Log

**Closure Request and Remediation Summary Report
Crazy Wolf Fed COM 1H**







Note:
See Figure 3 for sample point sections & detail

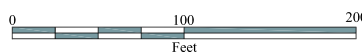
Site - Crazy Wolf Fed COM 1H
Site Details and Confirmation Sample Map
Centennial Resource Development, Inc.
Lea County, NM
N 32.68320°, W 103.72417°
December 16, 2020

Legend

- ◆ = Bottom Hole Sampling Point
- ▲ = Side Wall Sampling Point

— = Excavation Perimeter

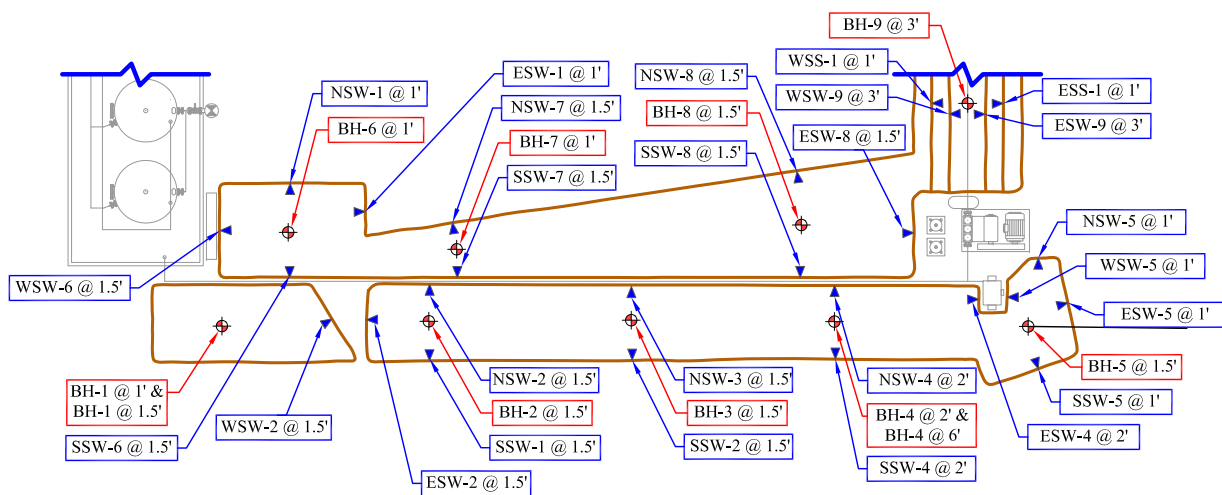
All sample points are approximate



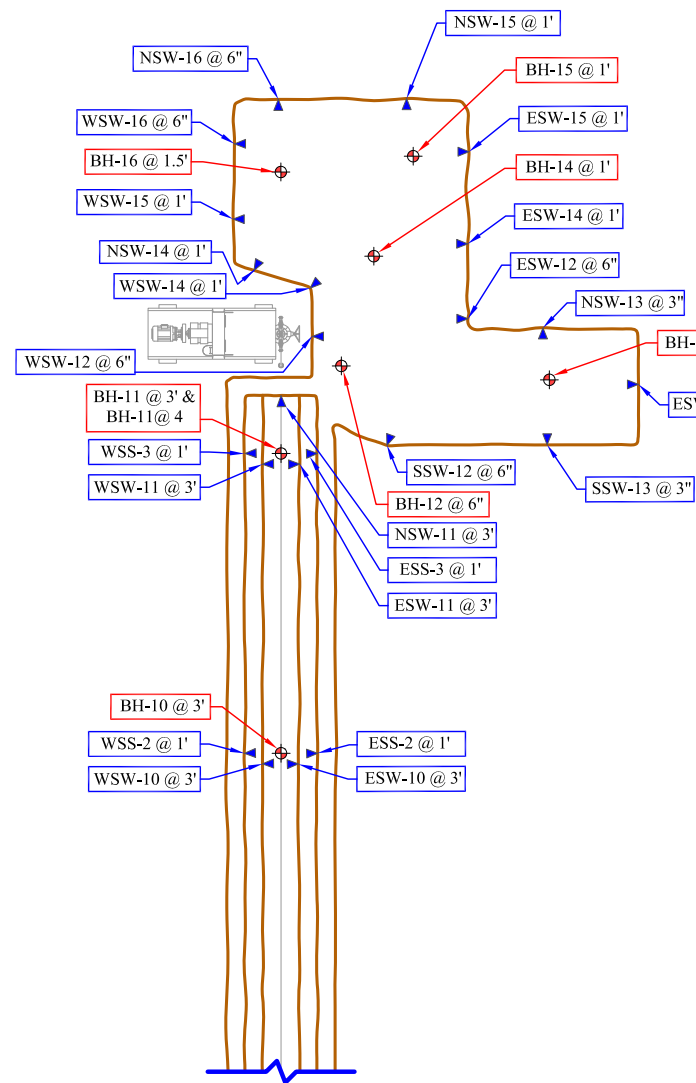
Job No.:

1226-12926

Figure 2



Section A



Section B

Site - Crazy Wolf Fed COM 1H
 Section Details
 Centennial Resource Development, Inc.
 Lea County, NM
 N 32.68320°, W 103.72417°
 December 16, 2020

Legend

- ⊕ = Bottom Hole Sampling Point
- ◀ = Side Wall Sampling Point

— = Excavation Perimeter

All sample points are approximate

No Scale



Job No.:

1226-12926

Figure 3

PROJECT NO. 12184		LOG OF SOIL BORING CW1		Figure 4	
PROJECT NAME: Crazy Wolf Fed COM 1H		DATE DRILLED: 12/1/2020		DATE PLUGGED: 12/4/2020	
CLIENT: Centennial Resource Development, Inc.		LOGGED BY: S. English		APPROVED BY: M. Green	
PROJECT LOCATION: Lea County, NM		LATITUDE/LONGITUDE - WGS84: 32.68353000° -103.72374100°		GROUND SURFACE ELEVATION: 3674 feet MSL	
Depth (ft)	Elevation (ft)	Description	Graphic Log	Well Construction	Additional Data
0	3670	Sand & Clay: Sand: Overall 7.5 YR 6/4 light brown, moderately sorted, medium to fine, subrounded to rounded, quartz. Clay: 7.5 YR 9/1 white, calcareous.	SC1		Hole plugged 12/4/2020. Cuttings backfilled into hole from 100 to 3 feet. Hydrated bentonite from 3 to 0 feet.
5	3665				
10	3660				
15	3655	Sandstone: 5 YR 7/6 reddish yellow to 2.5 YR 8/3 pink, moderately sorted, medium to fine, subrounded to rounded, friable, clay matrix. Matrix: 7.5 YR 9/1 white, calcareous.	Sandstone		
20	3650				
25	3645				
30	3640				No groundwater present in well.
35	3635				
40	3630				
45	3625	Claystone: 2.5 YR 6/4 light reddish brown, hard. Trace sands	Claystone		
50	3620				
55	3615				
60	3610				
65	3605	Sandy clay & Gravel: Sand: multicolored, fine to very fine, moderately sorted, angular to rounded. Clay: 2.5 YR 6/4 light reddish brown, hard. Gravel: poorly sorted, multicolored, pebble to granule.	GC		
70	3600				
75	3595	Sandy Clay: Sand: multicolored, fine to very fine, moderately sorted, angular to rounded. Clay: 2.5 YR 6/4 light reddish brown, hard.	SC		
80	3590	Sandy Clay & Gravel: Sand: multicolored, fine to very fine, moderately sorted, angular to rounded. Clay: 2.5 YR 6/4 light reddish brown, hard. Gravel: poorly sorted, multicolored, pebble to granule.	GC		
85	3585	Sandy Clay: Sand: multicolored, coarse to very fine, poorly sorted, angular to rounded. Clay: 2.5 YR 6/4 light reddish brown, hard.	SC		
90	3580				
95	3575				
100		Boring terminated at 100 feet bgs.			
		Etech Environmental & Safety Solutions P.O. Box 8469 Midland, Texas 79708 www.etechnv.com		DRILLING METHOD: Air Rotary DRILL RIG: Reichdrill CONTRACTOR: Talon LPE OPERATOR: Tom Evans	

TABLES

**Table 1 – Concentrations of Benzene, BTEX, TPH, and Chlorides
in Soil**

**Closure Request and Remediation Summary Report
Crazy Wolf Fed COM 1H**



TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

CENTENNIAL RESOURCE DEVELOPMENT, INC.

CRAZY WOLF FED COM 1H RELEASE SITE

LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8021B						METHOD: SW 8015M					E 300.0
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C ₆ -C ₁₂	TPH DRO C ₁₂ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	CHLORIDE
Limits		10 mg/Kg						50 mg/Kg				2,500 mg/Kg	10,000 mg/Kg
Bottom Hole Sample Results													
BH-1 @ 1'	11/12/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100
BH-1 @ 1.5'	11/13/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	337
BH-2 @ 1.5'	11/11/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17.0
BH-2 @ 1.5'	11/13/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	53.1
BH-3 @ 1.5'	11/11/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	190
BH-3 @ 1.5'	11/13/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	355
BH-4 @ 2'	11/11/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	48.6
BH-4 @ 6'	11/13/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	60.9
BH-5 @ 1.5'	11/13/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	130
BH-5 @ 1.5'	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,380
BH-6 @ 1'	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	462
BH-7 @ 1'	11/12/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	172
BH-8 @ 1.5'	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	97.5
BH-9 @ 3'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,410
BH-10 @ 3'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5,470
BH-11 @ 3'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	86.7	ND	86.7	12,400
Bottom Hole 11 @ 4'	12/14/2020	-	-	-	-	-	-	-	-	-	-	-	204
BH-12 @ 6"	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	104
BH-13 @ 6"	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	148
BH-14 @ 1'	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	658
BH-15 @ 1'	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	458
Bottom Hole 16 @ 1.5'	12/14/2020	0.00497	ND	0.00306	0.00453	0.00539	0.00992	0.01795	ND	ND	ND	ND	1,250

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL
CENTENNIAL RESOURCE DEVELOPMENT, INC.
CRAZY WOLF FED COM 1H RELEASE SITE
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8021B						METHOD: SW 8015M					E 300.0
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C ₆ -C ₁₂	TPH DRO C ₁₂ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	CHLORIDE
Limits		10 mg/Kg						50 mg/Kg				2,500 mg/Kg	10,000 mg/Kg
South Side Wall Sample Results													
SSW-1 @ 1.5'	11/13/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.5
SSW-2 @ 1.5'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22.9
SSW-4 @ 2'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	262
SSW-5 @ 1'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,150
SSW-6 @ 1.5'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7,540
SSW-7 @ 1.5'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,000
SSW-8 @ 1.5'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	208
SSW-12 @ 6"	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,540
SSW-13 @ 3"	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	262
East Side Wall Sample Results													
ESW-1 @ 1'	11/11/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	42.0
ESW-2 @ 1.5'	11/13/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	537
ESW-4 @ 2'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,240
ESW-5 @ 1'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21.9
ESW-8 @ 1.5'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,510
ESW-9 @ 3'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	61.7
ESW-10 @ 3'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,010
ESW-11 @ 3'	11/20/2020	0.0823	0.00918	0.00603	ND	0.00372	0.00372	0.10123	ND	ND	ND	ND	3,100
ESW-12 @ 6"	11/20/2020	0.00290	ND	ND	ND	ND	ND	0.00290	ND	542	321	863	17,700
ESW-12 @ 6"	12/14/2020	-	-	-	-	-	-	-	-	-	-	-	296
ESW-13 @ 3"	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	171

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL
CENTENNIAL RESOURCE DEVELOPMENT, INC.
CRAZY WOLF FED COM 1H RELEASE SITE
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8021B						METHOD: SW 8015M					E 300.0	
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C ₆ -C ₁₂	TPH DRO C ₁₂ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	CHLORIDE	
Limits		10 mg/Kg						50 mg/Kg					2,500 mg/Kg	10,000 mg/Kg
ESW-14 @ 1'	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22.8	
ESW-15 @ 1'	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	423	
West Side Wall Sample Results														
WSW-2 @ 1.5'	11/13/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	26.2	
WSW-5 @ 1'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5,110	
WSW-6 @ 1.5'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9,410	
WSW-9 @ 3'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	39.1	
WSW-10 @ 3'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140	
WSW-11 @ 3'	11/20/2020	0.00264	ND	ND	ND	ND	ND	0.00264	ND	ND	ND	ND	2,620	
WSW-12 @ 6"	11/20/2020	0.00647	0.00205	0.00569	0.00509	0.00368	0.00877	0.02298	ND	ND	ND	ND	2,080	
WSW-14 @ 1'	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	290	
WSW-15 @ 1'	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	822	
WSW-16 @ 6"	12/14/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	144	
North Side Wall Sample Results														
NSW-1 @ 1'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,210	
NSW-2 @ 1.5'	11/13/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	148	
NSW-2 @ 1.5'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	31.7	
NSW-3 @ 1.5'	11/13/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	26.8	
NSW-4 @ 2'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,320	
NSW-5 @ 1'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	124	
NSW-7 @ 1.5'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,630	
NSW-8 @ 1.5'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17.8	

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL
CENTENNIAL RESOURCE DEVELOPMENT, INC.
CRAZY WOLF FED COM 1H RELEASE SITE
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8021B						METHOD: SW 8015M					E 300.0
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C ₆ -C ₁₂	TPH DRO C ₁₂ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	CHLORIDE
Limits		10 mg/Kg						50 mg/Kg				2,500 mg/Kg	10,000 mg/Kg
NSW-11 @ 3'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	68.1	ND	68.1	1,290
NSW-12 @ 6"	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	847	190	1,037	14,800
NSW-12 @ 6"	12/23/2020	-	-	-	-	-	-	-	-	-	-	-	488
NSW-13 @ 3"	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	81.1
NSW-14 @ 1'	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,340
NSW-15 @ 1'	11/24/2020	ND	ND	ND	ND	ND	ND	ND	ND	149	ND	149	2,290
NSW-16 @ 6"	12/14/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	301
Side Wall Bench Sample Results													
ESS-1 @ 1'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.4
ESS-2 @ 1'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	113
ESS-3 @ 1'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	393
WSS-1 @ 1'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.78
WSS-2 @ 1'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.2
WSS-3 @1'	11/20/2020	ND	ND	ND	ND	ND	ND	ND	ND	90.6	ND	90.6	1,650
Stockpile Sample Results													
Stockpile A	1/7/2021	ND	ND	ND	ND	ND	ND	ND	ND	74.2	ND	74.2	2,240
Stockpile B	1/7/2021	ND	ND	ND	ND	ND	ND	ND	ND	82.3	ND	82.3	3,360

Bold and Yellow Highlighted indicates Analyte Above NMOCD Regulatory Limit
ND - Analyte not Detected at or above the Laboratory Method Detection Limit

APPENDIX A

Photographic Documentation

**Closure Request and Remediation Summary Report
Crazy Wolf Fed COM 1H**



Project Name: Crazy Wolf Fed COM 1H
Project No: 12926

Photographic Documentation

Photo No: 1.	
Direction Taken: Northwest	
Description: View of the release area.	

Photo No: 2.	
Direction Taken: North	
Description: View of the release area.	

Project Name: Crazy Wolf Fed COM 1H
Project No: 12926

Photographic Documentation

Project Name: Crazy Wolf Fed COM 1H
Project No: 12926

Photographic Documentation

Project Name: Crazy Wolf Fed COM 1H
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Photographic Documentation

Project Name: Crazy Wolf Fed COM 1H
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Photographic Documentation

Project Name: Crazy Wolf Fed COM 1H
Project No: 12926

Photographic Documentation

APPENDIX B

Laboratory Analytical Reports

**Closure Request and Remediation Summary Report
Crazy Wolf Fed COM 1H**





Certificate of Analysis Summary 678472

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Thu 11.19.2020 14:55
Report Date: 01.29.2021 11:33
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	678472-001	678472-002	678472-003	678472-004	678472-005	
	<i>Field Id:</i>	BH-1 @ 1.5'	BH-2 @ 1.5'	BH-3 @ 1.5'	BH-4 @ 6'	BH-5 @ 1.5'	
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	11.13.2020 11:00	11.13.2020 11:30	11.13.2020 12:00	11.13.2020 14:30	11.13.2020 14:00	
BTEX by EPA 8021B	<i>Extracted:</i>	11.21.2020 07:00	11.21.2020 07:00	11.21.2020 07:00	11.23.2020 14:15	11.23.2020 14:15	
	<i>Analyzed:</i>	11.21.2020 15:19	11.21.2020 15:39	11.21.2020 16:00	11.24.2020 01:08	11.24.2020 01:28	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00199	ND 0.00199	
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00199	ND 0.00199	
Ethylbenzene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00199	ND 0.00199	
m,p-Xylenes		ND 0.00400	ND 0.00400	ND 0.00400	ND 0.00398	ND 0.00398	
o-Xylene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00199	ND 0.00199	
Total Xylenes		ND 0.002000	ND 0.002000	ND 0.002000	ND 0.001990	ND 0.001990	
Total BTEX		ND 0.002000	ND 0.002000	ND 0.002000	ND 0.001990	ND 0.001990	
Chloride by EPA 300	<i>Extracted:</i>	11.20.2020 13:25	11.20.2020 13:25	11.20.2020 13:25	11.20.2020 13:25	11.20.2020 13:25	
	<i>Analyzed:</i>	11.20.2020 20:23	11.20.2020 20:28	11.20.2020 20:33	11.20.2020 20:49	11.20.2020 20:54	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		337 4.95	53.1 5.03	355 4.98	60.9 4.97	130 5.02	
TPH by SW8015 Mod	<i>Extracted:</i>	11.23.2020 10:00	11.23.2020 10:00	11.20.2020 11:00	11.20.2020 11:00	11.20.2020 11:00	
	<i>Analyzed:</i>	11.23.2020 19:54	11.23.2020 20:14	11.20.2020 20:58	11.20.2020 21:18	11.20.2020 21:37	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		ND 50.0	ND 50.0	ND 50.0	ND 49.9	ND 50.0	
Diesel Range Organics (DRO)		ND 50.0	ND 50.0	ND 50.0	ND 49.9	ND 50.0	
Motor Oil Range Hydrocarbons (MRO)		ND 50.0	ND 50.0	ND 50.0	ND 49.9	ND 50.0	
Total TPH		ND 50.00	ND 50.00	ND 50.00	ND 49.90	ND 50.00	

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

Analytical Report 678472

for

Etech Environmental & Safety Solution, Inc

Project Manager: Matthew Green

Crazy Wolf 1H

12926

01.29.2021

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



01.29.2021

Project Manager: **Matthew Green**

Etech Environmental & Safety Solution, Inc

P.O. Box 62228

Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **678472**

Crazy Wolf 1H

Project Address: Lea County, New Mexico

Matthew Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 678472. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 678472 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

**Sample Cross Reference 678472****Etech Environmental & Safety Solution, Inc, Midland, TX**

Crazy Wolf 1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-1 @ 1.5'	S	11.13.2020 11:00		678472-001
BH-2 @ 1.5'	S	11.13.2020 11:30		678472-002
BH-3 @ 1.5'	S	11.13.2020 12:00		678472-003
BH-4 @ 6'	S	11.13.2020 14:30		678472-004
BH-5 @ 1.5'	S	11.13.2020 14:00		678472-005



CASE NARRATIVE

Client Name: Etech Environmental & Safety Solution, Inc

Project Name: Crazy Wolf 1H

Project ID: 12926
Work Order Number(s): 678472

Report Date: 01.29.2021
Date Received: 11.19.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3142956 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 678472-003.

Batch: LBA-3143174 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 678472-002,678472-001.



Certificate of Analytical Results 678472

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-1 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678472-001

Date Collected: 11.13.2020 11:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.20.2020 13:25

% Moisture:

Seq Number: 3143017

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	337	4.95	mg/kg	11.20.2020 20:23		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.23.2020 10:00

% Moisture:

Seq Number: 3143174

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.23.2020 19:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.23.2020 19:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.23.2020 19:54	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.23.2020 19:54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	88	%	70-130	11.23.2020 19:54		
o-Terphenyl	84-15-1	134	%	70-130	11.23.2020 19:54	**	



Certificate of Analytical Results 678472

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-1 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678472-001

Date Collected: 11.13.2020 11:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 07:00

% Moisture:

Seq Number: 3142947

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.21.2020 15:19	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.21.2020 15:19	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.21.2020 15:19	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	11.21.2020 15:19	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.21.2020 15:19	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.21.2020 15:19	U	1
Total BTEX		ND	0.002000	mg/kg	11.21.2020 15:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	11.21.2020 15:19		
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.21.2020 15:19		



Certificate of Analytical Results 678472

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-2 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678472-002

Date Collected: 11.13.2020 11:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.20.2020 13:25

% Moisture:

Seq Number: 3143017

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	53.1	5.03	mg/kg	11.20.2020 20:28		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.23.2020 10:00

% Moisture:

Seq Number: 3143174

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.23.2020 20:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.23.2020 20:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.23.2020 20:14	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.23.2020 20:14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	102	%	70-130	11.23.2020 20:14		
o-Terphenyl	84-15-1	155	%	70-130	11.23.2020 20:14	**	



Certificate of Analytical Results 678472

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-2 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678472-002

Date Collected: 11.13.2020 11:30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 07:00

% Moisture:

Seq Number: 3142947

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.21.2020 15:39	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.21.2020 15:39	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.21.2020 15:39	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	11.21.2020 15:39	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.21.2020 15:39	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.21.2020 15:39	U	1
Total BTEX		ND	0.002000	mg/kg	11.21.2020 15:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	70-130	11.21.2020 15:39	
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.21.2020 15:39	



Certificate of Analytical Results 678472

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-3 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678472-003

Date Collected: 11.13.2020 12:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.20.2020 13:25

% Moisture:

Seq Number: 3143017

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	355	4.98	mg/kg	11.20.2020 20:33		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.20.2020 11:00

% Moisture:

Seq Number: 3142956

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.20.2020 20:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.20.2020 20:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.20.2020 20:58	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.20.2020 20:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	62	%	70-130	11.20.2020 20:58	**	
o-Terphenyl	84-15-1	71	%	70-130	11.20.2020 20:58		



Certificate of Analytical Results 678472

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-3 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678472-003

Date Collected: 11.13.2020 12:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 07:00

% Moisture:

Seq Number: 3142947

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.21.2020 16:00	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.21.2020 16:00	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.21.2020 16:00	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	11.21.2020 16:00	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.21.2020 16:00	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.21.2020 16:00	U	1
Total BTEX		ND	0.002000	mg/kg	11.21.2020 16:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.21.2020 16:00		
4-Bromofluorobenzene	460-00-4	115	%	70-130	11.21.2020 16:00		



Certificate of Analytical Results 678472

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-4 @ 6'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678472-004

Date Collected: 11.13.2020 14:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.20.2020 13:25

% Moisture:

Seq Number: 3143017

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	60.9	4.97	mg/kg	11.20.2020 20:49		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.20.2020 11:00

% Moisture:

Seq Number: 3142956

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.20.2020 21:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.20.2020 21:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.20.2020 21:18	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.20.2020 21:18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	73	%	70-130	11.20.2020 21:18		
o-Terphenyl	84-15-1	87	%	70-130	11.20.2020 21:18		



Certificate of Analytical Results 678472

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-4 @ 6'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678472-004

Date Collected: 11.13.2020 14:30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.23.2020 14:15

% Moisture:

Seq Number: 3143123

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00199	mg/kg	11.24.2020 01:08	U	1
Toluene	108-88-3	ND	0.00199	mg/kg	11.24.2020 01:08	U	1
Ethylbenzene	100-41-4	ND	0.00199	mg/kg	11.24.2020 01:08	U	1
m,p-Xylenes	179601-23-1	ND	0.00398	mg/kg	11.24.2020 01:08	U	1
o-Xylene	95-47-6	ND	0.00199	mg/kg	11.24.2020 01:08	U	1
Total Xylenes	1330-20-7	ND	0.001990	mg/kg	11.24.2020 01:08	U	1
Total BTEX		ND	0.001990	mg/kg	11.24.2020 01:08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.24.2020 01:08		
4-Bromofluorobenzene	460-00-4	113	%	70-130	11.24.2020 01:08		



Certificate of Analytical Results 678472

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-5 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678472-005

Date Collected: 11.13.2020 14:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.20.2020 13:25

% Moisture:

Seq Number: 3143017

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	130	5.02	mg/kg	11.20.2020 20:54		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.20.2020 11:00

% Moisture:

Seq Number: 3142956

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.20.2020 21:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.20.2020 21:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.20.2020 21:37	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.20.2020 21:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	71	%	70-130	11.20.2020 21:37	
o-Terphenyl	84-15-1	82	%	70-130	11.20.2020 21:37	



Certificate of Analytical Results 678472

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-5 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678472-005

Date Collected: 11.13.2020 14:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.23.2020 14:15

% Moisture:

Seq Number: 3143123

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00199	mg/kg	11.24.2020 01:28	U	1
Toluene	108-88-3	ND	0.00199	mg/kg	11.24.2020 01:28	U	1
Ethylbenzene	100-41-4	ND	0.00199	mg/kg	11.24.2020 01:28	U	1
m,p-Xylenes	179601-23-1	ND	0.00398	mg/kg	11.24.2020 01:28	U	1
o-Xylene	95-47-6	ND	0.00199	mg/kg	11.24.2020 01:28	U	1
Total Xylenes	1330-20-7	ND	0.001990	mg/kg	11.24.2020 01:28	U	1
Total BTEX		ND	0.001990	mg/kg	11.24.2020 01:28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.24.2020 01:28		
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.24.2020 01:28		

Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: Chloride by EPA 300

Seq Number: 3143017

MB Sample Id: 7715637-1-BLK

Matrix: Solid

LCS Sample Id: 7715637-1-BKS

Prep Method: E300P

Date Prep: 11.20.2020

LCSD Sample Id: 7715637-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	260	104	259	104	90-110	0	20	mg/kg	11.20.2020 19:09	

Analytical Method: Chloride by EPA 300

Seq Number: 3143017

Parent Sample Id: 678206-003

Matrix: Soil

MS Sample Id: 678206-003 S

Prep Method: E300P

Date Prep: 11.20.2020

MSD Sample Id: 678206-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.63	248	263	103	262	102	90-110	0	20	mg/kg	11.20.2020 19:25	

Analytical Method: Chloride by EPA 300

Seq Number: 3143017

Parent Sample Id: 678472-003

Matrix: Soil

MS Sample Id: 678472-003 S

Prep Method: E300P

Date Prep: 11.20.2020

MSD Sample Id: 678472-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	355	249	605	100	601	99	90-110	1	20	mg/kg	11.20.2020 20:39	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3142956

MB Sample Id: 7715688-1-BLK

Matrix: Solid

LCS Sample Id: 7715688-1-BKS

Prep Method: SW8015P

Date Prep: 11.20.2020

LCSD Sample Id: 7715688-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	853	85	810	81	70-130	5	20	mg/kg	11.20.2020 13:16	
Diesel Range Organics (DRO)	<50.0	1000	848	85	836	84	70-130	1	20	mg/kg	11.20.2020 13:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	72		86		90		70-130	%	11.20.2020 13:16
o-Terphenyl	88		92		95		70-130	%	11.20.2020 13:16

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143174

MB Sample Id: 7715842-1-BLK

Matrix: Solid

LCS Sample Id: 7715842-1-BKS

Prep Method: SW8015P

Date Prep: 11.23.2020

LCSD Sample Id: 7715842-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	919	92	885	89	70-130	4	20	mg/kg	11.23.2020 12:26	
Diesel Range Organics (DRO)	<50.0	1000	994	99	960	96	70-130	3	20	mg/kg	11.23.2020 12:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		127		114		70-130	%	11.23.2020 12:26
o-Terphenyl	100		129		98		70-130	%	11.23.2020 12:26

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3142956

Matrix: Solid

Prep Method: SW8015P

Date Prep: 11.20.2020

MB Sample Id: 7715688-1-BLK

Parameter

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	ND	mg/kg	11.20.2020 12:56	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143174

Matrix: Solid

Prep Method: SW8015P

Date Prep: 11.23.2020

MB Sample Id: 7715842-1-BLK

Parameter

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	ND	mg/kg	11.23.2020 12:07	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3142956

Matrix: Soil

Prep Method: SW8015P

Date Prep: 11.20.2020

Parent Sample Id: 678539-001

MS Sample Id: 678539-001 S

MSD Sample Id: 678539-001 SD

Parameter

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	996	933	94	893	89	70-130	4	20	mg/kg	11.20.2020 14:15	
Diesel Range Organics (DRO)	<49.8	996	1020	102	913	91	70-130	11	20	mg/kg	11.20.2020 14:15	

Surrogate

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		88		70-130	%	11.20.2020 14:15
o-Terphenyl	108		94		70-130	%	11.20.2020 14:15

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143174

Matrix: Soil

Prep Method: SW8015P

Date Prep: 11.23.2020

Parent Sample Id: 678620-041

MS Sample Id: 678620-041 S

MSD Sample Id: 678620-041 SD

Parameter

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	892	89	838	84	70-130	6	20	mg/kg	11.23.2020 13:25	
Diesel Range Organics (DRO)	<49.9	998	905	91	903	91	70-130	0	20	mg/kg	11.23.2020 13:25	

Surrogate

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		104		70-130	%	11.23.2020 13:25
o-Terphenyl	123		120		70-130	%	11.23.2020 13:25

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142947

Matrix: Solid

Prep Method: SW5035A

Date Prep: 11.21.2020

MB Sample Id: 7715712-1-BLK

LCS Sample Id: 7715712-1-BKS

LCSD Sample Id: 7715712-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0932	93	0.0954	95	70-130	2	35	mg/kg	11.21.2020 10:35	
Toluene	<0.00200	0.100	0.0916	92	0.0942	94	70-130	3	35	mg/kg	11.21.2020 10:35	
Ethylbenzene	<0.00200	0.100	0.102	102	0.103	103	70-130	1	35	mg/kg	11.21.2020 10:35	
m,p-Xylenes	<0.00400	0.200	0.206	103	0.209	105	70-130	1	35	mg/kg	11.21.2020 10:35	
o-Xylene	<0.00200	0.100	0.102	102	0.103	103	70-130	1	35	mg/kg	11.21.2020 10:35	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	98		98		99		70-130			%	11.21.2020 10:35	
4-Bromofluorobenzene	113		106		104		70-130			%	11.21.2020 10:35	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143123

Matrix: Solid

Prep Method: SW5035A

Date Prep: 11.23.2020

MB Sample Id: 7715846-1-BLK

LCS Sample Id: 7715846-1-BKS

LCSD Sample Id: 7715846-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0886	89	0.0852	85	70-130	4	35	mg/kg	11.23.2020 16:36	
Toluene	<0.00200	0.100	0.0854	85	0.0823	82	70-130	4	35	mg/kg	11.23.2020 16:36	
Ethylbenzene	<0.00200	0.100	0.0897	90	0.0870	87	70-130	3	35	mg/kg	11.23.2020 16:36	
m,p-Xylenes	<0.00400	0.200	0.176	88	0.171	86	70-130	3	35	mg/kg	11.23.2020 16:36	
o-Xylene	<0.00200	0.100	0.0890	89	0.0863	86	70-130	3	35	mg/kg	11.23.2020 16:36	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	96		101		99		70-130			%	11.23.2020 16:36	
4-Bromofluorobenzene	105		102		98		70-130			%	11.23.2020 16:36	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142947

Matrix: Soil

Prep Method: SW5035A

Date Prep: 11.21.2020

Parent Sample Id: 678441-024

MS Sample Id: 678441-024 S

MSD Sample Id: 678441-024 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0499	50	0.0503	50	70-130	1	35	mg/kg	11.21.2020 11:15	X
Toluene	<0.00200	0.100	0.0538	54	0.0536	54	70-130	0	35	mg/kg	11.21.2020 11:15	X
Ethylbenzene	<0.00200	0.100	0.0653	65	0.0651	65	70-130	0	35	mg/kg	11.21.2020 11:15	X
m,p-Xylenes	<0.00400	0.200	0.124	62	0.124	62	70-130	0	35	mg/kg	11.21.2020 11:15	X
o-Xylene	<0.00200	0.100	0.0676	68	0.0665	67	70-130	2	35	mg/kg	11.21.2020 11:15	X
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene			99		101		70-130			%	11.21.2020 11:15	
4-Bromofluorobenzene			113		114		70-130			%	11.21.2020 11:15	

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc
Crazy Wolf 1H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143123

Matrix: Soil

Prep Method: SW5035A

Date Prep: 11.23.2020

Parent Sample Id: 678620-037

MS Sample Id: 678620-037 S

MSD Sample Id: 678620-037 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0750	75	0.0805	81	70-130	7	35	mg/kg	11.23.2020 17:17	
Toluene	<0.00200	0.0998	0.0815	82	0.0793	79	70-130	3	35	mg/kg	11.23.2020 17:17	
Ethylbenzene	<0.00200	0.0998	0.0935	94	0.0853	85	70-130	9	35	mg/kg	11.23.2020 17:17	
m,p-Xylenes	<0.00399	0.200	0.192	96	0.171	86	70-130	12	35	mg/kg	11.23.2020 17:17	
o-Xylene	<0.00200	0.0998	0.0956	96	0.0854	85	70-130	11	35	mg/kg	11.23.2020 17:17	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		100		70-130	%	11.23.2020 17:17
4-Bromofluorobenzene	120		107		70-130	%	11.23.2020 17:17

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440, El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
 Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
 Atlanta, GA (770) 449-8800

Work Order No:

678472

www.xenco.com Page of

Project Manager:	Matt Green	Bill to: (if different)	
Company Name:	Elech Environmental & Safety Solutions, Inc	Company Name:	Centennial
Address:	PO Box 62228	Address:	
City, State ZIP:	Midland, Texas 79711	City, State ZIP:	
Phone:	432-563-2200	Email:	Matt@elechenv.com

Program: ☐ UST/PSI ☐ PRF ☐ Brownfield ☐ RR ☐ Superfund ☐ State of Project:	
Reporting Level: ☐ Level ☐ PST/US ☐ TRF ☐ Level ☐	Deliverables: EDD ☐ ADAPT ☐ Other: contract

Project Name:	Crazy Wolf 7H	Turn Around	ANALYSIS REQUEST												Preservative Codes				
Project Number:	12926	CONTRACT ☐													HNO ₃ : HN				
Project Location:	Lea County, New Mexico	Rush: ☐													H ₂ SO ₄ : H2				
Sampler's Name:	Matt Green	Due Date:													HCL: HL				
PO #:	AF# or 28# or 105+CC#														None: NO				
SAMPLE RECEIPT	Temp Blank:	Yes ☐ No ☒	Wet Ice:	Yes ☒ No ☐													NaOH: Na		
Temperature (°C):	3.5/4.0	Thermometer ID													MeOH: Me				
Received Intact:	Yes ☒ No ☐	redservices													Zn Acetate + NaOH: Zn				
Cooler Custody Seals:	Yes ☐ No ☒ (N/A)	Correction Factor:													TAT starts the day received by the lab, if received by 4:30pm				
Sample Custody Seals:	Yes ☐ No ☒ (N/A)	Total Containers:													Sample Comments				
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code														
BH-1 @ 1.5'	S	11/13/2020	1100		1	X	X	X	X										
BH-2 @ 1.5'	S	11/13/2020	1130		1	X	X	X	X										
BH-3 @ 1.5'	S	11/13/2020	1200		1	X	X	X	X										
BH-4 @ 6'	S	11/13/2020	1430		1	X	X	X	X										
BH-5 @ 1.5'	S	11/13/2020	1400		1	X	X	X	X										

NORM TAT circle one : 7 day, 5 day, Rush 3 day

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		11/13/2020 14:55	2		
3			4		
5			6		

Revised Date 10/14/19 Rev. 2019.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 11.19.2020 02:55.00 PM

Work Order #: 678472

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 11.19.2020

Checklist reviewed by:



Jessica Kramer

Date: 11.20.2020



Certificate of Analysis Summary 678473

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Thu 11.19.2020 14:55
Report Date: 01.29.2021 11:26
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	678473-001	678473-002	678473-003	678473-004	678473-005	678473-006
	<i>Field Id:</i>	SSW-1 @ 1.5'	BH-1 @ 1'	ESW-1 @ 1'	WSW-2 @ 1.5'	NSW-2 @ 1.5'	ESW-2 @ 1.5'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.13.2020 10:45	11.12.2020 09:00	11.11.2020 09:30	11.13.2020 10:00	11.13.2020 09:15	11.13.2020 09:30
BTEX by EPA 8021B	<i>Extracted:</i>	11.21.2020 07:00	11.21.2020 07:00	11.21.2020 07:00	11.21.2020 07:00	11.21.2020 07:00	11.21.2020 07:00
	<i>Analyzed:</i>	11.21.2020 17:23	11.21.2020 17:43	11.21.2020 18:04	11.21.2020 18:24	11.21.2020 18:44	11.21.2020 19:05
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Ethylbenzene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
m,p-Xylenes		ND 0.00400	ND 0.00400	ND 0.00400	ND 0.00400	ND 0.00400	ND 0.00400
o-Xylene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Total Xylenes		ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000
Total BTEX		ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000
Chloride by EPA 300	<i>Extracted:</i>	11.20.2020 13:25	11.20.2020 13:25	11.20.2020 13:25	11.20.2020 13:25	11.20.2020 13:25	11.20.2020 13:25
	<i>Analyzed:</i>	11.20.2020 21:11	11.20.2020 21:16	11.20.2020 21:21	11.20.2020 21:26	11.20.2020 21:32	11.20.2020 21:37
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		13.5 4.99	100 5.04	42.0 5.00	26.2 5.00	148 5.00	537 5.03
TPH by SW8015 Mod	<i>Extracted:</i>	11.20.2020 11:00	11.20.2020 11:00	11.20.2020 11:00	11.20.2020 11:00	11.20.2020 11:00	11.20.2020 11:00
	<i>Analyzed:</i>	11.20.2020 16:32	11.20.2020 16:52	11.20.2020 17:12	11.20.2020 17:31	11.20.2020 18:40	11.20.2020 18:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		ND 50.0	ND 49.9	ND 50.0	ND 49.8	ND 49.9	ND 50.0
Diesel Range Organics (DRO)		ND 50.0	ND 49.9	ND 50.0	ND 49.8	ND 49.9	ND 50.0
Motor Oil Range Hydrocarbons (MRO)		ND 50.0	ND 49.9	ND 50.0	ND 49.8	ND 49.9	ND 50.0
Total TPH		ND 50.00	ND 49.90	ND 50.00	ND 49.80	ND 49.90	ND 50.00

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer



Certificate of Analysis Summary 678473

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Thu 11.19.2020 14:55
Report Date: 01.29.2021 11:26
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	678473-007	678473-008	678473-009	678473-010	678473-011	
	<i>Field Id:</i>	BH-2 @ 1.5'	BH-3 @ 1.5'	NSW-3 @ 1.5'	BH-4 @ 2'	BH-7 @ 1'	
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	11.11.2020 09:45	11.11.2020 08:30	11.13.2020 10:30	11.11.2020 13:35	11.12.2020 13:00	
BTEX by EPA 8021B	<i>Extracted:</i>	11.21.2020 07:00	11.21.2020 07:00	11.21.2020 07:00	11.21.2020 07:00	11.21.2020 10:00	
	<i>Analyzed:</i>	11.21.2020 19:25	11.21.2020 19:46	11.21.2020 20:06	11.21.2020 20:26	11.22.2020 00:51	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	
Ethylbenzene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	
m,p-Xylenes		ND 0.00400	ND 0.00400	ND 0.00400	ND 0.00400	ND 0.00399	
o-Xylene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	
Total Xylenes		ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000	
Total BTEX		ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000	
Chloride by EPA 300	<i>Extracted:</i>	11.20.2020 13:25	11.23.2020 17:10	11.23.2020 17:10	11.23.2020 17:10	11.23.2020 17:10	
	<i>Analyzed:</i>	11.20.2020 21:42	11.24.2020 05:00	11.24.2020 05:05	11.24.2020 05:22	11.24.2020 05:48	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		17.0 4.98	190 4.99	26.8 5.00	48.6 5.05	172 5.00	
TPH by SW8015 Mod	<i>Extracted:</i>	11.20.2020 11:00	11.20.2020 11:00	11.20.2020 11:00	11.20.2020 11:00	11.20.2020 11:00	
	<i>Analyzed:</i>	11.20.2020 19:19	11.20.2020 19:38	11.20.2020 19:58	11.20.2020 20:18	11.20.2020 20:38	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		ND 50.0	ND 49.9	ND 49.8	ND 50.0	ND 49.9	
Diesel Range Organics (DRO)		ND 50.0	ND 49.9	ND 49.8	ND 50.0	ND 49.9	
Motor Oil Range Hydrocarbons (MRO)		ND 50.0	ND 49.9	ND 49.8	ND 50.0	ND 49.9	
Total TPH		ND 50.00	ND 49.90	ND 49.80	ND 50.00	ND 49.90	

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

Analytical Report 678473

for

Etech Environmental & Safety Solution, Inc

Project Manager: Matthew Green

Crazy Wolf 1H

12926

01.29.2021

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



01.29.2021

Project Manager: **Matthew Green**

Etech Environmental & Safety Solution, Inc

P.O. Box 62228

Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **678473**

Crazy Wolf 1H

Project Address: Lea County, New Mexico

Matthew Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 678473. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 678473 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

**Sample Cross Reference 678473****Etech Environmental & Safety Solution, Inc, Midland, TX**

Crazy Wolf 1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SSW-1 @ 1.5'	S	11.13.2020 10:45		678473-001
BH-1 @ 1'	S	11.12.2020 09:00		678473-002
ESW-1 @ 1'	S	11.11.2020 09:30		678473-003
WSW-2 @ 1.5'	S	11.13.2020 10:00		678473-004
NSW-2 @ 1.5'	S	11.13.2020 09:15		678473-005
ESW-2 @ 1.5'	S	11.13.2020 09:30		678473-006
BH-2 @ 1.5'	S	11.11.2020 09:45		678473-007
BH-3 @ 1.5'	S	11.11.2020 08:30		678473-008
NSW-3 @ 1.5'	S	11.13.2020 10:30		678473-009
BH-4 @ 2'	S	11.11.2020 13:35		678473-010
BH-7 @ 1'	S	11.12.2020 13:00		678473-011

**CASE NARRATIVE****Client Name: Etech Environmental & Safety Solution, Inc****Project Name: Crazy Wolf 1H**

Project ID: 12926
Work Order Number(s): 678473

Report Date: 01.29.2021
Date Received: 11.19.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3142948 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 678021-001 SD.

Batch: LBA-3142956 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 678473-003,678473-011,678473-009.



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: SSW-1 @ 1.5'

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-001

Date Collected: 11.13.2020 10:45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.20.2020 13:25

% Moisture:

Seq Number: 3143017

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.5	4.99	mg/kg	11.20.2020 21:11		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.20.2020 11:00

% Moisture:

Seq Number: 3142956

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.20.2020 16:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.20.2020 16:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.20.2020 16:32	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.20.2020 16:32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	71	%	70-130	11.20.2020 16:32		
o-Terphenyl	84-15-1	82	%	70-130	11.20.2020 16:32		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-1 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-001

Date Collected: 11.13.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 07:00

% Moisture:

Seq Number: 3142947

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.21.2020 17:23	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.21.2020 17:23	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.21.2020 17:23	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	11.21.2020 17:23	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.21.2020 17:23	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.21.2020 17:23	U	1
Total BTEX		ND	0.002000	mg/kg	11.21.2020 17:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.21.2020 17:23	
4-Bromofluorobenzene	460-00-4	115	%	70-130	11.21.2020 17:23	



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-1 @ 1'** Matrix: Soil Date Received: 11.19.2020 14:55
 Lab Sample Id: 678473-002 Date Collected: 11.12.2020 09:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 11.20.2020 13:25 % Moisture:
 Seq Number: 3143017 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	100	5.04	mg/kg	11.20.2020 21:16		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 11.20.2020 11:00 % Moisture:
 Seq Number: 3142956 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.20.2020 16:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.20.2020 16:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.20.2020 16:52	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.20.2020 16:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	78	%	70-130	11.20.2020 16:52		
o-Terphenyl	84-15-1	91	%	70-130	11.20.2020 16:52		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-1 @ 1'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-002

Date Collected: 11.12.2020 09:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 07:00

% Moisture:

Seq Number: 3142947

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.21.2020 17:43	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.21.2020 17:43	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.21.2020 17:43	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	11.21.2020 17:43	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.21.2020 17:43	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.21.2020 17:43	U	1
Total BTEX		ND	0.002000	mg/kg	11.21.2020 17:43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.21.2020 17:43		
4-Bromofluorobenzene	460-00-4	112	%	70-130	11.21.2020 17:43		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-1 @ 1'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-003

Date Collected: 11.11.2020 09:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.20.2020 13:25

% Moisture:

Seq Number: 3143017

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.0	5.00	mg/kg	11.20.2020 21:21		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.20.2020 11:00

% Moisture:

Seq Number: 3142956

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.20.2020 17:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.20.2020 17:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.20.2020 17:12	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.20.2020 17:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	66	%	70-130	11.20.2020 17:12	**
o-Terphenyl	84-15-1	75	%	70-130	11.20.2020 17:12	



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-1 @ 1'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-003

Date Collected: 11.11.2020 09:30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 07:00

% Moisture:

Seq Number: 3142947

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.21.2020 18:04	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.21.2020 18:04	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.21.2020 18:04	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	11.21.2020 18:04	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.21.2020 18:04	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.21.2020 18:04	U	1
Total BTEX		ND	0.002000	mg/kg	11.21.2020 18:04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.21.2020 18:04		
4-Bromofluorobenzene	460-00-4	111	%	70-130	11.21.2020 18:04		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-2 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-004

Date Collected: 11.13.2020 10:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.20.2020 13:25

% Moisture:

Seq Number: 3143017

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.2	5.00	mg/kg	11.20.2020 21:26		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.20.2020 11:00

% Moisture:

Seq Number: 3142956

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.8	mg/kg	11.20.2020 17:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.8	mg/kg	11.20.2020 17:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.8	mg/kg	11.20.2020 17:31	U	1
Total TPH	PHC635	ND	49.80	mg/kg	11.20.2020 17:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	72	%	70-130	11.20.2020 17:31		
o-Terphenyl	84-15-1	81	%	70-130	11.20.2020 17:31		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-2 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-004

Date Collected: 11.13.2020 10:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 07:00

% Moisture:

Seq Number: 3142947

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.21.2020 18:24	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.21.2020 18:24	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.21.2020 18:24	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	11.21.2020 18:24	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.21.2020 18:24	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.21.2020 18:24	U	1
Total BTEX		ND	0.002000	mg/kg	11.21.2020 18:24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	11.21.2020 18:24		
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.21.2020 18:24		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-2 @ 1.5'** Matrix: Soil Date Received: 11.19.2020 14:55
 Lab Sample Id: 678473-005 Date Collected: 11.13.2020 09:15
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 11.20.2020 13:25 % Moisture:
 Seq Number: 3143017 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	148	5.00	mg/kg	11.20.2020 21:32		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 11.20.2020 11:00 % Moisture:
 Seq Number: 3142956 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.20.2020 18:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.20.2020 18:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.20.2020 18:40	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.20.2020 18:40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	77	%	70-130	11.20.2020 18:40		
o-Terphenyl	84-15-1	89	%	70-130	11.20.2020 18:40		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: NSW-2 @ 1.5'

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-005

Date Collected: 11.13.2020 09:15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 07:00

% Moisture:

Seq Number: 3142947

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.21.2020 18:44	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.21.2020 18:44	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.21.2020 18:44	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	11.21.2020 18:44	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.21.2020 18:44	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.21.2020 18:44	U	1
Total BTEX		ND	0.002000	mg/kg	11.21.2020 18:44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.21.2020 18:44		
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.21.2020 18:44		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-2 @ 1.5'** Matrix: Soil Date Received: 11.19.2020 14:55
 Lab Sample Id: 678473-006 Date Collected: 11.13.2020 09:30
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 11.20.2020 13:25 % Moisture:
 Seq Number: 3143017 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	537	5.03	mg/kg	11.20.2020 21:37		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 11.20.2020 11:00 % Moisture:
 Seq Number: 3142956 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.20.2020 18:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.20.2020 18:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.20.2020 18:59	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.20.2020 18:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	75	%	70-130	11.20.2020 18:59		
o-Terphenyl	84-15-1	89	%	70-130	11.20.2020 18:59		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-2 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-006

Date Collected: 11.13.2020 09:30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 07:00

% Moisture:

Seq Number: 3142947

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.21.2020 19:05	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.21.2020 19:05	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.21.2020 19:05	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	11.21.2020 19:05	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.21.2020 19:05	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.21.2020 19:05	U	1
Total BTEX		ND	0.002000	mg/kg	11.21.2020 19:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	11.21.2020 19:05		
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.21.2020 19:05		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-2 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-007

Date Collected: 11.11.2020 09:45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.20.2020 13:25

% Moisture:

Seq Number: 3143017

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.0	4.98	mg/kg	11.20.2020 21:42		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.20.2020 11:00

% Moisture:

Seq Number: 3142956

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.20.2020 19:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.20.2020 19:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.20.2020 19:19	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.20.2020 19:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	74	%	70-130	11.20.2020 19:19		
o-Terphenyl	84-15-1	86	%	70-130	11.20.2020 19:19		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-2 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-007

Date Collected: 11.11.2020 09:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 07:00

% Moisture:

Seq Number: 3142947

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.21.2020 19:25	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.21.2020 19:25	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.21.2020 19:25	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	11.21.2020 19:25	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.21.2020 19:25	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.21.2020 19:25	U	1
Total BTEX		ND	0.002000	mg/kg	11.21.2020 19:25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	11.21.2020 19:25		
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.21.2020 19:25		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-3 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-008

Date Collected: 11.11.2020 08:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.23.2020 17:10

% Moisture:

Seq Number: 3143154

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	190	4.99	mg/kg	11.24.2020 05:00		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.20.2020 11:00

% Moisture:

Seq Number: 3142956

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.20.2020 19:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.20.2020 19:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.20.2020 19:38	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.20.2020 19:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	72	%	70-130	11.20.2020 19:38		
o-Terphenyl	84-15-1	81	%	70-130	11.20.2020 19:38		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-3 @ 1.5'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-008

Date Collected: 11.11.2020 08:30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 07:00

% Moisture:

Seq Number: 3142947

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.21.2020 19:46	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.21.2020 19:46	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.21.2020 19:46	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	11.21.2020 19:46	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.21.2020 19:46	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.21.2020 19:46	U	1
Total BTEX		ND	0.002000	mg/kg	11.21.2020 19:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.21.2020 19:46		
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.21.2020 19:46		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-3 @ 1.5'** Matrix: Soil Date Received: 11.19.2020 14:55
 Lab Sample Id: 678473-009 Date Collected: 11.13.2020 10:30
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 11.23.2020 17:10 % Moisture:
 Seq Number: 3143154 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.8	5.00	mg/kg	11.24.2020 05:05		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 11.20.2020 11:00 % Moisture:
 Seq Number: 3142956 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.8	mg/kg	11.20.2020 19:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.8	mg/kg	11.20.2020 19:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.8	mg/kg	11.20.2020 19:58	U	1
Total TPH	PHC635	ND	49.80	mg/kg	11.20.2020 19:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	65	%	70-130	11.20.2020 19:58	**	
o-Terphenyl	84-15-1	72	%	70-130	11.20.2020 19:58		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: NSW-3 @ 1.5'

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-009

Date Collected: 11.13.2020 10:30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 07:00

% Moisture:

Seq Number: 3142947

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.21.2020 20:06	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.21.2020 20:06	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.21.2020 20:06	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	11.21.2020 20:06	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.21.2020 20:06	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.21.2020 20:06	U	1
Total BTEX		ND	0.002000	mg/kg	11.21.2020 20:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.21.2020 20:06		
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.21.2020 20:06		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-4 @ 2'** Matrix: Soil Date Received: 11.19.2020 14:55
 Lab Sample Id: 678473-010 Date Collected: 11.11.2020 13:35
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 11.23.2020 17:10 % Moisture:
 Seq Number: 3143154 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	48.6	5.05	mg/kg	11.24.2020 05:22		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 11.20.2020 11:00 % Moisture:
 Seq Number: 3142956 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.20.2020 20:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.20.2020 20:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.20.2020 20:18	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.20.2020 20:18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	74	%	70-130	11.20.2020 20:18		
o-Terphenyl	84-15-1	84	%	70-130	11.20.2020 20:18		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-4 @ 2'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-010

Date Collected: 11.11.2020 13:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 07:00

% Moisture:

Seq Number: 3142947

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.21.2020 20:26	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.21.2020 20:26	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.21.2020 20:26	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	11.21.2020 20:26	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.21.2020 20:26	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.21.2020 20:26	U	1
Total BTEX		ND	0.002000	mg/kg	11.21.2020 20:26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.21.2020 20:26		
4-Bromofluorobenzene	460-00-4	115	%	70-130	11.21.2020 20:26		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-7 @ 1'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-011

Date Collected: 11.12.2020 13:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 11.23.2020 17:10

% Moisture:

Seq Number: 3143154

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	172	5.00	mg/kg	11.24.2020 05:48		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 11.20.2020 11:00

% Moisture:

Seq Number: 3142956

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.20.2020 20:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.20.2020 20:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.20.2020 20:38	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.20.2020 20:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	66	%	70-130	11.20.2020 20:38	**	
o-Terphenyl	84-15-1	76	%	70-130	11.20.2020 20:38		



Certificate of Analytical Results 678473

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-7 @ 1'**

Matrix: Soil

Date Received: 11.19.2020 14:55

Lab Sample Id: 678473-011

Date Collected: 11.12.2020 13:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 11.21.2020 10:00

% Moisture:

Seq Number: 3142948

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	11.22.2020 00:51	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	11.22.2020 00:51	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	11.22.2020 00:51	U	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	11.22.2020 00:51	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	11.22.2020 00:51	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	11.22.2020 00:51	U	1
Total BTEX		ND	0.002000	mg/kg	11.22.2020 00:51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.22.2020 00:51		
4-Bromofluorobenzene	460-00-4	116	%	70-130	11.22.2020 00:51		

Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: Chloride by EPA 300

Seq Number: 3143017

Matrix: Solid

Prep Method: E300P

Date Prep: 11.20.2020

MB Sample Id: 7715637-1-BLK

LCS Sample Id: 7715637-1-BKS

LCSD Sample Id: 7715637-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	260	104	259	104	90-110	0	20	mg/kg	11.20.2020 19:09	

Analytical Method: Chloride by EPA 300

Seq Number: 3143154

Matrix: Solid

Prep Method: E300P

Date Prep: 11.23.2020

MB Sample Id: 7715841-1-BLK

LCS Sample Id: 7715841-1-BKS

LCSD Sample Id: 7715841-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	262	105	262	105	90-110	0	20	mg/kg	11.24.2020 04:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3143017

Matrix: Soil

Prep Method: E300P

Date Prep: 11.20.2020

Parent Sample Id: 678206-003

MS Sample Id: 678206-003 S

MSD Sample Id: 678206-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.63	248	263	103	262	102	90-110	0	20	mg/kg	11.20.2020 19:25	

Analytical Method: Chloride by EPA 300

Seq Number: 3143017

Matrix: Soil

Prep Method: E300P

Date Prep: 11.20.2020

Parent Sample Id: 678472-003

MS Sample Id: 678472-003 S

MSD Sample Id: 678472-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	355	249	605	100	601	99	90-110	1	20	mg/kg	11.20.2020 20:39	

Analytical Method: Chloride by EPA 300

Seq Number: 3143154

Matrix: Soil

Prep Method: E300P

Date Prep: 11.23.2020

Parent Sample Id: 678473-011

MS Sample Id: 678473-011 S

MSD Sample Id: 678473-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	172	250	444	109	444	109	90-110	0	20	mg/kg	11.24.2020 05:53	

Analytical Method: Chloride by EPA 300

Seq Number: 3143154

Matrix: Soil

Prep Method: E300P

Date Prep: 11.23.2020

Parent Sample Id: 678792-029

MS Sample Id: 678792-029 S

MSD Sample Id: 678792-029 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	49.3	250	309	104	309	104	90-110	0	20	mg/kg	11.24.2020 04:39	

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3142956

Matrix: Solid

Prep Method: SW8015P

Date Prep: 11.20.2020

MB Sample Id: 7715688-1-BLK

LCS Sample Id: 7715688-1-BKS

LCSD Sample Id: 7715688-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	853	85	810	81	70-130	5	20	mg/kg	11.20.2020 13:16	
Diesel Range Organics (DRO)	<50.0	1000	848	85	836	84	70-130	1	20	mg/kg	11.20.2020 13:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	72		86		90		70-130	%	11.20.2020 13:16
o-Terphenyl	88		92		95		70-130	%	11.20.2020 13:16

Analytical Method: TPH by SW8015 Mod

Seq Number: 3142956

Matrix: Solid

Prep Method: SW8015P

Date Prep: 11.20.2020

MB Sample Id: 7715688-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	ND	mg/kg	11.20.2020 12:56	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3142956

Matrix: Soil

Prep Method: SW8015P

Date Prep: 11.20.2020

Parent Sample Id: 678539-001

MS Sample Id: 678539-001 S

MSD Sample Id: 678539-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	996	933	94	893	89	70-130	4	20	mg/kg	11.20.2020 14:15	
Diesel Range Organics (DRO)	<49.8	996	1020	102	913	91	70-130	11	20	mg/kg	11.20.2020 14:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		88		70-130	%	11.20.2020 14:15
o-Terphenyl	108		94		70-130	%	11.20.2020 14:15

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142947

Matrix: Solid

Prep Method: SW5035A

Date Prep: 11.21.2020

MB Sample Id: 7715712-1-BLK

LCS Sample Id: 7715712-1-BKS

LCSD Sample Id: 7715712-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0932	93	0.0954	95	70-130	2	35	mg/kg	11.21.2020 10:35	
Toluene	<0.00200	0.100	0.0916	92	0.0942	94	70-130	3	35	mg/kg	11.21.2020 10:35	
Ethylbenzene	<0.00200	0.100	0.102	102	0.103	103	70-130	1	35	mg/kg	11.21.2020 10:35	
m,p-Xylenes	<0.00400	0.200	0.206	103	0.209	105	70-130	1	35	mg/kg	11.21.2020 10:35	
o-Xylene	<0.00200	0.100	0.102	102	0.103	103	70-130	1	35	mg/kg	11.21.2020 10:35	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		98		99		70-130	%	11.21.2020 10:35
4-Bromofluorobenzene	113		106		104		70-130	%	11.21.2020 10:35

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

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142948

Matrix: Solid

Prep Method: SW5035A

Date Prep: 11.21.2020

MB Sample Id: 7715713-1-BLK

LCS Sample Id: 7715713-1-BKS

LCSD Sample Id: 7715713-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0866	87	0.0887	89	70-130	2	35	mg/kg	11.21.2020 21:28	
Toluene	<0.00200	0.100	0.0846	85	0.0875	88	70-130	3	35	mg/kg	11.21.2020 21:28	
Ethylbenzene	<0.00200	0.100	0.0929	93	0.0952	95	70-130	2	35	mg/kg	11.21.2020 21:28	
m,p-Xylenes	<0.00400	0.200	0.184	92	0.190	95	70-130	3	35	mg/kg	11.21.2020 21:28	
o-Xylene	<0.00200	0.100	0.0927	93	0.0955	96	70-130	3	35	mg/kg	11.21.2020 21:28	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		99		99		70-130	%	11.21.2020 21:28
4-Bromofluorobenzene	112		109		110		70-130	%	11.21.2020 21:28

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142947

Matrix: Soil

Prep Method: SW5035A

Date Prep: 11.21.2020

Parent Sample Id: 678441-024

MS Sample Id: 678441-024 S

MSD Sample Id: 678441-024 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0499	50	0.0503	50	70-130	1	35	mg/kg	11.21.2020 11:15	X
Toluene	<0.00200	0.100	0.0538	54	0.0536	54	70-130	0	35	mg/kg	11.21.2020 11:15	X
Ethylbenzene	<0.00200	0.100	0.0653	65	0.0651	65	70-130	0	35	mg/kg	11.21.2020 11:15	X
m,p-Xylenes	<0.00400	0.200	0.124	62	0.124	62	70-130	0	35	mg/kg	11.21.2020 11:15	X
o-Xylene	<0.00200	0.100	0.0676	68	0.0665	67	70-130	2	35	mg/kg	11.21.2020 11:15	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		101		70-130	%	11.21.2020 11:15
4-Bromofluorobenzene	113		114		70-130	%	11.21.2020 11:15

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142948

Matrix: Soil

Prep Method: SW5035A

Date Prep: 11.21.2020

Parent Sample Id: 678021-001

MS Sample Id: 678021-001 S

MSD Sample Id: 678021-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0596	60	0.0434	43	70-130	31	35	mg/kg	11.21.2020 22:09	X
Toluene	<0.00199	0.0996	0.0480	48	0.0332	33	70-130	36	35	mg/kg	11.21.2020 22:09	XF
Ethylbenzene	<0.00199	0.0996	0.0430	43	0.0273	27	70-130	45	35	mg/kg	11.21.2020 22:09	XF
m,p-Xylenes	<0.00398	0.199	0.0821	41	0.0526	26	70-130	44	35	mg/kg	11.21.2020 22:09	XF
o-Xylene	<0.00199	0.0996	0.0360	36	0.0397	40	70-130	10	35	mg/kg	11.21.2020 22:09	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		95		70-130	%	11.21.2020 22:09
4-Bromofluorobenzene	128		132	**	70-130	%	11.21.2020 22:09

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
Midland, TX (432) 392-5440, El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 782-7550, Carlsbad, NM (505) 988-3199, Phoenix, AZ (480) 555-0900
Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 889-6701
Atlanta, GA (770) 449-8800

Work Order No: 678473

Project Manager:		Matt Green	Bill to: (if different)	
Company Name:		Etech Environmental & Safety Solutions, Inc	Company Name:	Centennial
Address:		PO Box 62228	Address:	
City, State ZIP:		Midland, Texas 79711	City, State ZIP:	
Phone:		432-563-2200	Email:	Matt@etechenv.com

Work Order Comments				
Program: UST/PST ☐ PRF ☐ Brownfield ☐ RR ☒ Superfund ☐				
State of Project:				
Reporting Level ☐ Level ☐ PST/US ☐ TRF ☐ Level ☐				
Deliverables: EDD ☐ ADAPT ☐ Other: contract				

Project Name:	Crazy Wolf 1H		Turn Around		ANALYSIS REQUEST										Preservative Codes		
Project Number:	12926		CONTRACT ☐														HN03: HN
Project Location	Lea County, New Mexico		Rush: ☐														H2S04: H2
Sampler's Name:	Matt Green		Due Date:														HCL: HL
PO #:	A-2726-01-0816 or LOE-400#																None: NO
SAMPLE RECEIPT			Temp Blank:	Yes ☒ No ☐	Wet Loc: ☒ (Yes) ☐ No ☐												NaOH: Na
Temperature (°C):	3.5/4.0				Thermometer ID												MeOH: Me
Received intact:	☒ Yes ☐ No				red/services												Zn Acetate+ NaOH: Zn
Cooler Custody Seals:	Yes ☒ No ☐ N/A		Correction Factor:														
Sample Custody Seals:	Yes ☐ No ☒ N/A		Total Containers:														
Number of Containers/Preservative																	
					15M												
					21B												
					E300												
TAT starts the day received by the lab, if received by 4:30pm																	

[illegible]

NORM TAT circle one : 7 day, 5 day, Rush 3 day,

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xencro, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xencro will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xencro. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xencro, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		11/19/2020 14:55			



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 302-0300, San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440, El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 382-7550, Carlsbad, NM (505) 988-3199, Phoenix, AZ (480) 335-0900
Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 889-6707
Atlanta, GA (770) 449-8800

Work Order No: 678473

www.xenco.com Page 2 of 2

Project Manager:		Matt Green	Bill to: (if different)	
Company Name:		Etech Environmental & Safety Solutions, Inc	Company Name:	Centennial
Address:		PO Box 62228	Address:	
City, State ZIP:		Midland, Texas 79711	City, State ZIP:	
Phone:		432-563-2200	Email:	Matt@etechnv.com

Work Order Comments	
Program: UST/PST ☐ PRF ☐ Brownfield ☐ RRd ☒ Superfund ☐	
State of Project:	
Reporting Level ☐ Level ☐ PST/US ☐ TRF ☐ Level ☐	
Deliverables: EDD ☐ ADAPT ☐ Other: contract	

[illegible][illegible]

NORM TAT circle one : 7 day, 5 day, Rush 3 day

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xorco. Its affiliates and subcontractors. It assigns standard terms and conditions of service. Xorco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xorco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xorco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 		11/19/2020 14:55	2		
3			4		
5			6		

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 11.19.2020 02:55.00 PM

Work Order #: 678473

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 11.19.2020

Checklist reviewed by:



Jessica Kramer

Date: 11.20.2020



Certificate of Analysis Summary 678987

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Tue 11.24.2020 16:37
Report Date: 01.29.2021 11:31
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	678987-001	678987-002	678987-003	678987-004	678987-005	678987-006
	<i>Field Id:</i>	ESS-1 @ 1'	ESS-2 @ 1'	ESS-3 @ 1'	WSS-1 @ 1'	WSS-2 @ 1'	WSS-3 @ 1'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.20.2020 08:00	11.20.2020 08:05	11.20.2020 08:10	11.20.2020 08:15	11.20.2020 08:20	11.20.2020 08:25
BTEX by EPA 8021B	<i>Extracted:</i>	12.01.2020 12:00	12.01.2020 17:00	12.01.2020 17:00	12.01.2020 17:00	11.30.2020 08:00	12.02.2020 16:00
	<i>Analyzed:</i>	12.02.2020 08:08	12.02.2020 05:53	12.02.2020 06:14	12.02.2020 06:34	12.01.2020 05:57	12.02.2020 20:24
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00200	ND 0.00200	ND 0.00199	ND 0.00200	ND 0.00200	ND 0.00200
Toluene		ND 0.00200	ND 0.00200	ND 0.00199	ND 0.00200	ND 0.00200	ND 0.00200
Ethylbenzene		ND 0.00200	ND 0.00200	ND 0.00199	ND 0.00200	ND 0.00200	ND 0.00200
m,p-Xylenes		ND 0.00400	ND 0.00399	ND 0.00398	ND 0.00399	ND 0.00399	ND 0.00400
o-Xylene		ND 0.00200	ND 0.00200	ND 0.00199	ND 0.00200	ND 0.00200	ND 0.00200
Total Xylenes		ND 0.002000	ND 0.002000	ND 0.001990	ND 0.002000	ND 0.002000	ND 0.002000
Total BTEX		ND 0.002000	ND 0.002000	ND 0.001990	ND 0.002000	ND 0.002000	ND 0.002000
Chloride by EPA 300	<i>Extracted:</i>	11.25.2020 11:30	11.25.2020 14:25	11.25.2020 14:25	11.25.2020 14:25	11.25.2020 14:25	11.25.2020 14:25
	<i>Analyzed:</i>	11.25.2020 19:33	11.25.2020 14:52	11.25.2020 15:14	11.25.2020 15:21	11.25.2020 15:29	11.25.2020 15:36
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		12.4 5.00	113 5.04	393 4.98	6.78 4.98	10.2 4.98	1650 24.8
TPH by SW8015 Mod	<i>Extracted:</i>	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00
	<i>Analyzed:</i>	11.26.2020 21:22	11.26.2020 22:30	11.26.2020 22:52	11.26.2020 23:15	11.26.2020 23:38	11.27.2020 00:00
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		ND 49.9	ND 49.9	ND 50.0	ND 49.9	ND 50.0	ND 50.0
Diesel Range Organics (DRO)		ND 49.9	ND 49.9	ND 50.0	ND 49.9	ND 50.0	90.6 50.0
Motor Oil Range Hydrocarbons (MRO)		ND 49.9	ND 49.9	ND 50.0	ND 49.9	ND 50.0	ND 50.0
Total TPH		ND 49.90	ND 49.90	ND 50.00	ND 49.90	ND 50.00	90.60 50.00

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

Certificate of Analysis Summary 678987

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Tue 11.24.2020 16:37
Report Date: 01.29.2021 11:31
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	678987-007	678987-008	678987-009	678987-010	678987-011	678987-012
	<i>Field Id:</i>	NSW-1 @ 1'	NSW-2 @ 1.5'	SSW-2 @ 1.5'	NSW-4 @ 2'	SSW-4 @ 2'	ESW-4 @ 2'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.20.2020 08:30	11.20.2020 08:35	11.20.2020 08:40	11.20.2020 08:45	11.20.2020 08:50	11.20.2020 08:55
BTEX by EPA 8021B	<i>Extracted:</i>	12.03.2020 15:00	12.01.2020 17:00	12.01.2020 17:00	12.01.2020 17:00	12.02.2020 16:00	12.01.2020 17:00
	<i>Analyzed:</i>	12.03.2020 18:58	12.02.2020 07:15	12.02.2020 07:35	12.02.2020 07:56	12.02.2020 18:42	12.02.2020 08:37
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00198	ND 0.00200	ND 0.00201	ND 0.00201	ND 0.00200	ND 0.00198
Toluene		ND 0.00198	ND 0.00200	ND 0.00201	ND 0.00201	ND 0.00200	ND 0.00198
Ethylbenzene		ND 0.00198	ND 0.00200	ND 0.00201	ND 0.00201	ND 0.00200	ND 0.00198
m,p-Xylenes		ND 0.00397	ND 0.00401	ND 0.00402	ND 0.00402	ND 0.00400	ND 0.00397
o-Xylene		ND 0.00198	ND 0.00200	ND 0.00201	ND 0.00201	ND 0.00200	ND 0.00198
Total Xylenes		ND 0.001980	ND 0.002000	ND 0.002010	ND 0.002010	ND 0.002000	ND 0.001980
Total BTEX		ND 0.001980	ND 0.002000	ND 0.002010	ND 0.002010	ND 0.002000	ND 0.001980
Chloride by EPA 300	<i>Extracted:</i>	11.25.2020 14:25	11.25.2020 14:25	11.25.2020 14:25	11.25.2020 14:25	11.25.2020 14:25	11.25.2020 14:25
	<i>Analyzed:</i>	11.25.2020 15:58	11.25.2020 16:05	11.25.2020 16:13	11.25.2020 16:20	11.25.2020 16:27	11.25.2020 18:10
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1210 5.00	31.7 5.01	22.9 5.05	4320 25.0	262 4.97	2240 24.8
TPH by SW8015 Mod	<i>Extracted:</i>	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00
	<i>Analyzed:</i>	11.27.2020 00:23	11.27.2020 00:46	11.27.2020 01:09	11.27.2020 01:31	11.27.2020 02:16	11.27.2020 02:39
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		ND 50.0	ND 49.8	ND 49.9	ND 49.8	ND 49.9	ND 50.0
Diesel Range Organics (DRO)		ND 50.0	ND 49.8	ND 49.9	ND 49.8	ND 49.9	ND 50.0
Motor Oil Range Hydrocarbons (MRO)		ND 50.0	ND 49.8	ND 49.9	ND 49.8	ND 49.9	ND 50.0
Total TPH		ND 50.00	ND 49.80	ND 49.90	ND 49.80	ND 49.90	ND 50.00

BRL - Below Reporting Limit

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Certificate of Analysis Summary 678987

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Tue 11.24.2020 16:37
Report Date: 01.29.2021 11:31
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	678987-013	678987-014	678987-015	678987-016	678987-017	678987-018
	<i>Field Id:</i>	NSW-5 @ 1'	SSW-5 @ 1'	ESW-5 @ 1'	WSW-5 @ 1'	SSW-6 @ 1.5'	WSW-6 @ 1.5'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.20.2020 09:00	11.20.2020 09:05	11.20.2020 09:10	11.20.2020 09:15	11.20.2020 09:20	11.20.2020 09:25
BTEX by EPA 8021B	<i>Extracted:</i>	12.01.2020 17:00	12.02.2020 08:00	12.02.2020 08:00	12.02.2020 08:00	12.02.2020 08:00	12.02.2020 16:00
	<i>Analyzed:</i>	12.02.2020 05:33	12.02.2020 19:58	12.02.2020 20:19	12.02.2020 20:39	12.02.2020 21:00	12.02.2020 18:21
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Ethylbenzene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
m,p-Xylenes		ND 0.00399	ND 0.00400	ND 0.00400	ND 0.00400	ND 0.00400	ND 0.00399
o-Xylene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Total Xylenes		ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000
Total BTEX		ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000	ND 0.002000
Chloride by EPA 300	<i>Extracted:</i>	11.25.2020 09:56	11.25.2020 09:56	11.25.2020 09:56	11.25.2020 09:56	11.25.2020 09:56	11.25.2020 09:56
	<i>Analyzed:</i>	11.30.2020 13:43	11.30.2020 13:59	11.30.2020 14:04	11.30.2020 14:09	11.30.2020 14:15	11.30.2020 14:30
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		124 4.99	4150 24.9	21.9 4.98	5110 50.4	7540 50.5	9410 101
TPH by SW8015 Mod	<i>Extracted:</i>	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00
	<i>Analyzed:</i>	11.27.2020 03:02	11.27.2020 03:24	11.27.2020 03:47	11.27.2020 04:10	11.27.2020 04:32	11.27.2020 04:55
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		ND 49.9	ND 50.0	ND 50.0	ND 49.8	ND 50.0	ND 50.0
Diesel Range Organics (DRO)		ND 49.9	ND 50.0	ND 50.0	ND 49.8	ND 50.0	ND 50.0
Motor Oil Range Hydrocarbons (MRO)		ND 49.9	ND 50.0	ND 50.0	ND 49.8	ND 50.0	ND 50.0
Total TPH		ND 49.90	ND 50.00	ND 50.00	ND 49.80	ND 50.00	ND 50.00

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Certificate of Analysis Summary 678987

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Tue 11.24.2020 16:37
Report Date: 01.29.2021 11:31
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	678987-019	678987-020	678987-021	678987-022	678987-023	678987-024
	<i>Field Id:</i>	NSW-7 @ 1.5'	SSW-7 @ 1.5'	NSW-8@ 1.5'	SSW-8 @ 1.5'	ESW-8 @ 1.5'	BH-9 @ 3'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.20.2020 09:30	11.20.2020 09:35	11.20.2020 09:40	11.20.2020 09:45	11.20.2020 09:50	11.20.2020 09:55
BTEX by EPA 8021B	<i>Extracted:</i>	12.02.2020 08:00	12.03.2020 17:00	12.02.2020 16:00	12.02.2020 16:00	12.02.2020 16:00	12.03.2020 15:00
	<i>Analyzed:</i>	12.02.2020 21:21	12.04.2020 07:14	12.02.2020 19:23	12.02.2020 19:43	12.02.2020 20:04	12.03.2020 19:19
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00200	ND 0.00202	ND 0.00200	ND 0.00201	ND 0.00201	ND 0.00199
Toluene		ND 0.00200	ND 0.00202	ND 0.00200	ND 0.00201	ND 0.00201	ND 0.00199
Ethylbenzene		ND 0.00200	ND 0.00202	ND 0.00200	ND 0.00201	ND 0.00201	ND 0.00199
m,p-Xylenes		ND 0.00400	ND 0.00403	ND 0.00401	ND 0.00402	ND 0.00402	ND 0.00398
o-Xylene		ND 0.00200	ND 0.00202	ND 0.00200	ND 0.00201	ND 0.00201	ND 0.00199
Total Xylenes		ND 0.002000	ND 0.002020	ND 0.002000	ND 0.002010	ND 0.002010	ND 0.001990
Total BTEX		ND 0.002000	ND 0.002020	ND 0.002000	ND 0.002010	ND 0.002010	ND 0.001990
Chloride by EPA 300	<i>Extracted:</i>	11.25.2020 09:56	11.25.2020 09:56	11.25.2020 09:56	11.25.2020 09:56	11.25.2020 09:56	11.25.2020 09:56
	<i>Analyzed:</i>	11.30.2020 14:36	11.30.2020 14:41	11.30.2020 14:46	11.30.2020 14:51	11.30.2020 14:57	11.30.2020 15:13
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		3630 25.3	1000 4.98	17.8 5.00	208 4.99	1510 25.0	3410 25.0
TPH by SW8015 Mod	<i>Extracted:</i>	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00
	<i>Analyzed:</i>	11.27.2020 05:18	11.27.2020 05:40	11.26.2020 21:22	11.26.2020 22:30	11.26.2020 22:52	11.26.2020 23:15
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		ND 49.9	ND 49.9	ND 50.0	ND 49.8	ND 49.9	ND 50.0
Diesel Range Organics (DRO)		ND 49.9	ND 49.9	ND 50.0	ND 49.8	ND 49.9	ND 50.0
Motor Oil Range Hydrocarbons (MRO)		ND 49.9	ND 49.9	ND 50.0	ND 49.8	ND 49.9	ND 50.0
Total TPH		ND 49.90	ND 49.90	ND 50.00	ND 49.80	ND 49.90	ND 50.00

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer



Certificate of Analysis Summary 678987

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Tue 11.24.2020 16:37
Report Date: 01.29.2021 11:31
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	678987-025	678987-026	678987-027	678987-028	678987-029	678987-030
	<i>Field Id:</i>	ESW-9 @ 3'	WSW-9 @ 3'	BH-10 @ 3'	WSW-10 @ 3'	ESW-10 @ 3'	BH-11 @ 3'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.20.2020 10:00	11.20.2020 10:10	11.20.2020 10:15	11.20.2020 10:20	11.20.2020 10:25	11.20.2020 10:30
BTEX by EPA 8021B	<i>Extracted:</i>	12.02.2020 08:00	12.02.2020 08:00	12.02.2020 08:00	12.03.2020 15:00	12.02.2020 08:00	12.03.2020 15:00
	<i>Analyzed:</i>	12.02.2020 18:35	12.02.2020 18:55	12.02.2020 19:16	12.03.2020 19:39	12.02.2020 18:30	12.03.2020 20:00
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00198	ND 0.00201	ND 0.00200
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00198	ND 0.00201	ND 0.00200
Ethylbenzene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00198	ND 0.00201	ND 0.00200
m,p-Xylenes		ND 0.00400	ND 0.00400	ND 0.00400	ND 0.00396	ND 0.00402	ND 0.00399
o-Xylene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00198	ND 0.00201	ND 0.00200
Total Xylenes		ND 0.002000	ND 0.002000	ND 0.002000	ND 0.001980	ND 0.002010	ND 0.002000
Total BTEX		ND 0.002000	ND 0.002000	ND 0.002000	ND 0.001980	ND 0.002010	ND 0.002000
Chloride by EPA 300	<i>Extracted:</i>	11.25.2020 09:56	11.25.2020 09:56	11.25.2020 09:56	11.25.2020 09:56	11.25.2020 09:56	11.25.2020 09:56
	<i>Analyzed:</i>	11.30.2020 15:18	11.30.2020 15:34	11.30.2020 15:39	11.30.2020 15:44	11.30.2020 15:49	11.30.2020 15:55
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		61.7 5.03	39.1 5.02	5470 49.8	140 4.97	1010 4.96	12400 101
TPH by SW8015 Mod	<i>Extracted:</i>	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00
	<i>Analyzed:</i>	11.26.2020 23:38	11.27.2020 00:00	11.27.2020 00:23	11.27.2020 00:46	11.27.2020 01:09	11.27.2020 01:31
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		ND 49.9	ND 49.8	ND 50.0	ND 49.9	ND 49.8	ND 50.0
Diesel Range Organics (DRO)		ND 49.9	ND 49.8	ND 50.0	ND 49.9	ND 49.8	86.7 50.0
Motor Oil Range Hydrocarbons (MRO)		ND 49.9	ND 49.8	ND 50.0	ND 49.9	ND 49.8	ND 50.0
Total TPH		ND 49.90	ND 49.80	ND 50.00	ND 49.90	ND 49.80	86.70 50.00

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer



Certificate of Analysis Summary 678987

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Tue 11.24.2020 16:37
Report Date: 01.29.2021 11:31
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	678987-031	678987-032	678987-033	678987-034	678987-035	678987-036
	<i>Field Id:</i>	NSW-11 @ 3'	ESW-11 @ 3'	WSW-11 @ 3'	BH-12 @ 6"	NSW-12 @ 6"	SSW-12 @ 6"
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.20.2020 10:35	11.20.2020 10:40	11.20.2020 10:45	11.20.2020 10:50	11.20.2020 10:55	11.20.2020 11:00
BTEX by EPA 8021B	<i>Extracted:</i>	12.03.2020 15:00	12.02.2020 08:00	12.02.2020 08:00	12.02.2020 08:00	12.02.2020 08:00	12.02.2020 08:00
	<i>Analyzed:</i>	12.03.2020 20:20	12.02.2020 19:49	12.02.2020 15:54	12.02.2020 21:36	12.02.2020 22:02	12.02.2020 22:29
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00198	0.0823 0.00199	0.00264 0.00200	ND 0.00198	ND 0.00200	ND 0.00201
Toluene		ND 0.00198	0.00918 0.00199	ND 0.00200	ND 0.00198	ND 0.00200	ND 0.00201
Ethylbenzene		ND 0.00198	0.00603 0.00199	ND 0.00200	ND 0.00198	ND 0.00200	ND 0.00201
m,p-Xylenes		ND 0.00397	ND 0.00398	ND 0.00399	ND 0.00396	ND 0.00399	ND 0.00402
o-Xylene		ND 0.00198	0.00372 0.00199	ND 0.00200	ND 0.00198	ND 0.00200	ND 0.00201
Total Xylenes		ND 0.001980	0.003720 0.001990	ND 0.002000	ND 0.001980	ND 0.002000	ND 0.002010
Total BTEX		ND 0.001980	0.1012 0.001990	0.002640 0.002000	ND 0.001980	ND 0.002000	ND 0.002010
Chloride by EPA 300	<i>Extracted:</i>	11.25.2020 09:56	11.25.2020 09:56	11.25.2020 09:58	11.25.2020 09:58	11.25.2020 09:58	11.25.2020 09:58
	<i>Analyzed:</i>	11.30.2020 16:00	11.30.2020 16:05	11.25.2020 18:54	11.25.2020 19:16	11.25.2020 19:24	11.25.2020 19:31
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1290 5.04	3100 25.2	2620 24.9	104 5.03	14800 100	3540 24.8
TPH by SW8015 Mod	<i>Extracted:</i>	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00	11.26.2020 11:00
	<i>Analyzed:</i>	11.27.2020 02:16	11.27.2020 02:39	11.27.2020 03:02	11.27.2020 03:24	11.27.2020 03:47	11.27.2020 04:10
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		ND 49.9	ND 49.9	ND 50.0	ND 49.9	ND 50.0	ND 49.8
Diesel Range Organics (DRO)		68.1 49.9	ND 49.9	ND 50.0	ND 49.9	847 50.0	ND 49.8
Motor Oil Range Hydrocarbons (MRO)		ND 49.9	ND 49.9	ND 50.0	ND 49.9	190 50.0	ND 49.8
Total TPH		68.10 49.90	ND 49.90	ND 50.00	ND 49.90	1037 50.00	ND 49.80

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

Certificate of Analysis Summary 678987

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Tue 11.24.2020 16:37
Report Date: 01.29.2021 11:31
Project Manager: Jessica Kramer

Analysis Requested	Lab Id: 678987-037 Field Id: ESW-12 @ 6" Depth: Matrix: SOIL Sampled: 11.20.2020 11:05	678987-038 WSW-12 @ 6" SOIL 11.20.2020 11:10				
BTEX by EPA 8021B	Extracted: 12.02.2020 08:00 Analyzed: 12.02.2020 22:55 Units/RL: mg/kg RL	12.02.2020 08:00 12.02.2020 23:21 mg/kg RL mg/kg RL				
Benzene	0.00290	0.00200	0.00647	0.00201		
Toluene	ND	0.00200	0.00205	0.00201		
Ethylbenzene	ND	0.00200	0.00569	0.00201		
m,p-Xylenes	ND	0.00399	0.00509	0.00402		
o-Xylene	ND	0.00200	0.00368	0.00201		
Total Xylenes	ND	0.002000	0.008770	0.002010		
Total BTEX	0.002900	0.002000	0.02298	0.002010		
Chloride by EPA 300	Extracted: 11.25.2020 09:58 Analyzed: 11.25.2020 19:38 Units/RL: mg/kg RL	11.25.2020 09:58 11.25.2020 20:00 mg/kg RL mg/kg RL				
Chloride	17700	99.4	2080	25.1		
TPH by SW8015 Mod	Extracted: 11.26.2020 11:00 Analyzed: 11.27.2020 04:32 Units/RL: mg/kg RL	11.26.2020 11:00 11.27.2020 04:55 mg/kg RL mg/kg RL				
Gasoline Range Hydrocarbons (GRO)	ND	49.9	ND	50.0		
Diesel Range Organics (DRO)	542	49.9	ND	50.0		
Motor Oil Range Hydrocarbons (MRO)	321	49.9	ND	50.0		
Total TPH	863.0	49.90	ND	50.00		

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Analytical Report 678987

for

Etech Environmental & Safety Solution, Inc

Project Manager: Matthew Green

Crazy Wolf 1H

12926

01.29.2021

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



01.29.2021

Project Manager: **Matthew Green**

Etech Environmental & Safety Solution, Inc

P.O. Box 62228

Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **678987**

Crazy Wolf 1H

Project Address: Lea County, New Mexico

Matthew Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 678987. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 678987 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 678987

Etech Environmental & Safety Solution, Inc, Midland, TX

Crazy Wolf 1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
ESS-1 @ 1'	S	11.20.2020 08:00		678987-001
ESS-2 @ 1'	S	11.20.2020 08:05		678987-002
ESS-3 @ 1'	S	11.20.2020 08:10		678987-003
WSS-1 @ 1'	S	11.20.2020 08:15		678987-004
WSS-2 @ 1'	S	11.20.2020 08:20		678987-005
WSS-3 @ 1'	S	11.20.2020 08:25		678987-006
NSW-1 @ 1'	S	11.20.2020 08:30		678987-007
NSW-2 @ 1.5'	S	11.20.2020 08:35		678987-008
SSW-2 @ 1.5'	S	11.20.2020 08:40		678987-009
NSW-4 @ 2'	S	11.20.2020 08:45		678987-010
SSW-4 @ 2'	S	11.20.2020 08:50		678987-011
ESW-4 @ 2'	S	11.20.2020 08:55		678987-012
NSW-5 @ 1'	S	11.20.2020 09:00		678987-013
SSW-5 @ 1'	S	11.20.2020 09:05		678987-014
ESW-5 @ 1'	S	11.20.2020 09:10		678987-015
WSW-5 @ 1'	S	11.20.2020 09:15		678987-016
SSW-6 @ 1.5'	S	11.20.2020 09:20		678987-017
WSW-6 @ 1.5'	S	11.20.2020 09:25		678987-018
NSW-7 @ 1.5'	S	11.20.2020 09:30		678987-019
SSW-7 @ 1.5'	S	11.20.2020 09:35		678987-020
NSW-8 @ 1.5'	S	11.20.2020 09:40		678987-021
SSW-8 @ 1.5'	S	11.20.2020 09:45		678987-022
ESW-8 @ 1.5'	S	11.20.2020 09:50		678987-023
BH-9 @ 3'	S	11.20.2020 09:55		678987-024
ESW-9 @ 3'	S	11.20.2020 10:00		678987-025
WSW-9 @ 3'	S	11.20.2020 10:10		678987-026
BH-10 @ 3'	S	11.20.2020 10:15		678987-027
WSW-10 @ 3'	S	11.20.2020 10:20		678987-028
ESW-10 @ 3'	S	11.20.2020 10:25		678987-029
BH-11 @ 3'	S	11.20.2020 10:30		678987-030
NSW-11 @ 3'	S	11.20.2020 10:35		678987-031
ESW-11 @ 3'	S	11.20.2020 10:40		678987-032
WSW-11 @ 3'	S	11.20.2020 10:45		678987-033
BH-12 @ 6"	S	11.20.2020 10:50		678987-034
NSW-12 @ 6"	S	11.20.2020 10:55		678987-035
SSW-12 @ 6"	S	11.20.2020 11:00		678987-036
ESW-12 @ 6"	S	11.20.2020 11:05		678987-037
WSW-12 @ 6"	S	11.20.2020 11:10		678987-038

**CASE NARRATIVE****Client Name: Etech Environmental & Safety Solution, Inc****Project Name: Crazy Wolf 1H**Project ID: 12926
Work Order Number(s): 678987Report Date: 01.29.2021
Date Received: 11.24.2020**Sample receipt non conformances and comments:****Sample receipt non conformances and comments per sample:**

None

Analytical non conformances and comments:

Batch: LBA-3143528 BTEX by EPA 8021B

Toluene recovered above QC limits in the Blank Spike Duplicate indicating a potential high bias. Samples in the analytical batch are: 678987-005, -006.

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected
Samples affected are: 679026-001 S.

Batch: LBA-3143699 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected;
Samples affected are: 678984-021 S.

Batch: LBA-3143707 BTEX by EPA 8021B

Surrogate 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected;s.
Samples affected are: 678987-007,678987-011.Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected;
Samples affected are: 678987-011,678987-007.Lab Sample ID 678987-013 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike.
Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 678987-002, -003, -004, -007, -008, -009, -010, -011, -012, -013.

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

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

Samples in the analytical batch are: 678987-002, -003, -004, -007, -008, -009, -010, -011, -012, -013

Benzene recovered above QC limits in the laboratory control sample. Analyte was not detected in any of the associated samples and therefore the data was accepted. Samples in the analytical batch are: 678987-002, -003, -004, -007, -008, -009, -010, -011, -012, -013.

**CASE NARRATIVE****Client Name: Etech Environmental & Safety Solution, Inc****Project Name: Crazy Wolf 1H**Project ID: 12926
Work Order Number(s): 678987Report Date: 01.29.2021
Date Received: 11.24.2020

Batch: LBA-3143782 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected;

Samples affected are: 678987-028,678987-031.

Surrogate 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected;

Samples affected are: 678987-031,678987-028,678987-038.

Surrogate 4-Bromofluorobenzene recovered above QC limits . Samples affected are: 7716325-1-

BKS,7716325-1-BSD,678987-033 S,678987-033 SD,678987-036,678987-034.

Batch: LBA-3143802 BTEX by EPA 8021B

Surrogate 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected;

Samples affected are: 678987-014,678987-015,678987-016,678987-017,678987-019.

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected;

Samples affected are: 678987-019,678987-014,678987-015,678987-016,678987-017,678987-026.

Batch: LBA-3143824 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected;

Samples affected are: 678987-023,678987-021.

Batch: LBA-3143914 BTEX by EPA 8021B

Surrogate 1,4-Difluorobenzene, Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected.

Samples affected are: 679278-001 SD.



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESS-1 @ 1'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-001 Date Collected: 11.20.2020 08:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 11.25.2020 11:30 % Moisture:
 Seq Number: 3143456 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.4	5.00	mg/kg	11.25.2020 19:33		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143384 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.26.2020 21:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.26.2020 21:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.26.2020 21:22	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.26.2020 21:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-130	11.26.2020 21:22		
o-Terphenyl	84-15-1	106	%	70-130	11.26.2020 21:22		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESS-1 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-001

Date Collected: 11.20.2020 08:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.01.2020 12:00

% Moisture:

Seq Number: 3143699

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 08:08	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 08:08	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 08:08	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.02.2020 08:08	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 08:08	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 08:08	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 08:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.02.2020 08:08	
1,4-Difluorobenzene	540-36-3	88	%	70-130	12.02.2020 08:08	



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESS-2 @ 1'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-002 Date Collected: 11.20.2020 08:05
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 14:25 % Moisture:
 Seq Number: 3143453 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	113	5.04	mg/kg	11.25.2020 14:52		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143384 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.26.2020 22:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.26.2020 22:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.26.2020 22:30	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.26.2020 22:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	109	%	70-130	11.26.2020 22:30		
o-Terphenyl	84-15-1	96	%	70-130	11.26.2020 22:30		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESS-2 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-002

Date Collected: 11.20.2020 08:05

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.01.2020 17:00

% Moisture:

Seq Number: 3143707

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 05:53	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 05:53	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 05:53	U	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	12.02.2020 05:53	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 05:53	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 05:53	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 05:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	89	%	70-130	12.02.2020 05:53		
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.02.2020 05:53		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESS-3 @ 1'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-003 Date Collected: 11.20.2020 08:10
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 14:25 % Moisture:
 Seq Number: 3143453 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	393	4.98	mg/kg	11.25.2020 15:14		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143384 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.26.2020 22:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.26.2020 22:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.26.2020 22:52	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.26.2020 22:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-130	11.26.2020 22:52		
o-Terphenyl	84-15-1	99	%	70-130	11.26.2020 22:52		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESS-3 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-003

Date Collected: 11.20.2020 08:10

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.01.2020 17:00

% Moisture:

Seq Number: 3143707

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00199	mg/kg	12.02.2020 06:14	U	1
Toluene	108-88-3	ND	0.00199	mg/kg	12.02.2020 06:14	U	1
Ethylbenzene	100-41-4	ND	0.00199	mg/kg	12.02.2020 06:14	U	1
m,p-Xylenes	179601-23-1	ND	0.00398	mg/kg	12.02.2020 06:14	U	1
o-Xylene	95-47-6	ND	0.00199	mg/kg	12.02.2020 06:14	U	1
Total Xylenes	1330-20-7	ND	0.001990	mg/kg	12.02.2020 06:14	U	1
Total BTEX		ND	0.001990	mg/kg	12.02.2020 06:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	12.02.2020 06:14	
1,4-Difluorobenzene	540-36-3	92	%	70-130	12.02.2020 06:14	



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSS-1 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-004

Date Collected: 11.20.2020 08:15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 11.25.2020 14:25

% Moisture:

Seq Number: 3143453

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.78	4.98	mg/kg	11.25.2020 15:21		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 11.26.2020 11:00

% Moisture:

Seq Number: 3143384

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.26.2020 23:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.26.2020 23:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.26.2020 23:15	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.26.2020 23:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-130	11.26.2020 23:15	
o-Terphenyl	84-15-1	94	%	70-130	11.26.2020 23:15	



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSS-1 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-004

Date Collected: 11.20.2020 08:15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.01.2020 17:00

% Moisture:

Seq Number: 3143707

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 06:34	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 06:34	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 06:34	U	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	12.02.2020 06:34	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 06:34	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 06:34	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 06:34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.02.2020 06:34		
4-Bromofluorobenzene	460-00-4	113	%	70-130	12.02.2020 06:34		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSS-2 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-005

Date Collected: 11.20.2020 08:20

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 11.25.2020 14:25

% Moisture:

Seq Number: 3143453

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.2	4.98	mg/kg	11.25.2020 15:29		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 11.26.2020 11:00

% Moisture:

Seq Number: 3143384

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.26.2020 23:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.26.2020 23:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.26.2020 23:38	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.26.2020 23:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	113	%	70-130	11.26.2020 23:38		
o-Terphenyl	84-15-1	97	%	70-130	11.26.2020 23:38		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSS-2 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-005

Date Collected: 11.20.2020 08:20

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 11.30.2020 08:00

% Moisture:

Seq Number: 3143528

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.01.2020 05:57	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.01.2020 05:57	UH	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.01.2020 05:57	U	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	12.01.2020 05:57	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.01.2020 05:57	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.01.2020 05:57	U	1
Total BTEX		ND	0.002000	mg/kg	12.01.2020 05:57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	152	%	70-130	12.01.2020 05:57	**	
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.01.2020 05:57		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSS-3 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-006

Date Collected: 11.20.2020 08:25

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 11.25.2020 14:25

% Moisture:

Seq Number: 3143453

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1650	24.8	mg/kg	11.25.2020 15:36		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 11.26.2020 11:00

% Moisture:

Seq Number: 3143384

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.27.2020 00:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	90.6	50.0	mg/kg	11.27.2020 00:00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.27.2020 00:00	U	1
Total TPH	PHC635	90.60	50.00	mg/kg	11.27.2020 00:00		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	119	%	70-130	11.27.2020 00:00		
o-Terphenyl	84-15-1	104	%	70-130	11.27.2020 00:00		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSS-3 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-006

Date Collected: 11.20.2020 08:25

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 16:00

% Moisture:

Seq Number: 3143824

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 20:24	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 20:24	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 20:24	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.02.2020 20:24	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 20:24	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 20:24	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 20:24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	12.02.2020 20:24		
1,4-Difluorobenzene	540-36-3	89	%	70-130	12.02.2020 20:24		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-1 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-007

Date Collected: 11.20.2020 08:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 11.25.2020 14:25

% Moisture:

Seq Number: 3143453

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1210	5.00	mg/kg	11.25.2020 15:58		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 11.26.2020 11:00

% Moisture:

Seq Number: 3143384

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.27.2020 00:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.27.2020 00:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.27.2020 00:23	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.27.2020 00:23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-130	11.27.2020 00:23		
o-Terphenyl	84-15-1	93	%	70-130	11.27.2020 00:23		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-1 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-007

Date Collected: 11.20.2020 08:30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.03.2020 15:00

% Moisture:

Seq Number: 3143913

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00198	mg/kg	12.03.2020 18:58	U	1
Toluene	108-88-3	ND	0.00198	mg/kg	12.03.2020 18:58	U	1
Ethylbenzene	100-41-4	ND	0.00198	mg/kg	12.03.2020 18:58	U	1
m,p-Xylenes	179601-23-1	ND	0.00397	mg/kg	12.03.2020 18:58	U	1
o-Xylene	95-47-6	ND	0.00198	mg/kg	12.03.2020 18:58	U	1
Total Xylenes	1330-20-7	ND	0.001980	mg/kg	12.03.2020 18:58	U	1
Total BTEX		ND	0.001980	mg/kg	12.03.2020 18:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.03.2020 18:58		
4-Bromofluorobenzene	460-00-4	109	%	70-130	12.03.2020 18:58		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-2 @ 1.5'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-008 Date Collected: 11.20.2020 08:35
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 14:25 % Moisture:
 Seq Number: 3143453 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	31.7	5.01	mg/kg	11.25.2020 16:05		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143384 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.8	mg/kg	11.27.2020 00:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.8	mg/kg	11.27.2020 00:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.8	mg/kg	11.27.2020 00:46	U	1
Total TPH	PHC635	ND	49.80	mg/kg	11.27.2020 00:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	110	%	70-130	11.27.2020 00:46		
o-Terphenyl	84-15-1	95	%	70-130	11.27.2020 00:46		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: NSW-2 @ 1.5'

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-008

Date Collected: 11.20.2020 08:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.01.2020 17:00

% Moisture:

Seq Number: 3143707

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 07:15	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 07:15	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 07:15	U	1
m,p-Xylenes	179601-23-1	ND	0.00401	mg/kg	12.02.2020 07:15	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 07:15	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 07:15	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 07:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.02.2020 07:15		
4-Bromofluorobenzene	460-00-4	113	%	70-130	12.02.2020 07:15		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-2 @ 1.5'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-009 Date Collected: 11.20.2020 08:40
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 14:25 % Moisture:
 Seq Number: 3143453 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.9	5.05	mg/kg	11.25.2020 16:13		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143384 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.27.2020 01:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.27.2020 01:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.27.2020 01:09	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.27.2020 01:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-130	11.27.2020 01:09		
o-Terphenyl	84-15-1	91	%	70-130	11.27.2020 01:09		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: SSW-2 @ 1.5'

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-009

Date Collected: 11.20.2020 08:40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.01.2020 17:00

% Moisture:

Seq Number: 3143707

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00201	mg/kg	12.02.2020 07:35	U	1
Toluene	108-88-3	ND	0.00201	mg/kg	12.02.2020 07:35	U	1
Ethylbenzene	100-41-4	ND	0.00201	mg/kg	12.02.2020 07:35	U	1
m,p-Xylenes	179601-23-1	ND	0.00402	mg/kg	12.02.2020 07:35	U	1
o-Xylene	95-47-6	ND	0.00201	mg/kg	12.02.2020 07:35	U	1
Total Xylenes	1330-20-7	ND	0.002010	mg/kg	12.02.2020 07:35	U	1
Total BTEX		ND	0.002010	mg/kg	12.02.2020 07:35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.02.2020 07:35		
4-Bromofluorobenzene	460-00-4	102	%	70-130	12.02.2020 07:35		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-4 @ 2'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-010

Date Collected: 11.20.2020 08:45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 11.25.2020 14:25

% Moisture:

Seq Number: 3143453

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4320	25.0	mg/kg	11.25.2020 16:20		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 11.26.2020 11:00

% Moisture:

Seq Number: 3143384

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.8	mg/kg	11.27.2020 01:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.8	mg/kg	11.27.2020 01:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.8	mg/kg	11.27.2020 01:31	U	1
Total TPH	PHC635	ND	49.80	mg/kg	11.27.2020 01:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	116	%	70-130	11.27.2020 01:31		
o-Terphenyl	84-15-1	113	%	70-130	11.27.2020 01:31		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-4 @ 2'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-010

Date Collected: 11.20.2020 08:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.01.2020 17:00

% Moisture:

Seq Number: 3143707

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00201	mg/kg	12.02.2020 07:56	U	1
Toluene	108-88-3	ND	0.00201	mg/kg	12.02.2020 07:56	U	1
Ethylbenzene	100-41-4	ND	0.00201	mg/kg	12.02.2020 07:56	U	1
m,p-Xylenes	179601-23-1	ND	0.00402	mg/kg	12.02.2020 07:56	U	1
o-Xylene	95-47-6	ND	0.00201	mg/kg	12.02.2020 07:56	U	1
Total Xylenes	1330-20-7	ND	0.002010	mg/kg	12.02.2020 07:56	U	1
Total BTEX		ND	0.002010	mg/kg	12.02.2020 07:56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.02.2020 07:56		
4-Bromofluorobenzene	460-00-4	111	%	70-130	12.02.2020 07:56		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-4@ 2'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-011 Date Collected: 11.20.2020 08:50
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 14:25 % Moisture:
 Seq Number: 3143453 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	262	4.97	mg/kg	11.25.2020 16:27		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143384 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.27.2020 02:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.27.2020 02:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.27.2020 02:16	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.27.2020 02:16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	104	%	70-130	11.27.2020 02:16		
o-Terphenyl	84-15-1	93	%	70-130	11.27.2020 02:16		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-4@ 2'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-011

Date Collected: 11.20.2020 08:50

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 16:00

% Moisture:

Seq Number: 3143824

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 18:42	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 18:42	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 18:42	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.02.2020 18:42	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 18:42	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 18:42	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 18:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.02.2020 18:42	
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.02.2020 18:42	



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-4 @ 2'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-012

Date Collected: 11.20.2020 08:55

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 11.25.2020 14:25

% Moisture:

Seq Number: 3143453

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2240	24.8	mg/kg	11.25.2020 18:10		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 11.26.2020 11:00

% Moisture:

Seq Number: 3143384

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.27.2020 02:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.27.2020 02:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.27.2020 02:39	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.27.2020 02:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-130	11.27.2020 02:39		
o-Terphenyl	84-15-1	120	%	70-130	11.27.2020 02:39		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-4 @ 2'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-012

Date Collected: 11.20.2020 08:55

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.01.2020 17:00

% Moisture:

Seq Number: 3143707

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00198	mg/kg	12.02.2020 08:37	U	1
Toluene	108-88-3	ND	0.00198	mg/kg	12.02.2020 08:37	U	1
Ethylbenzene	100-41-4	ND	0.00198	mg/kg	12.02.2020 08:37	U	1
m,p-Xylenes	179601-23-1	ND	0.00397	mg/kg	12.02.2020 08:37	U	1
o-Xylene	95-47-6	ND	0.00198	mg/kg	12.02.2020 08:37	U	1
Total Xylenes	1330-20-7	ND	0.001980	mg/kg	12.02.2020 08:37	U	1
Total BTEX		ND	0.001980	mg/kg	12.02.2020 08:37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.02.2020 08:37		
4-Bromofluorobenzene	460-00-4	105	%	70-130	12.02.2020 08:37		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-5 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-013

Date Collected: 11.20.2020 09:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 11.25.2020 09:56

% Moisture:

Seq Number: 3143491

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	124	4.99	mg/kg	11.30.2020 13:43		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 11.26.2020 11:00

% Moisture:

Seq Number: 3143384

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.27.2020 03:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.27.2020 03:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.27.2020 03:02	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.27.2020 03:02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	108	%	70-130	11.27.2020 03:02		
o-Terphenyl	84-15-1	107	%	70-130	11.27.2020 03:02		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-5 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-013

Date Collected: 11.20.2020 09:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.01.2020 17:00

% Moisture:

Seq Number: 3143707

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 05:33	UXF	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 05:33	UXF	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 05:33	UXF	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	12.02.2020 05:33	UXF	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 05:33	UXF	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 05:33	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 05:33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	86	%	70-130	12.02.2020 05:33		
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.02.2020 05:33		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: SSW-5 @ 1'

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-014

Date Collected: 11.20.2020 09:05

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 11.25.2020 09:56

% Moisture:

Seq Number: 3143491

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4150	24.9	mg/kg	11.30.2020 13:59		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 11.26.2020 11:00

% Moisture:

Seq Number: 3143384

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.27.2020 03:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.27.2020 03:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.27.2020 03:24	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.27.2020 03:24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	101	%	70-130	11.27.2020 03:24		
o-Terphenyl	84-15-1	114	%	70-130	11.27.2020 03:24		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: SSW-5 @ 1'

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-014

Date Collected: 11.20.2020 09:05

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143802

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 19:58	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 19:58	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 19:58	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.02.2020 19:58	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 19:58	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 19:58	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 19:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	0	%	70-130	12.02.2020 19:58	**	
1,4-Difluorobenzene	540-36-3	0	%	70-130	12.02.2020 19:58	**	



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-5 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-015

Date Collected: 11.20.2020 09:10

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 11.25.2020 09:56

% Moisture:

Seq Number: 3143491

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.9	4.98	mg/kg	11.30.2020 14:04		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 11.26.2020 11:00

% Moisture:

Seq Number: 3143384

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.27.2020 03:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.27.2020 03:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.27.2020 03:47	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.27.2020 03:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-130	11.27.2020 03:47	
o-Terphenyl	84-15-1	105	%	70-130	11.27.2020 03:47	



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-5 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-015

Date Collected: 11.20.2020 09:10

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143802

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 20:19	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 20:19	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 20:19	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.02.2020 20:19	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 20:19	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 20:19	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 20:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	0	%	70-130	12.02.2020 20:19	**	
4-Bromofluorobenzene	460-00-4	0	%	70-130	12.02.2020 20:19	**	



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-5 @ 1'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-016 Date Collected: 11.20.2020 09:15
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5110	50.4	mg/kg	11.30.2020 14:09		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143384 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.8	mg/kg	11.27.2020 04:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.8	mg/kg	11.27.2020 04:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.8	mg/kg	11.27.2020 04:10	U	1
Total TPH	PHC635	ND	49.80	mg/kg	11.27.2020 04:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	98	%	70-130	11.27.2020 04:10		
o-Terphenyl	84-15-1	90	%	70-130	11.27.2020 04:10		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-5 @ 1'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-016

Date Collected: 11.20.2020 09:15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143802

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 20:39	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 20:39	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 20:39	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.02.2020 20:39	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 20:39	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 20:39	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 20:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	0	%	70-130	12.02.2020 20:39	**	
1,4-Difluorobenzene	540-36-3	0	%	70-130	12.02.2020 20:39	**	



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-6 @ 1.5'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-017 Date Collected: 11.20.2020 09:20
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7540	50.5	mg/kg	11.30.2020 14:15		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143384 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.27.2020 04:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.27.2020 04:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.27.2020 04:32	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.27.2020 04:32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	100	%	70-130	11.27.2020 04:32		
o-Terphenyl	84-15-1	98	%	70-130	11.27.2020 04:32		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-6 @ 1.5'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-017

Date Collected: 11.20.2020 09:20

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143802

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 21:00	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 21:00	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 21:00	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.02.2020 21:00	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 21:00	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 21:00	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 21:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	0	%	70-130	12.02.2020 21:00	**	
4-Bromofluorobenzene	460-00-4	0	%	70-130	12.02.2020 21:00	**	



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-6 @ 1.5'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-018 Date Collected: 11.20.2020 09:25
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9410	101	mg/kg	11.30.2020 14:30		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143384 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.27.2020 04:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.27.2020 04:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.27.2020 04:55	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.27.2020 04:55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-130	11.27.2020 04:55		
o-Terphenyl	84-15-1	108	%	70-130	11.27.2020 04:55		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-6 @ 1.5'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-018

Date Collected: 11.20.2020 09:25

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 16:00

% Moisture:

Seq Number: 3143824

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 18:21	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 18:21	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 18:21	U	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	12.02.2020 18:21	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 18:21	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 18:21	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 18:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	88	%	70-130	12.02.2020 18:21		
4-Bromofluorobenzene	460-00-4	126	%	70-130	12.02.2020 18:21		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-7 @ 1.5'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-019 Date Collected: 11.20.2020 09:30
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3630	25.3	mg/kg	11.30.2020 14:36		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143384 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.27.2020 05:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.27.2020 05:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.27.2020 05:18	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.27.2020 05:18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-130	11.27.2020 05:18		
o-Terphenyl	84-15-1	107	%	70-130	11.27.2020 05:18		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-7 @ 1.5'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-019

Date Collected: 11.20.2020 09:30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143802

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 21:21	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 21:21	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 21:21	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.02.2020 21:21	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 21:21	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 21:21	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 21:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	0	%	70-130	12.02.2020 21:21	**	
4-Bromofluorobenzene	460-00-4	0	%	70-130	12.02.2020 21:21	**	



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-7 @ 1.5'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-020 Date Collected: 11.20.2020 09:35
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1000	4.98	mg/kg	11.30.2020 14:41		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143384 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.27.2020 05:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.27.2020 05:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.27.2020 05:40	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.27.2020 05:40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	114	%	70-130	11.27.2020 05:40		
o-Terphenyl	84-15-1	113	%	70-130	11.27.2020 05:40		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-7 @ 1.5'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-020

Date Collected: 11.20.2020 09:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.03.2020 17:00

% Moisture:

Seq Number: 3143914

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00202	mg/kg	12.04.2020 07:14	U	1
Toluene	108-88-3	ND	0.00202	mg/kg	12.04.2020 07:14	U	1
Ethylbenzene	100-41-4	ND	0.00202	mg/kg	12.04.2020 07:14	U	1
m,p-Xylenes	179601-23-1	ND	0.00403	mg/kg	12.04.2020 07:14	U	1
o-Xylene	95-47-6	ND	0.00202	mg/kg	12.04.2020 07:14	U	1
Total Xylenes	1330-20-7	ND	0.002020	mg/kg	12.04.2020 07:14	U	1
Total BTEX		ND	0.002020	mg/kg	12.04.2020 07:14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.04.2020 07:14		
4-Bromofluorobenzene	460-00-4	107	%	70-130	12.04.2020 07:14		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-8@ 1.5'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-021

Date Collected: 11.20.2020 09:40

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 11.25.2020 09:56

% Moisture:

Seq Number: 3143491

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.8	5.00	mg/kg	11.30.2020 14:46		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 11.26.2020 11:00

% Moisture:

Seq Number: 3143387

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.26.2020 21:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.26.2020 21:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.26.2020 21:22	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.26.2020 21:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	96	%	70-130	11.26.2020 21:22		
o-Terphenyl	84-15-1	87	%	70-130	11.26.2020 21:22		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-8@ 1.5'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-021

Date Collected: 11.20.2020 09:40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 16:00

% Moisture:

Seq Number: 3143824

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 19:23	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 19:23	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 19:23	U	1
m,p-Xylenes	179601-23-1	ND	0.00401	mg/kg	12.02.2020 19:23	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 19:23	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 19:23	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 19:23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	114	%	70-130	12.02.2020 19:23		
4-Bromofluorobenzene	460-00-4	56	%	70-130	12.02.2020 19:23	**	



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-8 @ 1.5'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-022 Date Collected: 11.20.2020 09:45
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	208	4.99	mg/kg	11.30.2020 14:51		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.8	mg/kg	11.26.2020 22:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.8	mg/kg	11.26.2020 22:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.8	mg/kg	11.26.2020 22:30	U	1
Total TPH	PHC635	ND	49.80	mg/kg	11.26.2020 22:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	99	%	70-130	11.26.2020 22:30		
o-Terphenyl	84-15-1	95	%	70-130	11.26.2020 22:30		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-8 @ 1.5'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-022

Date Collected: 11.20.2020 09:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 16:00

% Moisture:

Seq Number: 3143824

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00201	mg/kg	12.02.2020 19:43	U	1
Toluene	108-88-3	ND	0.00201	mg/kg	12.02.2020 19:43	U	1
Ethylbenzene	100-41-4	ND	0.00201	mg/kg	12.02.2020 19:43	U	1
m,p-Xylenes	179601-23-1	ND	0.00402	mg/kg	12.02.2020 19:43	U	1
o-Xylene	95-47-6	ND	0.00201	mg/kg	12.02.2020 19:43	U	1
Total Xylenes	1330-20-7	ND	0.002010	mg/kg	12.02.2020 19:43	U	1
Total BTEX		ND	0.002010	mg/kg	12.02.2020 19:43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.02.2020 19:43		
1,4-Difluorobenzene	540-36-3	86	%	70-130	12.02.2020 19:43		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-8 @ 1.5'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-023 Date Collected: 11.20.2020 09:50
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1510	25.0	mg/kg	11.30.2020 14:57		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.26.2020 22:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.26.2020 22:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.26.2020 22:52	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.26.2020 22:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	95	%	70-130	11.26.2020 22:52		
o-Terphenyl	84-15-1	91	%	70-130	11.26.2020 22:52		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-8 @ 1.5'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-023

Date Collected: 11.20.2020 09:50

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 16:00

% Moisture:

Seq Number: 3143824

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00201	mg/kg	12.02.2020 20:04	U	1
Toluene	108-88-3	ND	0.00201	mg/kg	12.02.2020 20:04	U	1
Ethylbenzene	100-41-4	ND	0.00201	mg/kg	12.02.2020 20:04	U	1
m,p-Xylenes	179601-23-1	ND	0.00402	mg/kg	12.02.2020 20:04	U	1
o-Xylene	95-47-6	ND	0.00201	mg/kg	12.02.2020 20:04	U	1
Total Xylenes	1330-20-7	ND	0.002010	mg/kg	12.02.2020 20:04	U	1
Total BTEX		ND	0.002010	mg/kg	12.02.2020 20:04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	55	%	70-130	12.02.2020 20:04	**	
1,4-Difluorobenzene	540-36-3	122	%	70-130	12.02.2020 20:04		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-9 @ 3'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-024 Date Collected: 11.20.2020 09:55
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3410	25.0	mg/kg	11.30.2020 15:13		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.26.2020 23:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.26.2020 23:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.26.2020 23:15	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.26.2020 23:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	100	%	70-130	11.26.2020 23:15		
o-Terphenyl	84-15-1	99	%	70-130	11.26.2020 23:15		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-9 @ 3'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-024

Date Collected: 11.20.2020 09:55

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.03.2020 15:00

% Moisture:

Seq Number: 3143913

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00199	mg/kg	12.03.2020 19:19	U	1
Toluene	108-88-3	ND	0.00199	mg/kg	12.03.2020 19:19	U	1
Ethylbenzene	100-41-4	ND	0.00199	mg/kg	12.03.2020 19:19	U	1
m,p-Xylenes	179601-23-1	ND	0.00398	mg/kg	12.03.2020 19:19	U	1
o-Xylene	95-47-6	ND	0.00199	mg/kg	12.03.2020 19:19	U	1
Total Xylenes	1330-20-7	ND	0.001990	mg/kg	12.03.2020 19:19	U	1
Total BTEX		ND	0.001990	mg/kg	12.03.2020 19:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.03.2020 19:19		
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.03.2020 19:19		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-9 @ 3'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-025

Date Collected: 11.20.2020 10:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 11.25.2020 09:56

% Moisture:

Seq Number: 3143491

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	61.7	5.03	mg/kg	11.30.2020 15:18		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 11.26.2020 11:00

% Moisture:

Seq Number: 3143387

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.26.2020 23:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.26.2020 23:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.26.2020 23:38	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.26.2020 23:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	101	%	70-130	11.26.2020 23:38		
o-Terphenyl	84-15-1	106	%	70-130	11.26.2020 23:38		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-9 @ 3'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-025

Date Collected: 11.20.2020 10:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143802

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 18:35	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 18:35	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 18:35	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.02.2020 18:35	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 18:35	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 18:35	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 18:35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	12.02.2020 18:35		
1,4-Difluorobenzene	540-36-3	87	%	70-130	12.02.2020 18:35		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-9 @ 3'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-026 Date Collected: 11.20.2020 10:10
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	39.1	5.02	mg/kg	11.30.2020 15:34		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.8	mg/kg	11.27.2020 00:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.8	mg/kg	11.27.2020 00:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.8	mg/kg	11.27.2020 00:00	U	1
Total TPH	PHC635	ND	49.80	mg/kg	11.27.2020 00:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	90	%	70-130	11.27.2020 00:00		
o-Terphenyl	84-15-1	92	%	70-130	11.27.2020 00:00		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-9 @ 3'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-026

Date Collected: 11.20.2020 10:10

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143802

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 18:55	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 18:55	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 18:55	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.02.2020 18:55	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 18:55	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 18:55	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 18:55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.02.2020 18:55		
4-Bromofluorobenzene	460-00-4	52	%	70-130	12.02.2020 18:55	**	



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-10 @ 3'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-027 Date Collected: 11.20.2020 10:15
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5470	49.8	mg/kg	11.30.2020 15:39		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.27.2020 00:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.27.2020 00:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.27.2020 00:23	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.27.2020 00:23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	99	%	70-130	11.27.2020 00:23		
o-Terphenyl	84-15-1	93	%	70-130	11.27.2020 00:23		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-10 @ 3'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-027

Date Collected: 11.20.2020 10:15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143802

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 19:16	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 19:16	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 19:16	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.02.2020 19:16	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 19:16	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 19:16	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 19:16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	79	%	70-130	12.02.2020 19:16		
4-Bromofluorobenzene	460-00-4	112	%	70-130	12.02.2020 19:16		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-10 @ 3'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-028 Date Collected: 11.20.2020 10:20
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	140	4.97	mg/kg	11.30.2020 15:44		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.27.2020 00:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.27.2020 00:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.27.2020 00:46	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.27.2020 00:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	110	%	70-130	11.27.2020 00:46		
o-Terphenyl	84-15-1	96	%	70-130	11.27.2020 00:46		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-10 @ 3'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-028

Date Collected: 11.20.2020 10:20

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.03.2020 15:00

% Moisture:

Seq Number: 3143913

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00198	mg/kg	12.03.2020 19:39	U	1
Toluene	108-88-3	ND	0.00198	mg/kg	12.03.2020 19:39	U	1
Ethylbenzene	100-41-4	ND	0.00198	mg/kg	12.03.2020 19:39	U	1
m,p-Xylenes	179601-23-1	ND	0.00396	mg/kg	12.03.2020 19:39	U	1
o-Xylene	95-47-6	ND	0.00198	mg/kg	12.03.2020 19:39	U	1
Total Xylenes	1330-20-7	ND	0.001980	mg/kg	12.03.2020 19:39	U	1
Total BTEX		ND	0.001980	mg/kg	12.03.2020 19:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	12.03.2020 19:39	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.03.2020 19:39	



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-10 @ 3'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-029 Date Collected: 11.20.2020 10:25
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1010	4.96	mg/kg	11.30.2020 15:49		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.8	mg/kg	11.27.2020 01:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.8	mg/kg	11.27.2020 01:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.8	mg/kg	11.27.2020 01:09	U	1
Total TPH	PHC635	ND	49.80	mg/kg	11.27.2020 01:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	94	%	70-130	11.27.2020 01:09		
o-Terphenyl	84-15-1	85	%	70-130	11.27.2020 01:09		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-10 @ 3'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-029

Date Collected: 11.20.2020 10:25

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143782

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00201	mg/kg	12.02.2020 18:30	U	1
Toluene	108-88-3	ND	0.00201	mg/kg	12.02.2020 18:30	U	1
Ethylbenzene	100-41-4	ND	0.00201	mg/kg	12.02.2020 18:30	U	1
m,p-Xylenes	179601-23-1	ND	0.00402	mg/kg	12.02.2020 18:30	U	1
o-Xylene	95-47-6	ND	0.00201	mg/kg	12.02.2020 18:30	U	1
Total Xylenes	1330-20-7	ND	0.002010	mg/kg	12.02.2020 18:30	U	1
Total BTEX		ND	0.002010	mg/kg	12.02.2020 18:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	110	%	70-130	12.02.2020 18:30		
4-Bromofluorobenzene	460-00-4	126	%	70-130	12.02.2020 18:30		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-11 @ 3'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-030 Date Collected: 11.20.2020 10:30
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12400	101	mg/kg	11.30.2020 15:55		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.27.2020 01:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	86.7	50.0	mg/kg	11.27.2020 01:31		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.27.2020 01:31	U	1
Total TPH	PHC635	86.70	50.00	mg/kg	11.27.2020 01:31		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	94	%	70-130	11.27.2020 01:31		
o-Terphenyl	84-15-1	87	%	70-130	11.27.2020 01:31		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-11 @ 3'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-030

Date Collected: 11.20.2020 10:30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.03.2020 15:00

% Moisture:

Seq Number: 3143913

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.03.2020 20:00	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.03.2020 20:00	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.03.2020 20:00	U	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	12.03.2020 20:00	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.03.2020 20:00	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.03.2020 20:00	U	1
Total BTEX		ND	0.002000	mg/kg	12.03.2020 20:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.03.2020 20:00		
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.03.2020 20:00		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-11 @ 3'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-031 Date Collected: 11.20.2020 10:35
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1290	5.04	mg/kg	11.30.2020 16:00		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.27.2020 02:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	68.1	49.9	mg/kg	11.27.2020 02:16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.27.2020 02:16	U	1
Total TPH	PHC635	68.10	49.90	mg/kg	11.27.2020 02:16		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-130	11.27.2020 02:16		
o-Terphenyl	84-15-1	93	%	70-130	11.27.2020 02:16		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-11 @ 3'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-031

Date Collected: 11.20.2020 10:35

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.03.2020 15:00

% Moisture:

Seq Number: 3143913

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00198	mg/kg	12.03.2020 20:20	U	1
Toluene	108-88-3	ND	0.00198	mg/kg	12.03.2020 20:20	U	1
Ethylbenzene	100-41-4	ND	0.00198	mg/kg	12.03.2020 20:20	U	1
m,p-Xylenes	179601-23-1	ND	0.00397	mg/kg	12.03.2020 20:20	U	1
o-Xylene	95-47-6	ND	0.00198	mg/kg	12.03.2020 20:20	U	1
Total Xylenes	1330-20-7	ND	0.001980	mg/kg	12.03.2020 20:20	U	1
Total BTEX		ND	0.001980	mg/kg	12.03.2020 20:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.03.2020 20:20	
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.03.2020 20:20	



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-11 @ 3'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-032 Date Collected: 11.20.2020 10:40
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:56 % Moisture:
 Seq Number: 3143491 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3100	25.2	mg/kg	11.30.2020 16:05		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.27.2020 02:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.27.2020 02:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.27.2020 02:39	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.27.2020 02:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	99	%	70-130	11.27.2020 02:39		
o-Terphenyl	84-15-1	90	%	70-130	11.27.2020 02:39		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-11 @ 3'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-032

Date Collected: 11.20.2020 10:40

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143782

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0823	0.00199	mg/kg	12.02.2020 19:49		1
Toluene	108-88-3	0.00918	0.00199	mg/kg	12.02.2020 19:49		1
Ethylbenzene	100-41-4	0.00603	0.00199	mg/kg	12.02.2020 19:49		1
m,p-Xylenes	179601-23-1	ND	0.00398	mg/kg	12.02.2020 19:49	U	1
o-Xylene	95-47-6	0.00372	0.00199	mg/kg	12.02.2020 19:49		1
Total Xylenes	1330-20-7	0.003720	0.001990	mg/kg	12.02.2020 19:49		1
Total BTEX		0.1012	0.001990	mg/kg	12.02.2020 19:49		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.02.2020 19:49		
1,4-Difluorobenzene	540-36-3	113	%	70-130	12.02.2020 19:49		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-11 @ 3'** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-033 Date Collected: 11.20.2020 10:45
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:58 % Moisture:
 Seq Number: 3143460 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2620	24.9	mg/kg	11.25.2020 18:54		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.27.2020 03:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.27.2020 03:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.27.2020 03:02	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.27.2020 03:02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	96	%	70-130	11.27.2020 03:02		
o-Terphenyl	84-15-1	89	%	70-130	11.27.2020 03:02		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-11 @ 3'**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-033

Date Collected: 11.20.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143782

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00264	0.00200	mg/kg	12.02.2020 15:54		1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 15:54	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 15:54	U	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	12.02.2020 15:54	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 15:54	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 15:54	U	1
Total BTEX		0.002640	0.002000	mg/kg	12.02.2020 15:54		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	12.02.2020 15:54		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.02.2020 15:54		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-12 @ 6"**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-034

Date Collected: 11.20.2020 10:50

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 11.25.2020 09:58

% Moisture:

Seq Number: 3143460

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	104	5.03	mg/kg	11.25.2020 19:16		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: ARM

Analyst: ARM

Date Prep: 11.26.2020 11:00

% Moisture:

Seq Number: 3143387

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.27.2020 03:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	11.27.2020 03:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	11.27.2020 03:24	U	1
Total TPH	PHC635	ND	49.90	mg/kg	11.27.2020 03:24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	100	%	70-130	11.27.2020 03:24		
o-Terphenyl	84-15-1	89	%	70-130	11.27.2020 03:24		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-12 @ 6"**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-034

Date Collected: 11.20.2020 10:50

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143782

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00198	mg/kg	12.02.2020 21:36	U	1
Toluene	108-88-3	ND	0.00198	mg/kg	12.02.2020 21:36	U	1
Ethylbenzene	100-41-4	ND	0.00198	mg/kg	12.02.2020 21:36	U	1
m,p-Xylenes	179601-23-1	ND	0.00396	mg/kg	12.02.2020 21:36	U	1
o-Xylene	95-47-6	ND	0.00198	mg/kg	12.02.2020 21:36	U	1
Total Xylenes	1330-20-7	ND	0.001980	mg/kg	12.02.2020 21:36	U	1
Total BTEX		ND	0.001980	mg/kg	12.02.2020 21:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	87	%	70-130	12.02.2020 21:36	
4-Bromofluorobenzene	460-00-4	185	%	70-130	12.02.2020 21:36	**



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-12 @ 6"** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-035 Date Collected: 11.20.2020 10:55
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:58 % Moisture:
 Seq Number: 3143460 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14800	100	mg/kg	11.25.2020 19:24		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.27.2020 03:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	847	50.0	mg/kg	11.27.2020 03:47		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	190	50.0	mg/kg	11.27.2020 03:47		1
Total TPH	PHC635	1037	50.00	mg/kg	11.27.2020 03:47		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-130	11.27.2020 03:47		
o-Terphenyl	84-15-1	110	%	70-130	11.27.2020 03:47		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-12 @ 6"**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-035

Date Collected: 11.20.2020 10:55

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143782

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.02.2020 22:02	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 22:02	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 22:02	U	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	12.02.2020 22:02	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 22:02	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 22:02	U	1
Total BTEX		ND	0.002000	mg/kg	12.02.2020 22:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.02.2020 22:02	
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.02.2020 22:02	



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-12 @ 6"** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-036 Date Collected: 11.20.2020 11:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:58 % Moisture:
 Seq Number: 3143460 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3540	24.8	mg/kg	11.25.2020 19:31		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.8	mg/kg	11.27.2020 04:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.8	mg/kg	11.27.2020 04:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.8	mg/kg	11.27.2020 04:10	U	1
Total TPH	PHC635	ND	49.80	mg/kg	11.27.2020 04:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	97	%	70-130	11.27.2020 04:10		
o-Terphenyl	84-15-1	88	%	70-130	11.27.2020 04:10		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-12 @ 6"**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-036

Date Collected: 11.20.2020 11:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143782

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00201	mg/kg	12.02.2020 22:29	U	1
Toluene	108-88-3	ND	0.00201	mg/kg	12.02.2020 22:29	U	1
Ethylbenzene	100-41-4	ND	0.00201	mg/kg	12.02.2020 22:29	U	1
m,p-Xylenes	179601-23-1	ND	0.00402	mg/kg	12.02.2020 22:29	U	1
o-Xylene	95-47-6	ND	0.00201	mg/kg	12.02.2020 22:29	U	1
Total Xylenes	1330-20-7	ND	0.002010	mg/kg	12.02.2020 22:29	U	1
Total BTEX		ND	0.002010	mg/kg	12.02.2020 22:29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	148	%	70-130	12.02.2020 22:29	**	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.02.2020 22:29		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-12 @ 6"** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-037 Date Collected: 11.20.2020 11:05
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:58 % Moisture:
 Seq Number: 3143460 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17700	99.4	mg/kg	11.25.2020 19:38		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	11.27.2020 04:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	542	49.9	mg/kg	11.27.2020 04:32		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	321	49.9	mg/kg	11.27.2020 04:32		1
Total TPH	PHC635	863.0	49.90	mg/kg	11.27.2020 04:32		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	99	%	70-130	11.27.2020 04:32		
o-Terphenyl	84-15-1	89	%	70-130	11.27.2020 04:32		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-12 @ 6"**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-037

Date Collected: 11.20.2020 11:05

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143782

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00290	0.00200	mg/kg	12.02.2020 22:55		1
Toluene	108-88-3	ND	0.00200	mg/kg	12.02.2020 22:55	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.02.2020 22:55	U	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	12.02.2020 22:55	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.02.2020 22:55	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.02.2020 22:55	U	1
Total BTEX		0.002900	0.002000	mg/kg	12.02.2020 22:55		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	115	%	70-130	12.02.2020 22:55		
4-Bromofluorobenzene	460-00-4	85	%	70-130	12.02.2020 22:55		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-12 @ 6"** Matrix: Soil Date Received: 11.24.2020 16:37
 Lab Sample Id: 678987-038 Date Collected: 11.20.2020 11:10
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 11.25.2020 09:58 % Moisture:
 Seq Number: 3143460 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2080	25.1	mg/kg	11.25.2020 20:00		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ARM
 Analyst: ARM Date Prep: 11.26.2020 11:00 % Moisture:
 Seq Number: 3143387 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	11.27.2020 04:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	11.27.2020 04:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	11.27.2020 04:55	U	1
Total TPH	PHC635	ND	50.00	mg/kg	11.27.2020 04:55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	93	%	70-130	11.27.2020 04:55		
o-Terphenyl	84-15-1	82	%	70-130	11.27.2020 04:55		



Certificate of Analytical Results 678987

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-12 @ 6"**

Matrix: Soil

Date Received: 11.24.2020 16:37

Lab Sample Id: 678987-038

Date Collected: 11.20.2020 11:10

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.02.2020 08:00

% Moisture:

Seq Number: 3143782

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00647	0.00201	mg/kg	12.02.2020 23:21		1
Toluene	108-88-3	0.00205	0.00201	mg/kg	12.02.2020 23:21		1
Ethylbenzene	100-41-4	0.00569	0.00201	mg/kg	12.02.2020 23:21		1
m,p-Xylenes	179601-23-1	0.00509	0.00402	mg/kg	12.02.2020 23:21		1
o-Xylene	95-47-6	0.00368	0.00201	mg/kg	12.02.2020 23:21		1
Total Xylenes	1330-20-7	0.008770	0.002010	mg/kg	12.02.2020 23:21		1
Total BTEX		0.02298	0.002010	mg/kg	12.02.2020 23:21		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	12	%	70-130	12.02.2020 23:21	**	
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.02.2020 23:21		

Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: Chloride by EPA 300

Seq Number: 3143491

Matrix: Solid

Prep Method: E300P

Date Prep: 11.25.2020

MB Sample Id: 7716066-1-BLK

LCS Sample Id: 7716066-1-BKS

LCSD Sample Id: 7716066-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	260	104	259	104	90-110	0	20	mg/kg	11.30.2020 13:32	

Analytical Method: Chloride by EPA 300

Seq Number: 3143460

Matrix: Solid

Prep Method: E300P

Date Prep: 11.25.2020

MB Sample Id: 7716067-1-BLK

LCS Sample Id: 7716067-1-BKS

LCSD Sample Id: 7716067-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	261	104	261	104	90-110	0	20	mg/kg	11.25.2020 18:40	

Analytical Method: Chloride by EPA 300

Seq Number: 3143456

Matrix: Solid

Prep Method: E300P

Date Prep: 11.25.2020

MB Sample Id: 7715965-1-BLK

LCS Sample Id: 7715965-1-BKS

LCSD Sample Id: 7715965-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	261	104	263	105	90-110	1	20	mg/kg	11.25.2020 17:00	

Analytical Method: Chloride by EPA 300

Seq Number: 3143453

Matrix: Solid

Prep Method: E300P

Date Prep: 11.25.2020

MB Sample Id: 7716065-1-BLK

LCS Sample Id: 7716065-1-BKS

LCSD Sample Id: 7716065-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	265	106	265	106	90-110	0	20	mg/kg	11.25.2020 14:37	

Analytical Method: Chloride by EPA 300

Seq Number: 3143491

Matrix: Soil

Prep Method: E300P

Date Prep: 11.25.2020

Parent Sample Id: 678987-013

MS Sample Id: 678987-013 S

MSD Sample Id: 678987-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	124	250	379	102	379	102	90-110	0	20	mg/kg	11.30.2020 13:48	

Analytical Method: Chloride by EPA 300

Seq Number: 3143491

Matrix: Soil

Prep Method: E300P

Date Prep: 11.25.2020

Parent Sample Id: 678987-023

MS Sample Id: 678987-023 S

MSD Sample Id: 678987-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1510	1250	2780	102	2770	101	90-110	0	20	mg/kg	11.30.2020 15:02	

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: Chloride by EPA 300

Seq Number: 3143460

Parent Sample Id: 678987-033

Matrix: Soil

MS Sample Id: 678987-033 S

Prep Method: E300P

Date Prep: 11.25.2020

MSD Sample Id: 678987-033 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2620	1240	3860	100	3860	100	90-110	0	20	mg/kg	11.25.2020 19:02	

Analytical Method: Chloride by EPA 300

Seq Number: 3143460

Parent Sample Id: 679023-005

Matrix: Soil

MS Sample Id: 679023-005 S

Prep Method: E300P

Date Prep: 11.25.2020

MSD Sample Id: 679023-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3560	1250	4770	97	4780	98	90-110	0	20	mg/kg	11.25.2020 20:45	

Analytical Method: Chloride by EPA 300

Seq Number: 3143456

Parent Sample Id: 678984-021

Matrix: Soil

MS Sample Id: 678984-021 S

Prep Method: E300P

Date Prep: 11.25.2020

MSD Sample Id: 678984-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11.9	250	269	103	270	103	90-110	0	20	mg/kg	11.25.2020 17:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3143456

Parent Sample Id: 678984-031

Matrix: Soil

MS Sample Id: 678984-031 S

Prep Method: E300P

Date Prep: 11.25.2020

MSD Sample Id: 678984-031 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.55	250	264	102	264	102	90-110	0	20	mg/kg	11.25.2020 18:29	

Analytical Method: Chloride by EPA 300

Seq Number: 3143453

Parent Sample Id: 678987-002

Matrix: Soil

MS Sample Id: 678987-002 S

Prep Method: E300P

Date Prep: 11.25.2020

MSD Sample Id: 678987-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	113	252	367	101	367	101	90-110	0	20	mg/kg	11.25.2020 14:59	

Analytical Method: Chloride by EPA 300

Seq Number: 3143453

Parent Sample Id: 679041-001

Matrix: Soil

MS Sample Id: 679041-001 S

Prep Method: E300P

Date Prep: 11.25.2020

MSD Sample Id: 679041-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.03	252	254	101	254	101	90-110	0	20	mg/kg	11.25.2020 16:42	

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143384

Matrix: Solid

Prep Method: SW8015P

Date Prep: 11.26.2020

MB Sample Id: 7716027-1-BLK

LCS Sample Id: 7716027-1-BKS

LCSD Sample Id: 7716027-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	994	99	1160	116	70-130	15	20	mg/kg	11.26.2020 20:37	
Diesel Range Organics (DRO)	<50.0	1000	996	100	1150	115	70-130	14	20	mg/kg	11.26.2020 20:37	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	98		93		114		70-130	%	11.26.2020 20:37			
o-Terphenyl	115		113		121		70-130	%	11.26.2020 20:37			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143387

Matrix: Solid

Prep Method: SW8015P

Date Prep: 11.26.2020

MB Sample Id: 7716030-1-BLK

LCS Sample Id: 7716030-1-BKS

LCSD Sample Id: 7716030-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	976	98	1010	101	70-130	3	20	mg/kg	11.26.2020 20:37	
Diesel Range Organics (DRO)	<50.0	1000	970	97	1030	103	70-130	6	20	mg/kg	11.26.2020 20:37	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	95		105		107		70-130	%	11.26.2020 20:37			
o-Terphenyl	95		102		111		70-130	%	11.26.2020 20:37			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143384

Matrix: Solid

Prep Method: SW8015P

Date Prep: 11.26.2020

MB Sample Id: 7716027-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	ND	mg/kg	11.26.2020 20:15	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143387

Matrix: Solid

Prep Method: SW8015P

Date Prep: 11.26.2020

MB Sample Id: 7716030-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	ND	mg/kg	11.26.2020 20:15	

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143384

Parent Sample Id: 678987-001

Matrix: Soil

MS Sample Id: 678987-001 S

Prep Method: SW8015P

Date Prep: 11.26.2020

MSD Sample Id: 678987-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	1210	121	1160	116	70-130	4	20	mg/kg	11.26.2020 21:45	
Diesel Range Organics (DRO)	<50.0	999	1230	123	1150	115	70-130	7	20	mg/kg	11.26.2020 21:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		112		70-130	%	11.26.2020 21:45
o-Terphenyl	123		108		70-130	%	11.26.2020 21:45

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143387

Parent Sample Id: 678987-021

Matrix: Soil

MS Sample Id: 678987-021 S

Prep Method: SW8015P

Date Prep: 11.26.2020

MSD Sample Id: 678987-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	913	91	862	86	70-130	6	20	mg/kg	11.26.2020 21:45	
Diesel Range Organics (DRO)	<50.0	999	983	98	937	94	70-130	5	20	mg/kg	11.26.2020 21:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		93		70-130	%	11.26.2020 21:45
o-Terphenyl	88		82		70-130	%	11.26.2020 21:45

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143528

MB Sample Id: 7716096-1-BLK

Matrix: Solid

LCS Sample Id: 7716096-1-BKS

Prep Method: SW5035A

Date Prep: 11.30.2020

LCSD Sample Id: 7716096-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.002000	0.1000	0.09916	99	0.1288	129	70-130	26	35	mg/kg	11.30.2020 18:09	
Toluene	<0.002000	0.1000	0.1107	111	0.1413	141	70-130	24	35	mg/kg	11.30.2020 18:09	H
Ethylbenzene	<0.002000	0.1000	0.1051	105	0.1256	126	70-130	18	35	mg/kg	11.30.2020 18:09	
m,p-Xylenes	<0.004000	0.2000	0.2132	107	0.2588	129	70-130	19	35	mg/kg	11.30.2020 18:09	
o-Xylene	<0.002000	0.1000	0.1051	105	0.1254	125	70-130	18	35	mg/kg	11.30.2020 18:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		103		101		70-130	%	11.30.2020 18:09
4-Bromofluorobenzene	97		127		133	**	70-130	%	11.30.2020 18:09

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143699

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.01.2020

MB Sample Id: 7716253-1-BLK

LCS Sample Id: 7716253-1-BKS

LCSD Sample Id: 7716253-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.102	102	0.109	109	70-130	7	35	mg/kg	12.02.2020 11:11	
Toluene	<0.00200	0.100	0.0984	98	0.103	103	70-130	5	35	mg/kg	12.02.2020 11:11	
Ethylbenzene	<0.00200	0.100	0.100	100	0.107	107	70-130	7	35	mg/kg	12.02.2020 11:11	
m,p-Xylenes	<0.00400	0.200	0.191	96	0.203	102	70-130	6	35	mg/kg	12.02.2020 11:11	
o-Xylene	<0.00200	0.100	0.0942	94	0.101	101	70-130	7	35	mg/kg	12.02.2020 11:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	81		91		92		70-130	%	12.02.2020 11:11
4-Bromofluorobenzene	96		92		95		70-130	%	12.02.2020 11:11

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143782

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.02.2020

MB Sample Id: 7716325-1-BLK

LCS Sample Id: 7716325-1-BKS

LCSD Sample Id: 7716325-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0907	91	0.0945	95	70-130	4	35	mg/kg	12.02.2020 12:46	
Toluene	<0.00200	0.100	0.104	104	0.107	107	70-130	3	35	mg/kg	12.02.2020 12:46	
Ethylbenzene	<0.00200	0.100	0.104	104	0.110	110	70-130	6	35	mg/kg	12.02.2020 12:46	
m,p-Xylenes	<0.00400	0.200	0.212	106	0.225	113	70-130	6	35	mg/kg	12.02.2020 12:46	
o-Xylene	<0.00200	0.100	0.108	108	0.113	113	70-130	5	35	mg/kg	12.02.2020 12:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	79		107		111		70-130	%	12.02.2020 12:46
4-Bromofluorobenzene	120		177	**	164	**	70-130	%	12.02.2020 12:46

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143802

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.02.2020

MB Sample Id: 7716344-1-BLK

LCS Sample Id: 7716344-1-BKS

LCSD Sample Id: 7716344-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.103	103	0.109	109	70-130	6	35	mg/kg	12.02.2020 11:11	
Toluene	<0.00200	0.100	0.0993	99	0.104	104	70-130	5	35	mg/kg	12.02.2020 11:11	
Ethylbenzene	<0.00200	0.100	0.102	102	0.107	107	70-130	5	35	mg/kg	12.02.2020 11:11	
m,p-Xylenes	<0.00400	0.200	0.192	96	0.203	102	70-130	6	35	mg/kg	12.02.2020 11:11	
o-Xylene	<0.00200	0.100	0.0949	95	0.101	101	70-130	6	35	mg/kg	12.02.2020 11:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	82		92		93		70-130	%	12.02.2020 11:11
4-Bromofluorobenzene	94		91		94		70-130	%	12.02.2020 11:11

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



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Crazy Wolf 1H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143824

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.02.2020

MB Sample Id: 7716353-1-BLK

LCS Sample Id: 7716353-1-BKS

LCSD Sample Id: 7716353-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0997	100	0.0944	94	70-130	5	35	mg/kg	12.02.2020 16:00	
Toluene	<0.00200	0.100	0.113	113	0.0888	89	70-130	24	35	mg/kg	12.02.2020 16:00	
Ethylbenzene	<0.00200	0.100	0.107	107	0.0959	96	70-130	11	35	mg/kg	12.02.2020 16:00	
m,p-Xylenes	<0.00400	0.200	0.213	107	0.189	95	70-130	12	35	mg/kg	12.02.2020 16:00	
o-Xylene	<0.00200	0.100	0.105	105	0.0936	94	70-130	11	35	mg/kg	12.02.2020 16:00	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		100		101		70-130	%	12.02.2020 16:00
4-Bromofluorobenzene	108		103		97		70-130	%	12.02.2020 16:00

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143913

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.03.2020

MB Sample Id: 7716407-1-BLK

LCS Sample Id: 7716407-1-BKS

LCSD Sample Id: 7716407-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0777	78	0.0864	86	70-130	11	35	mg/kg	12.03.2020 22:44	
Toluene	<0.00200	0.100	0.0772	77	0.0865	87	70-130	11	35	mg/kg	12.03.2020 22:44	
Ethylbenzene	<0.00200	0.100	0.0859	86	0.0981	98	70-130	13	35	mg/kg	12.03.2020 22:44	
m,p-Xylenes	<0.00400	0.200	0.169	85	0.194	97	70-130	14	35	mg/kg	12.03.2020 22:44	
o-Xylene	<0.00200	0.100	0.0856	86	0.0954	95	70-130	11	35	mg/kg	12.03.2020 22:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		96		93		70-130	%	12.03.2020 22:44
4-Bromofluorobenzene	107		104		94		70-130	%	12.03.2020 22:44

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143914

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.03.2020

MB Sample Id: 7716408-1-BLK

LCS Sample Id: 7716408-1-BKS

LCSD Sample Id: 7716408-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0924	92	0.0930	93	70-130	1	35	mg/kg	12.04.2020 03:30	
Toluene	<0.00200	0.100	0.0884	88	0.0883	88	70-130	0	35	mg/kg	12.04.2020 03:30	
Ethylbenzene	<0.00200	0.100	0.0977	98	0.0978	98	70-130	0	35	mg/kg	12.04.2020 03:30	
m,p-Xylenes	<0.00400	0.200	0.192	96	0.192	96	70-130	0	35	mg/kg	12.04.2020 03:30	
o-Xylene	<0.00200	0.100	0.0959	96	0.0966	97	70-130	1	35	mg/kg	12.04.2020 03:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		101		99		70-130	%	12.04.2020 03:30
4-Bromofluorobenzene	105		103		100		70-130	%	12.04.2020 03:30

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143707

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.01.2020

MB Sample Id: 7716254-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Benzene	ND	mg/kg	12.02.2020 05:11	
Toluene	ND	mg/kg	12.02.2020 05:11	
Ethylbenzene	ND	mg/kg	12.02.2020 05:11	
m,p-Xylenes	ND	mg/kg	12.02.2020 05:11	
o-Xylene	ND	mg/kg	12.02.2020 05:11	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143528

Matrix: Soil

Prep Method: SW5035A

Date Prep: 11.30.2020

Parent Sample Id: 679026-001

MS Sample Id: 679026-001 S

MSD Sample Id: 679026-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.002000	0.1000	0.01959	20	0.01514	15	70-130	26	35	mg/kg	11.30.2020 19:00	X
Toluene	<0.002000	0.1000	0.01320	13	0.01411	14	70-130	7	35	mg/kg	11.30.2020 19:00	X
Ethylbenzene	<0.002000	0.1000	0.01070	11	0.01043	10	70-130	3	35	mg/kg	11.30.2020 19:00	X
m,p-Xylenes	<0.004000	0.2000	0.02188	11	0.02443	12	70-130	11	35	mg/kg	11.30.2020 19:00	X
o-Xylene	<0.002000	0.1000	0.01319	13	0.01705	17	70-130	26	35	mg/kg	11.30.2020 19:00	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	114		104		70-130	%	11.30.2020 19:00
4-Bromofluorobenzene	69	**	128		70-130	%	11.30.2020 19:00

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143699

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.01.2020

Parent Sample Id: 678984-021

MS Sample Id: 678984-021 S

MSD Sample Id: 678984-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0353	35	0.0918	92	70-130	89	35	mg/kg	12.01.2020 22:51	XF
Toluene	<0.00200	0.100	0.0278	28	0.0897	90	70-130	105	35	mg/kg	12.01.2020 22:51	XF
Ethylbenzene	<0.00200	0.100	0.0251	25	0.0888	89	70-130	112	35	mg/kg	12.01.2020 22:51	XF
m,p-Xylenes	<0.00400	0.200	0.0474	24	0.171	86	70-130	113	35	mg/kg	12.01.2020 22:51	XF
o-Xylene	<0.00200	0.100	0.0312	31	0.0866	87	70-130	94	35	mg/kg	12.01.2020 22:51	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		89		70-130	%	12.01.2020 22:51
4-Bromofluorobenzene	67	**	97		70-130	%	12.01.2020 22:51

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143707

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.01.2020

Parent Sample Id: 678987-013

MS Sample Id: 678987-013 S

MSD Sample Id: 678987-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0366	37	0.111	111	70-130	101	35	mg/kg	12.02.2020 03:52	XF
Toluene	<0.00200	0.0998	0.0383	38	0.102	102	70-130	91	35	mg/kg	12.02.2020 03:52	XF
Ethylbenzene	<0.00200	0.0998	0.0432	43	0.101	101	70-130	80	35	mg/kg	12.02.2020 03:52	XF
m,p-Xylenes	<0.00399	0.200	0.0764	38	0.204	102	70-130	91	35	mg/kg	12.02.2020 03:52	XF
o-Xylene	<0.00200	0.0998	0.0669	67	0.0972	97	70-130	37	35	mg/kg	12.02.2020 03:52	XF

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	125		101		70-130	%	12.02.2020 03:52
4-Bromofluorobenzene	71		101		70-130	%	12.02.2020 03:52

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143782

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.02.2020

Parent Sample Id: 678987-033

MS Sample Id: 678987-033 S

MSD Sample Id: 678987-033 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.00264	0.0996	0.111	109	0.119	117	70-130	7	35	mg/kg	12.02.2020 11:54	
Toluene	<0.00199	0.0996	0.124	124	0.127	127	70-130	2	35	mg/kg	12.02.2020 11:54	
Ethylbenzene	<0.00199	0.0996	0.108	108	0.113	113	70-130	5	35	mg/kg	12.02.2020 11:54	
m,p-Xylenes	<0.00398	0.199	0.221	111	0.232	116	70-130	5	35	mg/kg	12.02.2020 11:54	
o-Xylene	<0.00199	0.0996	0.108	108	0.114	114	70-130	5	35	mg/kg	12.02.2020 11:54	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		106		70-130	%	12.02.2020 11:54
4-Bromofluorobenzene	165	**	173	**	70-130	%	12.02.2020 11:54

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143802

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.02.2020

Parent Sample Id: 678962-001

MS Sample Id: 678962-001 S

MSD Sample Id: 678962-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.106	106	0.0851	85	70-130	22	35	mg/kg	12.02.2020 11:53	
Toluene	<0.00200	0.100	0.0837	84	0.0776	78	70-130	8	35	mg/kg	12.02.2020 11:53	
Ethylbenzene	<0.00200	0.100	0.0675	68	0.0616	62	70-130	9	35	mg/kg	12.02.2020 11:53	X
m,p-Xylenes	<0.00400	0.200	0.128	64	0.119	60	70-130	7	35	mg/kg	12.02.2020 11:53	X
o-Xylene	<0.00200	0.100	0.0652	65	0.0597	60	70-130	9	35	mg/kg	12.02.2020 11:53	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		85		70-130	%	12.02.2020 11:53
4-Bromofluorobenzene	96		101		70-130	%	12.02.2020 11:53

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

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143824

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.02.2020

Parent Sample Id: 678987-018

MS Sample Id: 678987-018 S

MSD Sample Id: 678987-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.127	127	0.129	129	70-130	2	35	mg/kg	12.02.2020 16:41	
Toluene	<0.00200	0.0998	0.116	116	0.118	118	70-130	2	35	mg/kg	12.02.2020 16:41	
Ethylbenzene	<0.00200	0.0998	0.116	116	0.118	118	70-130	2	35	mg/kg	12.02.2020 16:41	
m,p-Xylenes	<0.00399	0.200	0.234	117	0.240	120	70-130	3	35	mg/kg	12.02.2020 16:41	
o-Xylene	<0.00200	0.0998	0.110	110	0.113	113	70-130	3	35	mg/kg	12.02.2020 16:41	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	12.02.2020 16:41
4-Bromofluorobenzene	104		105		70-130	%	12.02.2020 16:41

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143913

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.03.2020

Parent Sample Id: 679349-001

MS Sample Id: 679349-001 S

MSD Sample Id: 679349-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0699	70	0.0673	68	70-130	4	35	mg/kg	12.03.2020 16:58	X
Toluene	<0.00200	0.0998	0.0665	67	0.0642	65	70-130	4	35	mg/kg	12.03.2020 16:58	X
Ethylbenzene	<0.00200	0.0998	0.0725	73	0.0698	71	70-130	4	35	mg/kg	12.03.2020 16:58	
m,p-Xylenes	<0.00399	0.200	0.142	71	0.137	69	70-130	4	35	mg/kg	12.03.2020 16:58	X
o-Xylene	<0.00200	0.0998	0.0705	71	0.0682	69	70-130	3	35	mg/kg	12.03.2020 16:58	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		100		70-130	%	12.03.2020 16:58
4-Bromofluorobenzene	108		106		70-130	%	12.03.2020 16:58

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143914

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.03.2020

Parent Sample Id: 679278-001

MS Sample Id: 679278-001 S

MSD Sample Id: 679278-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0825	82	<0.00200	0	70-130	200	35	mg/kg	12.04.2020 04:11	XF
Toluene	<0.00201	0.101	0.0788	78	<0.00200	0	70-130	200	35	mg/kg	12.04.2020 04:11	XF
Ethylbenzene	<0.00201	0.101	0.0876	87	<0.00200	0	70-130	200	35	mg/kg	12.04.2020 04:11	XF
m,p-Xylenes	<0.00402	0.201	0.170	85	<0.00401	0	70-130	200	35	mg/kg	12.04.2020 04:11	XF
o-Xylene	<0.00201	0.101	0.0861	85	<0.00200	0	70-130	200	35	mg/kg	12.04.2020 04:11	XF

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		0	**	70-130	%	12.04.2020 04:11
4-Bromofluorobenzene	105		0	**	70-130	%	12.04.2020 04:11

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440, El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
 Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
 Atlanta, GA (770) 449-8800

Work Order No:

6789187

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Project Manager:	Matt Green	Bill to: (if different)	
Company Name:	Etech Environmental & Safety Solutions, Inc	Company Name:	Centennial
Address:	PO Box 62228	Address:	
City, State ZIP:	Midland, Texas 79711	City, State ZIP:	
Phone:	432-563-2200	Email:	Matt@etechn.com

Work Order Comments Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐ State of Project: NM Reporting Level: ☐ Level I ☐ Level II ☐ PST/UST ☐ TRRF ☐ Level III ☐ Deliverables: EDD ☐ ADAPT ☐ Other: contract	
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Project Name:	Crazy Wolf 1H	Turn Around	ANALYSIS REQUEST										Preservative Codes				
Project Number:	12926	CONTRACT ☐											HNO3: HN				
Project Location:	Lea County, New Mexico	Rush: ☐											H2SO4: H2				
Sampler's Name:	Wesley Desilets	Due Date:											HCL: HL				
PO #:	AF54 or path or LOE+OC#												None: NO				
SAMPLE RECEIPT	Temp Blank: Yes (No) Wet Ice: Yes (No)												NaOH: Na				
Temperature (°C):	5.5/5.5	Thermometer ID											MeOH: Me				
Received Intact:	Yes (No)												Zn Acetate+ NaOH: Zn				
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:											TAT starts the day received by the lab, if received by 4:30pm				
Sample Custody Seals:	Yes (No) N/A	Total Containers:											Sample Comments				
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code												
ESS-1 @ 1'	S	11/20/2020	800		1	X	X	X	X								
ESS-2 @ 1'	S	11/20/2020	805		1	X	X	X	X								
ESS-3 @ 1'	S	11/20/2020	810		1	X	X	X	X								
WSS-1 @ 1'	S	11/20/2020	815		1	X	X	X	X								
WSS-2 @ 1'	S	11/20/2020	820		1	X	X	X	X								
WSS-3 @ 1'	S	11/20/2020	825		1	X	X	X	X								
NSW-1 @ 1'	S	11/20/2020	830		1	X	X	X	X								
NSW-2 @ 1.5'	S	11/20/2020	835		1	X	X	X	X								
SSW-2 @ 1.5'	S	11/20/2020	840		1	X	X	X	X								
NSW-4 @ 2'	S	11/20/2020	845		1	X	X	X	X								

NORM TAT circle one : 7 day, 5 day, Rush 3 day

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1. <i>[Signature]</i>	2. <i>[Signature]</i>	11-20-20	3. <i>[Signature]</i>	4. <i>[Signature]</i>	11/24/20
5. <i>[Signature]</i>	6. <i>[Signature]</i>				1/03/21



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440, El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
 Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
 Atlanta, GA (770) 449-8800

Work Order No: 1078987

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Project Manager:	Matt Green	Bill to: (if different)	
Company Name:	Etech Environmental & Safety Solutions, Inc	Company Name:	Centennial
Address:	PO Box 62228	Address:	
City, State ZIP:	Midland, Texas 79711	City, State ZIP:	
Phone:	432-563-2200	Email:	Matt@etechny.com

Work Order Comments Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐ State of Project: NM Reporting Level: ☐ Level I ☐ Level II ☐ PST/UST ☐ TRRF ☐ Level III ☐ Deliverables: EDD ☐ ADAPT ☐ Other: contract	
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Project Name:	Crazy Wolf 1H		Turn Around	ANALYSIS REQUEST												Preservative Codes	
Project Number:	12926		CONTRACT ☐													HNO3: HN	
Project Location:	Lee County, New Mexico		Rush: ☐													H2SO4: H2	
Sampler's Name:	Wesley Desliets		Due Date:													HCL: HL	
PO #:	AF5# of 281# of 105+CC#															None: NO	
SAMPLE RECEIPT	Temp Blank:	Yes	No	Well Ice:	Yes	No											NaOH: Na
Temperature (°C):			Thermometer ID													MeOH: Me	
Received Intact:	Yes	No	Correction Factor:													Zn Acetate+ NaOH: Zn	
Cooler Custody Seals:	Yes	No	Total Containers:													TAT starts the day received by the lab, if received by 4:30pm	
Sample Custody Seals:	Yes	No														Sample Comments	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	TPH 8015M	BTEX 8021B	Chlorides E300												
SSW-4 @ 2'	S	11/20/2020	850		1	X	X	X												
ESW-4 @ 2'	S	11/20/2020	855		1	X	X	X												
NSW-5 @ 1'	S	11/20/2020	900		1	X	X	X												
SSW-5 @ 1'	S	11/20/2020	905		1	X	X	X												
ESW-5 @ 1'	S	11/20/2020	910		1	X	X	X												
WSW-5 @ 1'	S	11/20/2020	915		1	X	X	X												
SSW-6 @ 1.5'	S	11/20/2020	920		1	X	X	X												
WSW-6 @ 1.5'	S	11/20/2020	925		1	X	X	X												
NSW-7 @ 1.5'	S	11/20/2020	930		1	X	X	X												
SSW-7 @ 1.5'	S	11/20/2020	935		1	X	X	X												

NORM TAT circle one : 7 day, 5 day, Rush 3 day

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1. <i>Wesley Desliets</i>	<i>Wesley Desliets</i>	11-24-20	2. <i>Wesley Desliets</i>	<i>Wesley Desliets</i>	
3. <i>Wesley Desliets</i>			4. <i>Wesley Desliets</i>		
5. <i>Wesley Desliets</i>			6. <i>Wesley Desliets</i>		



Chain of Custody

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 Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
 Atlanta, GA (770) 449-8800

Work Order No: 478987

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Project Manager:	Matt Green	Bill to: (if different)	
Company Name:	Etech Environmental & Safety Solutions, Inc	Company Name:	Centennial
Address:	PO Box 62228	Address:	
City, State ZIP:	Midland, Texas 79711	City, State ZIP:	
Phone:	432-563-2200	Email:	Matt@etechnv.com

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐ State of Project: NM Reporting Level: ☐ Level I ☐ Level II ☐ PST/UST ☐ TRRF ☐ Level III ☐ Deliverables: EDD ☐ ADAPT ☐ Other: contract	
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Project Name:	Crazy Wolf 1H	Turn Around	CONTRACT ☐
Project Number:	12926	Rush:	☐
Project Location:	Lee County, New Mexico	Due Date:	
Sampler's Name:	Wesley Desilets	Due Date:	
PO #:	AF5# or 248# or 105+00#		
SAMPLE RECEIPT			
Temperature (°C):		Temp Blank:	Yes No Wet Ice: Yes No
Received intact:	Yes No	Thermometer ID	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	
Sample Custody Seals:	Yes No N/A	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	ANALYSIS REQUEST	Preservative Codes
NSW-8 @ 1.5'	S	11/20/2020	940		1 X X X X		HNO3: HN H2SO4: H2 HCL: HL None: NO NaOH: Na MeOH: Me Zn Acetate+ NaOH: Zn
SSW-8 @ 1.5'	S	11/20/2020	945		1 X X X X		
ESW-8 @ 1.5'	S	11/20/2020	950		1 X X X X		
BH-9 @ 3'	S	11/20/2020	955		1 X X X X		
ESW-9 @ 3'	S	11/20/2020	1000		1 X X X X		
WSW-9 @ 3'	S	11/20/2020	1010		1 X X X X		
BH-10 @ 3'	S	11/20/2020	1015		1 X X X X		
WSW-10 @ 3'	S	11/20/2020	1020		1 X X X X		
ESW-10 @ 3'	S	11/20/2020	1025		1 X X X X		
BH-11 @ 3'	S	11/20/2020	1030		1 X X X X		

NORM TAT circle one : 7 day, 5 day, Rush 3 day

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	1 <i>[Signature]</i>	11-24-20	2 <i>[Signature]</i>	2 <i>[Signature]</i>	
3 <i>[Signature]</i>			4 <i>[Signature]</i>	4 <i>[Signature]</i>	
5 <i>[Signature]</i>			6 <i>[Signature]</i>	6 <i>[Signature]</i>	



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
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 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
 Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
 Atlanta, GA (770) 449-8800

Work Order No: 678987

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Project Manager:	Matt Green	Bill to: (if different)	
Company Name:	Etech Environmental & Safety Solutions, Inc	Company Name:	Centennial
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City, State ZIP:	Midland, Texas 79711	City, State ZIP:	
Phone:	432-563-2200	Email:	Matt@etechnv.com

Work Order Comments Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐ State of Project: NM Reporting Level: ☐ Level I ☐ Level II ☐ PST/UST ☐ TRRF ☐ Level III ☐ Deliverables: EDD ☐ ADAPT ☐ Other: contract	
---	--

Project Name:	Crazy Wolf 1H	Turn Around	CONTRACT ☐
Project Number:	12926	Rush:	☐
Project Location:	Lee County, New Mexico	Due Date:	
Sample's Name:	Wesley Deslets		
PO #:	AFES 07 001# 07 005 100#		
SAMPLE RECEIPT			
Temperature (°C):	Temp Blank:	Yes No	Well Ice: Yes No
Received Intact:	Yes No	Thermometer ID	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	
Sample Custody Seals:	Yes No N/A	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	TPH 8015M	BTEX 8021B	Chlorides E300	ANALYSIS REQUEST										Preservative Codes			
NSW-11 @ 3'	S	11/20/2020	1035		1	X	X	X											HNO3: HN			
ESW-11 @ 3'	S	11/20/2020	1040		1	X	X	X											H2SO4: H2			
WSW-11 @ 3'	S	11/20/2020	1045		1	X	X	X											HCL: HL			
BH-12 @ 6"	S	11/20/2020	1050		1	X	X	X											None: NO			
NSW-12 @ 6"	S	11/20/2020	1055		1	X	X	X											NaOH: Na			
SSW-12 @ 6"	S	11/20/2020	1100		1	X	X	X											MeOH: Me			
ESW-12 @ 6"	S	11/20/2020	1105		1	X	X	X											Zn Acetate+ NaOH: Zn			
WSW-12 @ 6"	S	11/20/2020	1110		1	X	X	X											TAT starts the day received by the lab, if received by 4:30pm			
																			Sample Comments			

NORM TAT circle one : 7 day, 5 day, Rush 3 day

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1. <i>[Signature]</i>	<i>[Signature]</i>	11-24-20	2. <i>[Signature]</i>	<i>[Signature]</i>	
3. <i>[Signature]</i>			4. <i>[Signature]</i>		
5. <i>[Signature]</i>			6. <i>[Signature]</i>		

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 11.24.2020 04.37.26 PM

Work Order #: 678987

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 11.24.2020

Checklist reviewed by:



Jessica Kramer

Date: 11.25.2020



Certificate of Analysis Summary 679518

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Wed 12.02.2020 12:02
Report Date: 01.29.2021 11:25
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	679518-001	679518-002	679518-003	679518-004	679518-005	679518-006
	<i>Field Id:</i>	BH-5 @ 1.5'	BH-6 @ 1'	BH-8 @ 1.5'	BH-13 @ 6"	NSW-13 @ 3"	SSW-13 @ 3"
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.24.2020 10:00	11.24.2020 10:01	11.24.2020 08:00	11.24.2020 07:05	11.24.2020 07:45	11.24.2020 07:30
BTEX by EPA 8021B	<i>Extracted:</i>	12.03.2020 17:00	12.03.2020 17:00	12.03.2020 17:00	12.03.2020 17:00	12.04.2020 16:30	12.04.2020 16:30
	<i>Analyzed:</i>	12.04.2020 07:34	12.04.2020 07:55	12.04.2020 08:15	12.04.2020 08:35	12.05.2020 06:04	12.05.2020 06:24
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00201	ND 0.00200	ND 0.00200	ND 0.00198	ND 0.00200	ND 0.00201
Toluene		ND 0.00201	ND 0.00200	ND 0.00200	ND 0.00198	ND 0.00200	ND 0.00201
Ethylbenzene		ND 0.00201	ND 0.00200	ND 0.00200	ND 0.00198	ND 0.00200	ND 0.00201
m,p-Xylenes		ND 0.00402	ND 0.00400	ND 0.00399	ND 0.00397	ND 0.00400	ND 0.00402
o-Xylene		ND 0.00201	ND 0.00200	ND 0.00200	ND 0.00198	ND 0.00200	ND 0.00201
Total Xylenes		ND 0.002010	ND 0.002000	ND 0.002000	ND 0.001980	ND 0.002000	ND 0.002010
Total BTEX		ND 0.002010	ND 0.002000	ND 0.002000	ND 0.001980	ND 0.002000	ND 0.002010
Chloride by EPA 300	<i>Extracted:</i>	12.02.2020 17:25	12.02.2020 17:25	12.02.2020 17:25	12.02.2020 17:25	12.02.2020 17:25	12.02.2020 17:25
	<i>Analyzed:</i>	12.03.2020 11:35	12.03.2020 11:40	12.03.2020 11:45	12.03.2020 11:50	12.03.2020 11:56	12.03.2020 12:01
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1380 4.95	462 5.03	97.5 5.00	148 5.00	81.1 5.00	262 5.04
TPH by SW8015 Mod	<i>Extracted:</i>	12.04.2020 10:00	12.04.2020 10:00	12.04.2020 10:00	12.04.2020 10:00	12.04.2020 10:00	12.04.2020 10:00
	<i>Analyzed:</i>	12.04.2020 13:45	12.04.2020 14:50	12.04.2020 15:11	12.04.2020 15:33	12.04.2020 15:55	12.04.2020 16:17
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		ND 50.0	ND 50.0	ND 49.9	ND 49.8	ND 50.0	ND 50.0
Diesel Range Organics (DRO)		ND 50.0	ND 50.0	ND 49.9	ND 49.8	ND 50.0	ND 50.0
Motor Oil Range Hydrocarbons (MRO)		ND 50.0	ND 50.0	ND 49.9	ND 49.8	ND 50.0	ND 50.0
Total TPH		ND 50.00	ND 50.00	ND 49.90	ND 49.80	ND 50.00	ND 50.00

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer



Certificate of Analysis Summary 679518

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Wed 12.02.2020 12:02
Report Date: 01.29.2021 11:25
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	679518-007	679518-008	679518-009	679518-010	679518-011	679518-012
	<i>Field Id:</i>	ESW-13@ 3"	BH-14 @ 1'	NSW-14 @ 1'	ESW-14 @ 1'	WSW-14 @ 1'	BH-15 @ 1'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.24.2020 08:00	11.24.2020 13:45	11.24.2020 11:00	11.24.2020 10:55	11.24.2020 10:45	11.24.2020 09:45
BTEX by EPA 8021B	<i>Extracted:</i>	12.04.2020 16:30	12.04.2020 16:30	12.04.2020 16:30	12.04.2020 16:30	12.04.2020 16:30	12.04.2020 16:30
	<i>Analyzed:</i>	12.05.2020 06:45	12.05.2020 07:05	12.05.2020 07:25	12.05.2020 07:46	12.05.2020 08:06	12.05.2020 08:27
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00200	ND 0.00200	ND 0.00201	ND 0.00200	ND 0.00200	ND 0.00199
Toluene		ND 0.00200	ND 0.00200	ND 0.00201	ND 0.00200	ND 0.00200	ND 0.00199
Ethylbenzene		ND 0.00200	ND 0.00200	ND 0.00201	ND 0.00200	ND 0.00200	ND 0.00199
m,p-Xylenes		ND 0.00399	ND 0.00399	ND 0.00402	ND 0.00401	ND 0.00401	ND 0.00398
o-Xylene		ND 0.00200	ND 0.00200	ND 0.00201	ND 0.00200	ND 0.00200	ND 0.00199
Total Xylenes		ND 0.002000	ND 0.002000	ND 0.002010	ND 0.002000	ND 0.002000	ND 0.001990
Total BTEX		ND 0.002000	ND 0.002000	ND 0.002010	ND 0.002000	ND 0.002000	ND 0.001990
Chloride by EPA 300	<i>Extracted:</i>	12.03.2020 13:15	12.03.2020 13:15	12.03.2020 13:15	12.03.2020 13:15	12.03.2020 13:15	12.03.2020 13:15
	<i>Analyzed:</i>	12.03.2020 13:42	12.03.2020 13:58	12.03.2020 14:03	12.03.2020 14:09	12.03.2020 14:15	12.03.2020 14:30
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		171 5.02	658 4.96	1340 4.99	22.8 4.97	290 5.05	458 5.03
TPH by SW8015 Mod	<i>Extracted:</i>	12.04.2020 10:00	12.04.2020 10:00	12.04.2020 10:00	12.04.2020 10:00	12.04.2020 10:00	12.04.2020 10:00
	<i>Analyzed:</i>	12.04.2020 16:38	12.04.2020 17:00	12.04.2020 17:22	12.04.2020 17:44	12.04.2020 18:27	12.04.2020 18:48
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		ND 50.0	ND 49.9	ND 49.9	ND 49.8	ND 50.0	ND 49.9
Diesel Range Organics (DRO)		ND 50.0	ND 49.9	ND 49.9	ND 49.8	ND 50.0	ND 49.9
Motor Oil Range Hydrocarbons (MRO)		ND 50.0	ND 49.9	ND 49.9	ND 49.8	ND 50.0	ND 49.9
Total TPH		ND 50.00	ND 49.90	ND 49.90	ND 49.80	ND 50.00	ND 49.90

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

Certificate of Analysis Summary 679518

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Wed 12.02.2020 12:02
Report Date: 01.29.2021 11:25
Project Manager: Jessica Kramer

Analysis Requested	Lab Id: 679518-013 Field Id: NSW-15 Depth: Matrix: SOIL Sampled: 11.24.2020 10:25	679518-014 ESW-15 @ 1' SOIL 11.24.2020 10:03	679518-015 WSW-15 @ 1' SOIL 11.24.2020 10:15			
BTEX by EPA 8021B	Extracted: 12.04.2020 16:30 Analyzed: 12.05.2020 09:50 Units/RL: mg/kg RL	12.04.2020 16:30 12.05.2020 10:10 mg/kg RL	12.04.2020 16:30 12.05.2020 10:10 mg/kg RL	12.04.2020 16:30 12.05.2020 10:30 mg/kg RL		
Benzene	ND 0.00200	ND 0.00199	ND 0.00201			
Toluene	ND 0.00200	ND 0.00199	ND 0.00201			
Ethylbenzene	ND 0.00200	ND 0.00199	ND 0.00201			
m,p-Xylenes	ND 0.00400	ND 0.00398	ND 0.00402			
o-Xylene	ND 0.00200	ND 0.00199	ND 0.00201			
Total Xylenes	ND 0.002000	ND 0.001990	ND 0.002010			
Total BTEX	ND 0.002000	ND 0.001990	ND 0.002010			
Chloride by EPA 300	Extracted: 12.03.2020 13:15 Analyzed: 12.03.2020 14:36 Units/RL: mg/kg RL	12.03.2020 13:15 12.03.2020 14:41 mg/kg RL	12.03.2020 13:15 12.03.2020 14:46 mg/kg RL			
Chloride	2290 24.9	423 4.99	822 4.95			
TPH by SW8015 Mod	Extracted: 12.04.2020 10:00 Analyzed: 12.04.2020 19:10 Units/RL: mg/kg RL	12.04.2020 10:00 12.04.2020 19:31 mg/kg RL	12.04.2020 10:00 12.04.2020 19:52 mg/kg RL			
Gasoline Range Hydrocarbons (GRO)	ND 49.9	ND 49.8	ND 50.0			
Diesel Range Organics (DRO)	149 49.9	ND 49.8	ND 50.0			
Motor Oil Range Hydrocarbons (MRO)	ND 49.9	ND 49.8	ND 50.0			
Total TPH	149.0 49.90	ND 49.80	ND 50.00			

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Analytical Report 679518

for

Etech Environmental & Safety Solution, Inc

Project Manager: Matthew Green

Crazy Wolf 1H

12926

01.29.2021

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



01.29.2021

Project Manager: **Matthew Green**

Etech Environmental & Safety Solution, Inc

P.O. Box 62228

Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **679518**

Crazy Wolf 1H

Project Address: Lea County, New Mexico

Matthew Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 679518. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 679518 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

**Sample Cross Reference 679518****Etech Environmental & Safety Solution, Inc, Midland, TX**

Crazy Wolf 1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-5 @ 1.5'	S	11.24.2020 10:00		679518-001
BH-6 @ 1'	S	11.24.2020 10:01		679518-002
BH-8 @ 1.5'	S	11.24.2020 08:00		679518-003
BH-13 @ 6"	S	11.24.2020 07:05		679518-004
NSW-13 @ 3"	S	11.24.2020 07:45		679518-005
SSW-13 @ 3"	S	11.24.2020 07:30		679518-006
ESW-13 @ 3"	S	11.24.2020 08:00		679518-007
BH-14 @ 1'	S	11.24.2020 13:45		679518-008
NSW-14 @ 1'	S	11.24.2020 11:00		679518-009
ESW-14 @ 1'	S	11.24.2020 10:55		679518-010
WSW-14 @ 1'	S	11.24.2020 10:45		679518-011
BH-15 @ 1'	S	11.24.2020 09:45		679518-012
NSW-15	S	11.24.2020 10:25		679518-013
ESW-15 @ 1'	S	11.24.2020 10:03		679518-014
WSW-15 @ 1'	S	11.24.2020 10:15		679518-015

**CASE NARRATIVE****Client Name: Etech Environmental & Safety Solution, Inc****Project Name: Crazy Wolf 1H**Project ID: 12926
Work Order Number(s): 679518Report Date: 01.29.2021
Date Received: 12.02.2020**Sample receipt non conformances and comments:****Sample receipt non conformances and comments per sample:**

None

Analytical non conformances and comments:

Batch: LBA-3143914 BTEX by EPA 8021B

Surrogate 1,4-Difluorobenzene, Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected.

Samples affected are: 679278-001 SD.

Batch: LBA-3144067 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 679518-012.

Diesel Range Organics (DRO) Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.

Samples in the analytical batch are: 679518-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015

Lab Sample ID 679518-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).

Diesel Range Organics (DRO) recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 679518-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015.

The Laboratory Control Sample for Diesel Range Organics (DRO) is within laboratory Control Limits, therefore the data was accepted.



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-5 @ 1.5'**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-001

Date Collected: 11.24.2020 10:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 12.02.2020 17:25

% Moisture:

Seq Number: 3143843

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1380	4.95	mg/kg	12.03.2020 11:35		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 12.04.2020 10:00

% Moisture:

Seq Number: 3144067

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	12.04.2020 13:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	12.04.2020 13:45	UFX	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	12.04.2020 13:45	U	1
Total TPH	PHC635	ND	50.00	mg/kg	12.04.2020 13:45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	122	%	70-130	12.04.2020 13:45		
o-Terphenyl	84-15-1	124	%	70-130	12.04.2020 13:45		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-5 @ 1.5'**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-001

Date Collected: 11.24.2020 10:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.03.2020 17:00

% Moisture:

Seq Number: 3143914

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00201	mg/kg	12.04.2020 07:34	U	1
Toluene	108-88-3	ND	0.00201	mg/kg	12.04.2020 07:34	U	1
Ethylbenzene	100-41-4	ND	0.00201	mg/kg	12.04.2020 07:34	U	1
m,p-Xylenes	179601-23-1	ND	0.00402	mg/kg	12.04.2020 07:34	U	1
o-Xylene	95-47-6	ND	0.00201	mg/kg	12.04.2020 07:34	U	1
Total Xylenes	1330-20-7	ND	0.002010	mg/kg	12.04.2020 07:34	U	1
Total BTEX		ND	0.002010	mg/kg	12.04.2020 07:34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	70-130	12.04.2020 07:34		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.04.2020 07:34		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-6 @ 1'** Matrix: Soil Date Received: 12.02.2020 12:02
 Lab Sample Id: 679518-002 Date Collected: 11.24.2020 10:01
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.02.2020 17:25 % Moisture:
 Seq Number: 3143843 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	462	5.03	mg/kg	12.03.2020 11:40		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.04.2020 10:00 % Moisture:
 Seq Number: 3144067 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	12.04.2020 14:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	12.04.2020 14:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	12.04.2020 14:50	U	1
Total TPH	PHC635	ND	50.00	mg/kg	12.04.2020 14:50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	122	%	70-130	12.04.2020 14:50		
o-Terphenyl	84-15-1	120	%	70-130	12.04.2020 14:50		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-6 @ 1'**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-002

Date Collected: 11.24.2020 10:01

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.03.2020 17:00

% Moisture:

Seq Number: 3143914

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.04.2020 07:55	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.04.2020 07:55	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.04.2020 07:55	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.04.2020 07:55	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.04.2020 07:55	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.04.2020 07:55	U	1
Total BTEX		ND	0.002000	mg/kg	12.04.2020 07:55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.04.2020 07:55		
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.04.2020 07:55		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-8 @ 1.5'**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-003

Date Collected: 11.24.2020 08:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 12.02.2020 17:25

% Moisture:

Seq Number: 3143843

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	97.5	5.00	mg/kg	12.03.2020 11:45		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 12.04.2020 10:00

% Moisture:

Seq Number: 3144067

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	12.04.2020 15:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	12.04.2020 15:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	12.04.2020 15:11	U	1
Total TPH	PHC635	ND	49.90	mg/kg	12.04.2020 15:11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	120	%	70-130	12.04.2020 15:11		
o-Terphenyl	84-15-1	118	%	70-130	12.04.2020 15:11		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-8 @ 1.5'**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-003

Date Collected: 11.24.2020 08:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.03.2020 17:00

% Moisture:

Seq Number: 3143914

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.04.2020 08:15	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.04.2020 08:15	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.04.2020 08:15	U	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	12.04.2020 08:15	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.04.2020 08:15	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.04.2020 08:15	U	1
Total BTEX		ND	0.002000	mg/kg	12.04.2020 08:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.04.2020 08:15		
4-Bromofluorobenzene	460-00-4	107	%	70-130	12.04.2020 08:15		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-13 @ 6"**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-004

Date Collected: 11.24.2020 07:05

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 12.02.2020 17:25

% Moisture:

Seq Number: 3143843

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	148	5.00	mg/kg	12.03.2020 11:50		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DVM

Analyst: ARM

Date Prep: 12.04.2020 10:00

% Moisture:

Seq Number: 3144067

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.8	mg/kg	12.04.2020 15:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.8	mg/kg	12.04.2020 15:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.8	mg/kg	12.04.2020 15:33	U	1
Total TPH	PHC635	ND	49.80	mg/kg	12.04.2020 15:33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	116	%	70-130	12.04.2020 15:33		
o-Terphenyl	84-15-1	111	%	70-130	12.04.2020 15:33		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-13 @ 6"**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-004

Date Collected: 11.24.2020 07:05

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.03.2020 17:00

% Moisture:

Seq Number: 3143914

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00198	mg/kg	12.04.2020 08:35	U	1
Toluene	108-88-3	ND	0.00198	mg/kg	12.04.2020 08:35	U	1
Ethylbenzene	100-41-4	ND	0.00198	mg/kg	12.04.2020 08:35	U	1
m,p-Xylenes	179601-23-1	ND	0.00397	mg/kg	12.04.2020 08:35	U	1
o-Xylene	95-47-6	ND	0.00198	mg/kg	12.04.2020 08:35	U	1
Total Xylenes	1330-20-7	ND	0.001980	mg/kg	12.04.2020 08:35	U	1
Total BTEX		ND	0.001980	mg/kg	12.04.2020 08:35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	12.04.2020 08:35		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.04.2020 08:35		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-13 @ 3"** Matrix: Soil Date Received: 12.02.2020 12:02
 Lab Sample Id: 679518-005 Date Collected: 11.24.2020 07:45
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.02.2020 17:25 % Moisture:
 Seq Number: 3143843 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	81.1	5.00	mg/kg	12.03.2020 11:56		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.04.2020 10:00 % Moisture:
 Seq Number: 3144067 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	12.04.2020 15:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	12.04.2020 15:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	12.04.2020 15:55	U	1
Total TPH	PHC635	ND	50.00	mg/kg	12.04.2020 15:55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	117	%	70-130	12.04.2020 15:55		
o-Terphenyl	84-15-1	112	%	70-130	12.04.2020 15:55		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-13 @ 3"**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-005

Date Collected: 11.24.2020 07:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.04.2020 16:30

% Moisture:

Seq Number: 3144020

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.05.2020 06:04	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.05.2020 06:04	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.05.2020 06:04	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.05.2020 06:04	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.05.2020 06:04	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.05.2020 06:04	U	1
Total BTEX		ND	0.002000	mg/kg	12.05.2020 06:04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	12.05.2020 06:04		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.05.2020 06:04		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-13 @ 3"** Matrix: Soil Date Received: 12.02.2020 12:02
 Lab Sample Id: 679518-006 Date Collected: 11.24.2020 07:30
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.02.2020 17:25 % Moisture:
 Seq Number: 3143843 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	262	5.04	mg/kg	12.03.2020 12:01		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.04.2020 10:00 % Moisture:
 Seq Number: 3144067 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	12.04.2020 16:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	12.04.2020 16:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	12.04.2020 16:17	U	1
Total TPH	PHC635	ND	50.00	mg/kg	12.04.2020 16:17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	127	%	70-130	12.04.2020 16:17		
o-Terphenyl	84-15-1	123	%	70-130	12.04.2020 16:17		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **SSW-13 @ 3"**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-006

Date Collected: 11.24.2020 07:30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.04.2020 16:30

% Moisture:

Seq Number: 3144020

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00201	mg/kg	12.05.2020 06:24	U	1
Toluene	108-88-3	ND	0.00201	mg/kg	12.05.2020 06:24	U	1
Ethylbenzene	100-41-4	ND	0.00201	mg/kg	12.05.2020 06:24	U	1
m,p-Xylenes	179601-23-1	ND	0.00402	mg/kg	12.05.2020 06:24	U	1
o-Xylene	95-47-6	ND	0.00201	mg/kg	12.05.2020 06:24	U	1
Total Xylenes	1330-20-7	ND	0.002010	mg/kg	12.05.2020 06:24	U	1
Total BTEX		ND	0.002010	mg/kg	12.05.2020 06:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	12.05.2020 06:24	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.05.2020 06:24	



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-13@ 3"** Matrix: Soil Date Received: 12.02.2020 12:02
 Lab Sample Id: 679518-007 Date Collected: 11.24.2020 08:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.03.2020 13:15 % Moisture:
 Seq Number: 3143895 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	171	5.02	mg/kg	12.03.2020 13:42		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.04.2020 10:00 % Moisture:
 Seq Number: 3144067 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	12.04.2020 16:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	12.04.2020 16:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	12.04.2020 16:38	U	1
Total TPH	PHC635	ND	50.00	mg/kg	12.04.2020 16:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-130	12.04.2020 16:38		
o-Terphenyl	84-15-1	112	%	70-130	12.04.2020 16:38		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-13@ 3"**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-007

Date Collected: 11.24.2020 08:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.04.2020 16:30

% Moisture:

Seq Number: 3144020

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.05.2020 06:45	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.05.2020 06:45	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.05.2020 06:45	U	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	12.05.2020 06:45	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.05.2020 06:45	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.05.2020 06:45	U	1
Total BTEX		ND	0.002000	mg/kg	12.05.2020 06:45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	12.05.2020 06:45		
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.05.2020 06:45		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-14 @ 1'** Matrix: Soil Date Received: 12.02.2020 12:02
 Lab Sample Id: 679518-008 Date Collected: 11.24.2020 13:45
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.03.2020 13:15 % Moisture:
 Seq Number: 3143895 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	658	4.96	mg/kg	12.03.2020 13:58		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.04.2020 10:00 % Moisture:
 Seq Number: 3144067 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	12.04.2020 17:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	12.04.2020 17:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	12.04.2020 17:00	U	1
Total TPH	PHC635	ND	49.90	mg/kg	12.04.2020 17:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	124	%	70-130	12.04.2020 17:00		
o-Terphenyl	84-15-1	120	%	70-130	12.04.2020 17:00		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-14 @ 1'**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-008

Date Collected: 11.24.2020 13:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.04.2020 16:30

% Moisture:

Seq Number: 3144020

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.05.2020 07:05	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.05.2020 07:05	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.05.2020 07:05	U	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	12.05.2020 07:05	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.05.2020 07:05	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.05.2020 07:05	U	1
Total BTEX		ND	0.002000	mg/kg	12.05.2020 07:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	12.05.2020 07:05		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.05.2020 07:05		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-14 @ 1'** Matrix: Soil Date Received: 12.02.2020 12:02
 Lab Sample Id: 679518-009 Date Collected: 11.24.2020 11:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.03.2020 13:15 % Moisture:
 Seq Number: 3143895 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1340	4.99	mg/kg	12.03.2020 14:03		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.04.2020 10:00 % Moisture:
 Seq Number: 3144067 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	12.04.2020 17:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	12.04.2020 17:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	12.04.2020 17:22	U	1
Total TPH	PHC635	ND	49.90	mg/kg	12.04.2020 17:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	128	%	70-130	12.04.2020 17:22		
o-Terphenyl	84-15-1	129	%	70-130	12.04.2020 17:22		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-14 @ 1'**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-009

Date Collected: 11.24.2020 11:00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.04.2020 16:30

% Moisture:

Seq Number: 3144020

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00201	mg/kg	12.05.2020 07:25	U	1
Toluene	108-88-3	ND	0.00201	mg/kg	12.05.2020 07:25	U	1
Ethylbenzene	100-41-4	ND	0.00201	mg/kg	12.05.2020 07:25	U	1
m,p-Xylenes	179601-23-1	ND	0.00402	mg/kg	12.05.2020 07:25	U	1
o-Xylene	95-47-6	ND	0.00201	mg/kg	12.05.2020 07:25	U	1
Total Xylenes	1330-20-7	ND	0.002010	mg/kg	12.05.2020 07:25	U	1
Total BTEX		ND	0.002010	mg/kg	12.05.2020 07:25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.05.2020 07:25		
4-Bromofluorobenzene	460-00-4	109	%	70-130	12.05.2020 07:25		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-14 @ 1'** Matrix: Soil Date Received: 12.02.2020 12:02
 Lab Sample Id: 679518-010 Date Collected: 11.24.2020 10:55
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.03.2020 13:15 % Moisture:
 Seq Number: 3143895 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.8	4.97	mg/kg	12.03.2020 14:09		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.04.2020 10:00 % Moisture:
 Seq Number: 3144067 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.8	mg/kg	12.04.2020 17:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.8	mg/kg	12.04.2020 17:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.8	mg/kg	12.04.2020 17:44	U	1
Total TPH	PHC635	ND	49.80	mg/kg	12.04.2020 17:44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	124	%	70-130	12.04.2020 17:44		
o-Terphenyl	84-15-1	123	%	70-130	12.04.2020 17:44		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-14 @ 1'**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-010

Date Collected: 11.24.2020 10:55

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.04.2020 16:30

% Moisture:

Seq Number: 3144020

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.05.2020 07:46	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.05.2020 07:46	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.05.2020 07:46	U	1
m,p-Xylenes	179601-23-1	ND	0.00401	mg/kg	12.05.2020 07:46	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.05.2020 07:46	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.05.2020 07:46	U	1
Total BTEX		ND	0.002000	mg/kg	12.05.2020 07:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.05.2020 07:46		
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.05.2020 07:46		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-14 @ 1'** Matrix: Soil Date Received: 12.02.2020 12:02
 Lab Sample Id: 679518-011 Date Collected: 11.24.2020 10:45
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.03.2020 13:15 % Moisture:
 Seq Number: 3143895 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	290	5.05	mg/kg	12.03.2020 14:15		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.04.2020 10:00 % Moisture:
 Seq Number: 3144067 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	12.04.2020 18:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	12.04.2020 18:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	12.04.2020 18:27	U	1
Total TPH	PHC635	ND	50.00	mg/kg	12.04.2020 18:27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-130	12.04.2020 18:27		
o-Terphenyl	84-15-1	114	%	70-130	12.04.2020 18:27		



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Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-14 @ 1'**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-011

Date Collected: 11.24.2020 10:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.04.2020 16:30

% Moisture:

Seq Number: 3144020

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.05.2020 08:06	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.05.2020 08:06	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.05.2020 08:06	U	1
m,p-Xylenes	179601-23-1	ND	0.00401	mg/kg	12.05.2020 08:06	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.05.2020 08:06	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.05.2020 08:06	U	1
Total BTEX		ND	0.002000	mg/kg	12.05.2020 08:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	12.05.2020 08:06		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.05.2020 08:06		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-15 @ 1'** Matrix: Soil Date Received: 12.02.2020 12:02
 Lab Sample Id: 679518-012 Date Collected: 11.24.2020 09:45
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.03.2020 13:15 % Moisture:
 Seq Number: 3143895 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	458	5.03	mg/kg	12.03.2020 14:30		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.04.2020 10:00 % Moisture:
 Seq Number: 3144067 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	12.04.2020 18:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	12.04.2020 18:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	12.04.2020 18:48	U	1
Total TPH	PHC635	ND	49.90	mg/kg	12.04.2020 18:48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	131	%	70-130	12.04.2020 18:48	**	
o-Terphenyl	84-15-1	129	%	70-130	12.04.2020 18:48		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **BH-15 @ 1'**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-012

Date Collected: 11.24.2020 09:45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.04.2020 16:30

% Moisture:

Seq Number: 3144020

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00199	mg/kg	12.05.2020 08:27	U	1
Toluene	108-88-3	ND	0.00199	mg/kg	12.05.2020 08:27	U	1
Ethylbenzene	100-41-4	ND	0.00199	mg/kg	12.05.2020 08:27	U	1
m,p-Xylenes	179601-23-1	ND	0.00398	mg/kg	12.05.2020 08:27	U	1
o-Xylene	95-47-6	ND	0.00199	mg/kg	12.05.2020 08:27	U	1
Total Xylenes	1330-20-7	ND	0.001990	mg/kg	12.05.2020 08:27	U	1
Total BTEX		ND	0.001990	mg/kg	12.05.2020 08:27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.05.2020 08:27		
4-Bromofluorobenzene	460-00-4	108	%	70-130	12.05.2020 08:27		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-15** Matrix: Soil Date Received: 12.02.2020 12:02
 Lab Sample Id: 679518-013 Date Collected: 11.24.2020 10:25
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.03.2020 13:15 % Moisture:
 Seq Number: 3143895 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2290	24.9	mg/kg	12.03.2020 14:36		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.04.2020 10:00 % Moisture:
 Seq Number: 3144067 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	12.04.2020 19:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	149	49.9	mg/kg	12.04.2020 19:10		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	12.04.2020 19:10	U	1
Total TPH	PHC635	149.0	49.90	mg/kg	12.04.2020 19:10		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	128	%	70-130	12.04.2020 19:10		
o-Terphenyl	84-15-1	129	%	70-130	12.04.2020 19:10		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-15**
Lab Sample Id: 679518-013

Matrix: Soil
Date Collected: 11.24.2020 10:25

Date Received: 12.02.2020 12:02

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.04.2020 16:30

% Moisture:
Basis: Wet Weight

Seq Number: 3144020

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.05.2020 09:50	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.05.2020 09:50	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.05.2020 09:50	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	12.05.2020 09:50	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.05.2020 09:50	U	1
Total Xylenes	1330-20-7	ND	0.002000	mg/kg	12.05.2020 09:50	U	1
Total BTEX		ND	0.002000	mg/kg	12.05.2020 09:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.05.2020 09:50	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.05.2020 09:50	



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-15 @ 1'** Matrix: Soil Date Received: 12.02.2020 12:02
 Lab Sample Id: 679518-014 Date Collected: 11.24.2020 10:03
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.03.2020 13:15 % Moisture:
 Seq Number: 3143895 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	423	4.99	mg/kg	12.03.2020 14:41		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.04.2020 10:00 % Moisture:
 Seq Number: 3144067 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.8	mg/kg	12.04.2020 19:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.8	mg/kg	12.04.2020 19:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.8	mg/kg	12.04.2020 19:31	U	1
Total TPH	PHC635	ND	49.80	mg/kg	12.04.2020 19:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	123	%	70-130	12.04.2020 19:31		
o-Terphenyl	84-15-1	124	%	70-130	12.04.2020 19:31		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **ESW-15 @ 1'**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-014

Date Collected: 11.24.2020 10:03

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.04.2020 16:30

% Moisture:

Seq Number: 3144020

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00199	mg/kg	12.05.2020 10:10	U	1
Toluene	108-88-3	ND	0.00199	mg/kg	12.05.2020 10:10	U	1
Ethylbenzene	100-41-4	ND	0.00199	mg/kg	12.05.2020 10:10	U	1
m,p-Xylenes	179601-23-1	ND	0.00398	mg/kg	12.05.2020 10:10	U	1
o-Xylene	95-47-6	ND	0.00199	mg/kg	12.05.2020 10:10	U	1
Total Xylenes	1330-20-7	ND	0.001990	mg/kg	12.05.2020 10:10	U	1
Total BTEX		ND	0.001990	mg/kg	12.05.2020 10:10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.05.2020 10:10		
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.05.2020 10:10		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-15 @ 1'** Matrix: Soil Date Received: 12.02.2020 12:02
 Lab Sample Id: 679518-015 Date Collected: 11.24.2020 10:15
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.03.2020 13:15 % Moisture:
 Seq Number: 3143895 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	822	4.95	mg/kg	12.03.2020 14:46		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.04.2020 10:00 % Moisture:
 Seq Number: 3144067 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	12.04.2020 19:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	12.04.2020 19:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	12.04.2020 19:52	U	1
Total TPH	PHC635	ND	50.00	mg/kg	12.04.2020 19:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	121	%	70-130	12.04.2020 19:52		
o-Terphenyl	84-15-1	121	%	70-130	12.04.2020 19:52		



Certificate of Analytical Results 679518

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-15 @ 1'**

Matrix: Soil

Date Received: 12.02.2020 12:02

Lab Sample Id: 679518-015

Date Collected: 11.24.2020 10:15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.04.2020 16:30

% Moisture:

Seq Number: 3144020

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00201	mg/kg	12.05.2020 10:30	U	1
Toluene	108-88-3	ND	0.00201	mg/kg	12.05.2020 10:30	U	1
Ethylbenzene	100-41-4	ND	0.00201	mg/kg	12.05.2020 10:30	U	1
m,p-Xylenes	179601-23-1	ND	0.00402	mg/kg	12.05.2020 10:30	U	1
o-Xylene	95-47-6	ND	0.00201	mg/kg	12.05.2020 10:30	U	1
Total Xylenes	1330-20-7	ND	0.002010	mg/kg	12.05.2020 10:30	U	1
Total BTEX		ND	0.002010	mg/kg	12.05.2020 10:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	12.05.2020 10:30	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.05.2020 10:30	

Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: Chloride by EPA 300

Seq Number: 3143843

MB Sample Id: 7716310-1-BLK

Matrix: Solid

LCS Sample Id: 7716310-1-BKS

Prep Method: E300P

Date Prep: 12.02.2020

LCSD Sample Id: 7716310-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	263	105	264	106	90-110	0	20	mg/kg	12.03.2020 09:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3143895

MB Sample Id: 7716347-1-BLK

Matrix: Solid

LCS Sample Id: 7716347-1-BKS

Prep Method: E300P

Date Prep: 12.03.2020

LCSD Sample Id: 7716347-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	251	100	250	100	90-110	0	20	mg/kg	12.03.2020 13:32	

Analytical Method: Chloride by EPA 300

Seq Number: 3143843

Parent Sample Id: 679354-003

Matrix: Soil

MS Sample Id: 679354-003 S

Prep Method: E300P

Date Prep: 12.02.2020

MSD Sample Id: 679354-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	299	285	598	105	594	104	90-110	1	20	mg/kg	12.03.2020 10:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3143843

Parent Sample Id: 679536-001

Matrix: Soil

MS Sample Id: 679536-001 S

Prep Method: E300P

Date Prep: 12.02.2020

MSD Sample Id: 679536-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	706	252	947	96	946	95	90-110	0	20	mg/kg	12.03.2020 09:44	

Analytical Method: Chloride by EPA 300

Seq Number: 3143895

Parent Sample Id: 679518-007

Matrix: Soil

MS Sample Id: 679518-007 S

Prep Method: E300P

Date Prep: 12.03.2020

MSD Sample Id: 679518-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	171	251	419	99	416	98	90-110	1	20	mg/kg	12.03.2020 13:47	

Analytical Method: Chloride by EPA 300

Seq Number: 3143895

Parent Sample Id: 679522-004

Matrix: Soil

MS Sample Id: 679522-004 S

Prep Method: E300P

Date Prep: 12.03.2020

MSD Sample Id: 679522-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	65.0	250	324	104	322	103	90-110	1	20	mg/kg	12.03.2020 15:02	

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144067

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.04.2020

MB Sample Id: 7716503-1-BLK

LCS Sample Id: 7716503-1-BKS

LCSD Sample Id: 7716503-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1170	117	1080	108	70-130	8	20	mg/kg	12.04.2020 13:02	
Diesel Range Organics (DRO)	<50.0	1000	1150	115	1080	108	70-130	6	20	mg/kg	12.04.2020 13:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		129		122		70-130	%	12.04.2020 13:02
o-Terphenyl	126		127		121		70-130	%	12.04.2020 13:02

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144067

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.04.2020

MB Sample Id: 7716503-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	ND	mg/kg	12.04.2020 12:40	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144067

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.04.2020

Parent Sample Id: 679518-001

MS Sample Id: 679518-001 S

MSD Sample Id: 679518-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	1110	111	1110	111	70-130	0	20	mg/kg	12.04.2020 14:07	
Diesel Range Organics (DRO)	<49.9	997	1380	138	1100	110	70-130	23	20	mg/kg	12.04.2020 14:07	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		122		70-130	%	12.04.2020 14:07
o-Terphenyl	130		126		70-130	%	12.04.2020 14:07

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143914

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.03.2020

MB Sample Id: 7716408-1-BLK

LCS Sample Id: 7716408-1-BKS

LCSD Sample Id: 7716408-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0924	92	0.0930	93	70-130	1	35	mg/kg	12.04.2020 03:30	
Toluene	<0.00200	0.100	0.0884	88	0.0883	88	70-130	0	35	mg/kg	12.04.2020 03:30	
Ethylbenzene	<0.00200	0.100	0.0977	98	0.0978	98	70-130	0	35	mg/kg	12.04.2020 03:30	
m,p-Xylenes	<0.00400	0.200	0.192	96	0.192	96	70-130	0	35	mg/kg	12.04.2020 03:30	
o-Xylene	<0.00200	0.100	0.0959	96	0.0966	97	70-130	1	35	mg/kg	12.04.2020 03:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		101		99		70-130	%	12.04.2020 03:30
4-Bromofluorobenzene	105		103		100		70-130	%	12.04.2020 03:30

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

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144020

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.04.2020

MB Sample Id: 7716475-1-BLK

LCS Sample Id: 7716475-1-BKS

LCSD Sample Id: 7716475-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0941	94	0.0940	94	70-130	0	35	mg/kg	12.05.2020 03:01	
Toluene	<0.00200	0.100	0.0870	87	0.0882	88	70-130	1	35	mg/kg	12.05.2020 03:01	
Ethylbenzene	<0.00200	0.100	0.0906	91	0.0958	96	70-130	6	35	mg/kg	12.05.2020 03:01	
m,p-Xylenes	<0.00400	0.200	0.180	90	0.187	94	70-130	4	35	mg/kg	12.05.2020 03:01	
o-Xylene	<0.00200	0.100	0.0900	90	0.0915	92	70-130	2	35	mg/kg	12.05.2020 03:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		100		95		70-130	%	12.05.2020 03:01
4-Bromofluorobenzene	105		98		92		70-130	%	12.05.2020 03:01

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143914

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.03.2020

Parent Sample Id: 679278-001

MS Sample Id: 679278-001 S

MSD Sample Id: 679278-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0825	82	<0.00200	0	70-130	200	35	mg/kg	12.04.2020 04:11	XF
Toluene	<0.00201	0.101	0.0788	78	<0.00200	0	70-130	200	35	mg/kg	12.04.2020 04:11	XF
Ethylbenzene	<0.00201	0.101	0.0876	87	<0.00200	0	70-130	200	35	mg/kg	12.04.2020 04:11	XF
m,p-Xylenes	<0.00402	0.201	0.170	85	<0.00401	0	70-130	200	35	mg/kg	12.04.2020 04:11	XF
o-Xylene	<0.00201	0.101	0.0861	85	<0.00200	0	70-130	200	35	mg/kg	12.04.2020 04:11	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		0	**	70-130	%	12.04.2020 04:11
4-Bromofluorobenzene	105		0	**	70-130	%	12.04.2020 04:11

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144020

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.04.2020

Parent Sample Id: 679461-001

MS Sample Id: 679461-001 S

MSD Sample Id: 679461-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0854	86	0.0962	97	70-130	12	35	mg/kg	12.05.2020 03:42	
Toluene	<0.00199	0.0994	0.0791	80	0.0906	91	70-130	14	35	mg/kg	12.05.2020 03:42	
Ethylbenzene	<0.00199	0.0994	0.0845	85	0.0974	98	70-130	14	35	mg/kg	12.05.2020 03:42	
m,p-Xylenes	<0.00398	0.199	0.165	83	0.190	95	70-130	14	35	mg/kg	12.05.2020 03:42	
o-Xylene	<0.00199	0.0994	0.0815	82	0.0940	95	70-130	14	35	mg/kg	12.05.2020 03:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		98		70-130	%	12.05.2020 03:42
4-Bromofluorobenzene	104		103		70-130	%	12.05.2020 03:42

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

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440, El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Caspabad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
 Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
 Atlanta, GA (770) 449-8800

Work Order No: 679518

www.xenco.com Page ____ of ____

Project Manager:	Matt Green	Bill to: (if different)	
Company Name:	Elech Environmental & Safety Solutions, Inc	Company Name:	Centennial
Address:	PO Box 62228	Address:	
City, State ZIP:	Midland, Texas 79711	City, State ZIP:	
Phone:	432-563-2200	Email:	Matt@elechenv.com

Work Order Comments	
Program: UST/PST ☐ PRF ☐ Brownfield ☐ RRD ☒ Superfund ☐	
State of Project:	
Reporting Level ☐ Level ☐ PST/UD ☐ TRF ☐ Level ☐	
Deliverables: EDD ☐ ADAPT ☐ Other: contract	

Project Name:	Crazy Wolf 1H	Turn Around	CONTRACT ☐	ANALYSIS REQUEST												Preservative Codes				
Project Number:	12926		Rush: ☐													HNO3: HN				
Project Location:	Lea County, New Mexico															H2SO4: H2				
Sampler's Name:	Matt Green		Due Date:													HCL: HL				
PO #:																None: NO				
SAMPLE RECEIPT				Temp Blank:	Yes ☐ No ☒	Wet Ice:	Yes ☐ No ☒													NaOH: Na
Temperature (°C):	10.1			Thermometer ID	128													MeOH: Me		
Received In tact:	Yes ☒ No ☐			red services	10.5													Zn Acetate+ NaOH: Zn		
Cooler Custody Seals:	Yes ☒ No ☐ N/A			Correction Factor:																
Sample Custody Seals:	Yes ☒ No ☐ N/A			Total Containers:																
Sample Identification				Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code												Sample Comments
BH-5 @ 1.5'				S	11/24/2020	1000		1	X	X	X	X	X	X	X	X	X			
BH-6 @ 1'				S	11/24/2020	1001		1	X	X	X	X	X	X	X	X	X			
BH-8 @ 1.5'				S	11/24/2020	800		1	X	X	X	X	X	X	X	X	X			
BH-13 @ 6"				S	11/24/2020	705		1	X	X	X	X	X	X	X	X	X			
NSW-13 @ 3"				S	11/24/2020	745		1	X	X	X	X	X	X	X	X	X			
SSW-13 @ 3"				S	11/24/2020	730		1	X	X	X	X	X	X	X	X	X			
ESW-13 @ 3"				S	11/24/2020	800		1	X	X	X	X	X	X	X	X	X			
BH-14 @ 1'				S	11/24/2020	1345		1	X	X	X	X	X	X	X	X	X			
NSW-14 @ 1'				S	11/24/2020	1100		1	X	X	X	X	X	X	X	X	X			
ESW-14 @ 1'				S	11/24/2020	1055		1	X	X	X	X	X	X	X	X	X			

NORM TAT circle one : 7 day, 5 day, Rush 3 day

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		12/3/20			
		1203			



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440, El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
 Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
 Atlanta, GA (770) 449-8800

Work Order No:

079518

Project Manager:	Matt Green	Bill to: (if different)	
Company Name:	Etech Environmental & Safety Solutions, Inc	Company Name:	Centennial
Address:	PO Box 62228	Address:	
City, State ZIP:	Midland, Texas 79711	City, State ZIP:	
Phone:	432-563-2200	Email:	Matt@etechnv.com

Work Order Comments

Program: UST/PST ☐ PRF ☐ Brownfield ☐ RR ☒ Superfund ☐

State of Project:

Reporting Level ☐ Level ☐ PST/US ☐ TRF ☐ Level ☐

Deliverables: EDD ☐ ADAPT ☐ Other: contract

Project Name:	Crazy Wolf 1H			Turn Around
Project Number:	12926			CONTRACT ☐
Project Location	Lea County, New Mexico			Rush: ☐
Sampler's Name:	Matt Green			Due Date:
PO #:	AF56 of 5689 by LEOT-CC#			
SAMPLE RECEIPT		Temp Blank:	Yes ☐ No ☒	Wet Ice: Yes ☒ No ☐
Temperature (°C):	6.9			Thermometer ID
Received Inact:	Yes ☒ No ☐			red. services
Cooler Custody Seals:	Yes ☐ No ☒	Correction Factor:		0.5
Sample Custody Seals:	Yes ☐ No ☒	Total Containers:		

ANALYSIS REQUEST										Preservative Codes
										HNO3: HN
										H2SO4: H2
										HCL: HL
										None: NO
										NaOH: Na
										MeOH: Me
										Zn Acetate+ NaOH: Zn
TAT starts the day received by the lab, if received by 4:30pm										

[illegible]

NORM TAT circle one : 7 day, 5 day, Rush 3 day

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and sub-contractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 		12/2/20	2		
3			4		
5			6		

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 12.02.2020 12.02.00 PM

Work Order #: 679518

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	6.1	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	BTEX was in bulk container
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	N/A	
#18 Water VOC samples have zero headspace?	N/A	

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 12.02.2020

Checklist reviewed by:



Jessica Kramer

Date: 12.03.2020

Certificate of Analysis Summary 681854

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location:

Date Received in Lab: Fri 12.18.2020 16:11
Report Date: 12.23.2020 13:53
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	Lab Id: Field Id: Depth: Matrix: Sampled:	681854-001 Bottom Hole 11 @4' 4- ft SOIL 12.14.2020 12:45	681854-002 Bottom Hole 16 @ 1.5' 1.5- ft SOIL 12.14.2020 14:00	681854-003 NSW-16 @ 6" 6- In SOIL 12.14.2020 14:15	681854-004 ESW-12@ 6" 6- In SOIL 12.14.2020 09:45	681854-005 WSW-16 @ 6" 6- In SOIL 12.14.2020 14:00	
BTEX by EPA 8021B	Extracted: Analyzed: Units/RL:		12.21.2020 10:00 12.21.2020 12:49 mg/kg RL	12.21.2020 10:00 12.21.2020 14:58 mg/kg RL		12.22.2020 09:00 12.22.2020 11:41 mg/kg RL	
Benzene			0.00497 0.00200	ND 0.00200		ND 0.00200	
Toluene			ND 0.00200	ND 0.00200		ND 0.00200	
Ethylbenzene			0.00306 0.00200	ND 0.00200		ND 0.00200	
m,p-Xylenes			0.00453 0.00399	ND 0.00401		ND 0.00399	
o-Xylene			0.00539 0.00200	ND 0.00200		ND 0.00200	
Total Xylenes			0.00992 0.00200	ND 0.00200		ND 0.00200	
Total BTEX			0.0180 0.00200	ND 0.00200		ND 0.00200	
Chloride by EPA 300	Extracted: Analyzed: Units/RL:	12.21.2020 17:40 12.21.2020 17:57 mg/kg RL	12.21.2020 17:40 12.21.2020 18:12 mg/kg RL	12.21.2020 17:40 12.21.2020 18:18 mg/kg RL	12.21.2020 17:40 12.21.2020 18:23 mg/kg RL	12.21.2020 17:40 12.21.2020 18:28 mg/kg RL	
Chloride		204 5.04	1250 4.99	301 5.00	296 5.01	144 4.95	
TPH by SW8015 Mod	Extracted: Analyzed: Units/RL:		12.19.2020 10:00 12.20.2020 01:22 mg/kg RL	12.19.2020 10:00 12.20.2020 01:41 mg/kg RL		12.19.2020 10:00 12.20.2020 01:59 mg/kg RL	
Gasoline Range Hydrocarbons (GRO)			ND 50.0	ND 50.0		ND 49.9	
Diesel Range Organics (DRO)			ND 50.0	ND 50.0		ND 49.9	
Motor Oil Range Hydrocarbons (MRO)			ND 50.0	ND 50.0		ND 49.9	
Total TPH			ND 50.0	ND 50.0		ND 49.9	

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Analytical Report 681854

for

Etech Environmental & Safety Solution, Inc

Project Manager: Matthew Green

Crazy Wolf 1H

12926

12.23.2020

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.23.2020

Project Manager: **Matthew Green**

Etech Environmental & Safety Solution, Inc

P.O. Box 62228

Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **681854**

Crazy Wolf 1H

Project Address:

Matthew Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 681854. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 681854 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

**Sample Cross Reference 681854****Etech Environmental & Safety Solution, Inc, Midland, TX**

Crazy Wolf 1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Bottom Hole 11 @4'	S	12.14.2020 12:45	4 ft	681854-001
Bottom Hole 16 @ 1.5'	S	12.14.2020 14:00	1.5 ft	681854-002
NSW-16 @ 6"	S	12.14.2020 14:15	6 In	681854-003
ESW-12@ 6"	S	12.14.2020 09:45	6 In	681854-004
WSW-16 @ 6"	S	12.14.2020 14:00	6 In	681854-005



CASE NARRATIVE

Client Name: Etech Environmental & Safety Solution, Inc

Project Name: Crazy Wolf 1H

Project ID: 12926
Work Order Number(s): 681854

Report Date: 12.23.2020
Date Received: 12.18.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

**Certificate of Analytical Results 681854****Etech Environmental & Safety Solution, Inc, Midland, TX**

Crazy Wolf 1H

Sample Id: **Bottom Hole 11 @4'**

Matrix: Soil

Date Received: 12.18.2020 16:11

Lab Sample Id: 681854-001

Date Collected: 12.14.2020 12:45

Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 12.21.2020 17:40

% Moisture:

Seq Number: 3145645

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	204	5.04	mg/kg	12.21.2020 17:57		1



Certificate of Analytical Results 681854

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **Bottom Hole 16 @ 1.5'** Matrix: Soil Date Received: 12.18.2020 16:11
 Lab Sample Id: 681854-002 Date Collected: 12.14.2020 14:00 Sample Depth: 1.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 12.21.2020 17:40 % Moisture:
 Seq Number: 3145645 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1250	4.99	mg/kg	12.21.2020 18:12		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:
 Seq Number: 3145532 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	12.20.2020 01:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	12.20.2020 01:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	12.20.2020 01:22	U	1
Total TPH	PHC635	ND	50.0	mg/kg	12.20.2020 01:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	80	%	70-130	12.20.2020 01:22		
o-Terphenyl	84-15-1	85	%	70-130	12.20.2020 01:22		



Certificate of Analytical Results 681854

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **Bottom Hole 16 @ 1.5'** Matrix: Soil Date Received: 12.18.2020 16:11
 Lab Sample Id: 681854-002 Date Collected: 12.14.2020 14:00 Sample Depth: 1.5 ft
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A
 Tech: MNR
 Analyst: MNR Date Prep: 12.21.2020 10:00 % Moisture:
 Seq Number: 3145620 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00497	0.00200	mg/kg	12.21.2020 12:49		1
Toluene	108-88-3	ND	0.00200	mg/kg	12.21.2020 12:49	U	1
Ethylbenzene	100-41-4	0.00306	0.00200	mg/kg	12.21.2020 12:49		1
m,p-Xylenes	179601-23-1	0.00453	0.00399	mg/kg	12.21.2020 12:49		1
o-Xylene	95-47-6	0.00539	0.00200	mg/kg	12.21.2020 12:49		1
Total Xylenes	1330-20-7	0.00992	0.00200	mg/kg	12.21.2020 12:49		1
Total BTEX		0.0180	0.00200	mg/kg	12.21.2020 12:49		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	12.21.2020 12:49		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.21.2020 12:49		



Certificate of Analytical Results 681854

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-16 @ 6"** Matrix: Soil Date Received: 12.18.2020 16:11
 Lab Sample Id: 681854-003 Date Collected: 12.14.2020 14:15 Sample Depth: 6 In
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 12.21.2020 17:40 % Moisture:
 Seq Number: 3145645 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	301	5.00	mg/kg	12.21.2020 18:18		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:
 Seq Number: 3145532 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	12.20.2020 01:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	50.0	mg/kg	12.20.2020 01:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	12.20.2020 01:41	U	1
Total TPH	PHC635	ND	50.0	mg/kg	12.20.2020 01:41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	78	%	70-130	12.20.2020 01:41		
o-Terphenyl	84-15-1	81	%	70-130	12.20.2020 01:41		



Certificate of Analytical Results 681854

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **NSW-16 @ 6"**

Matrix: Soil

Date Received: 12.18.2020 16:11

Lab Sample Id: 681854-003

Date Collected: 12.14.2020 14:15

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 12.21.2020 10:00

% Moisture:

Seq Number: 3145620

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.21.2020 14:58	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.21.2020 14:58	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.21.2020 14:58	U	1
m,p-Xylenes	179601-23-1	ND	0.00401	mg/kg	12.21.2020 14:58	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.21.2020 14:58	U	1
Total Xylenes	1330-20-7	ND	0.00200	mg/kg	12.21.2020 14:58	U	1
Total BTEX		ND	0.00200	mg/kg	12.21.2020 14:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.21.2020 14:58	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.21.2020 14:58	

**Certificate of Analytical Results 681854****Etech Environmental & Safety Solution, Inc, Midland, TX**
Crazy Wolf 1H

Sample Id: **ESW-12@ 6"** Matrix: Soil Date Received: 12.18.2020 16:11
Lab Sample Id: 681854-004 Date Collected: 12.14.2020 09:45 Sample Depth: 6 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: SPC
Analyst: SPC Date Prep: 12.21.2020 17:40 % Moisture:
Seq Number: 3145645 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	296	5.01	mg/kg	12.21.2020 18:23		1



Certificate of Analytical Results 681854

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-16 @ 6"** Matrix: Soil Date Received: 12.18.2020 16:11
 Lab Sample Id: 681854-005 Date Collected: 12.14.2020 14:00 Sample Depth: 6 In
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC
 Analyst: SPC Date Prep: 12.21.2020 17:40 % Moisture:
 Seq Number: 3145645 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	144	4.95	mg/kg	12.21.2020 18:28		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.19.2020 10:00 % Moisture:
 Seq Number: 3145532 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	12.20.2020 01:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	ND	49.9	mg/kg	12.20.2020 01:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	12.20.2020 01:59	U	1
Total TPH	PHC635	ND	49.9	mg/kg	12.20.2020 01:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	77	%	70-130	12.20.2020 01:59		
o-Terphenyl	84-15-1	79	%	70-130	12.20.2020 01:59		



Certificate of Analytical Results 681854

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **WSW-16 @ 6"**

Matrix: Soil

Date Received: 12.18.2020 16:11

Lab Sample Id: 681854-005

Date Collected: 12.14.2020 14:00

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: KTL

Analyst: KTL

Date Prep: 12.22.2020 09:00

% Moisture:

Seq Number: 3145808

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	12.22.2020 11:41	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	12.22.2020 11:41	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	12.22.2020 11:41	U	1
m,p-Xylenes	179601-23-1	ND	0.00399	mg/kg	12.22.2020 11:41	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	12.22.2020 11:41	U	1
Total Xylenes	1330-20-7	ND	0.00200	mg/kg	12.22.2020 11:41	U	1
Total BTEX		ND	0.00200	mg/kg	12.22.2020 11:41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	89	%	70-130	12.22.2020 11:41		
4-Bromofluorobenzene	460-00-4	103	%	70-130	12.22.2020 11:41		

Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: Chloride by EPA 300

Seq Number: 3145645

MB Sample Id: 7717612-1-BLK

Matrix: Solid

LCS Sample Id: 7717612-1-BKS

Prep Method: E300P

Date Prep: 12.21.2020

LCSD Sample Id: 7717612-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	264	106	263	105	90-110	0	20	mg/kg	12.21.2020 17:46	

Analytical Method: Chloride by EPA 300

Seq Number: 3145645

Parent Sample Id: 681854-001

Matrix: Soil

MS Sample Id: 681854-001 S

Prep Method: E300P

Date Prep: 12.21.2020

MSD Sample Id: 681854-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	204	252	448	97	445	96	90-110	1	20	mg/kg	12.21.2020 18:02	

Analytical Method: Chloride by EPA 300

Seq Number: 3145645

Parent Sample Id: 681980-006

Matrix: Soil

MS Sample Id: 681980-006 S

Prep Method: E300P

Date Prep: 12.21.2020

MSD Sample Id: 681980-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.98	249	247	99	240	96	90-110	3	20	mg/kg	12.21.2020 19:15	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3145532

MB Sample Id: 7717574-1-BLK

Matrix: Solid

LCS Sample Id: 7717574-1-BKS

Prep Method: SW8015P

Date Prep: 12.19.2020

LCSD Sample Id: 7717574-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	856	86	867	87	70-130	1	20	mg/kg	12.19.2020 21:35	
Diesel Range Organics (DRO)	<50.0	1000	949	95	1000	100	70-130	5	20	mg/kg	12.19.2020 21:35	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	85		106		112		70-130	%	12.19.2020 21:35
o-Terphenyl	97		104		108		70-130	%	12.19.2020 21:35

Analytical Method: TPH by SW8015 Mod

Seq Number: 3145532

Matrix: Solid

MB Sample Id: 7717574-1-BLK

Prep Method: SW8015P

Date Prep: 12.19.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	ND	mg/kg	12.19.2020 21:16	

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3145532

Parent Sample Id: 681801-021

Matrix: Soil

MS Sample Id: 681801-021 S

Prep Method: SW8015P

Date Prep: 12.19.2020

MSD Sample Id: 681801-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	799	80	847	85	70-130	6	20	mg/kg	12.19.2020 22:33	
Diesel Range Organics (DRO)	<49.9	997	942	94	917	92	70-130	3	20	mg/kg	12.19.2020 22:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		106		70-130	%	12.19.2020 22:33
o-Terphenyl	91		95		70-130	%	12.19.2020 22:33

Analytical Method: BTEX by EPA 8021B

Seq Number: 3145620

MB Sample Id: 7717633-1-BLK

Matrix: Solid

LCS Sample Id: 7717633-1-BKS

Prep Method: SW5035A

Date Prep: 12.21.2020

LCSD Sample Id: 7717633-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.109	109	0.103	103	70-130	6	35	mg/kg	12.21.2020 09:49	
Toluene	<0.00200	0.100	0.102	102	0.108	108	70-130	6	35	mg/kg	12.21.2020 09:49	
Ethylbenzene	<0.00200	0.100	0.109	109	0.108	108	70-130	1	35	mg/kg	12.21.2020 09:49	
m,p-Xylenes	<0.00400	0.200	0.223	112	0.220	110	70-130	1	35	mg/kg	12.21.2020 09:49	
o-Xylene	<0.00200	0.100	0.109	109	0.108	108	70-130	1	35	mg/kg	12.21.2020 09:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		100		99		70-130	%	12.21.2020 09:49
4-Bromofluorobenzene	72		108		102		70-130	%	12.21.2020 09:49

Analytical Method: BTEX by EPA 8021B

Seq Number: 3145808

MB Sample Id: 7717740-1-BLK

Matrix: Solid

LCS Sample Id: 7717740-1-BKS

Prep Method: SW5035A

Date Prep: 12.22.2020

LCSD Sample Id: 7717740-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.106	106	0.108	108	70-130	2	35	mg/kg	12.22.2020 08:39	
Toluene	<0.00200	0.100	0.107	107	0.111	111	70-130	4	35	mg/kg	12.22.2020 08:39	
Ethylbenzene	<0.00200	0.100	0.106	106	0.110	110	70-130	4	35	mg/kg	12.22.2020 08:39	
m,p-Xylenes	<0.00400	0.200	0.216	108	0.223	112	70-130	3	35	mg/kg	12.22.2020 08:39	
o-Xylene	<0.00200	0.100	0.107	107	0.111	111	70-130	4	35	mg/kg	12.22.2020 08:39	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		100		103		70-130	%	12.22.2020 08:39
4-Bromofluorobenzene	70		106		107		70-130	%	12.22.2020 08:39

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc
Crazy Wolf 1H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3145620

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.21.2020

Parent Sample Id: 681854-002

MS Sample Id: 681854-002 S

MSD Sample Id: 681854-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.00497	0.0998	0.103	98	0.0969	92	70-130	6	35	mg/kg	12.21.2020 10:40	
Toluene	<0.00200	0.0998	0.107	107	0.0999	100	70-130	7	35	mg/kg	12.21.2020 10:40	
Ethylbenzene	0.00306	0.0998	0.105	102	0.0998	97	70-130	5	35	mg/kg	12.21.2020 10:40	
m,p-Xylenes	0.00453	0.200	0.214	105	0.204	100	70-130	5	35	mg/kg	12.21.2020 10:40	
o-Xylene	0.00539	0.0998	0.106	101	0.101	96	70-130	5	35	mg/kg	12.21.2020 10:40	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		101		70-130	%	12.21.2020 10:40
4-Bromofluorobenzene	108		101		70-130	%	12.21.2020 10:40

Analytical Method: BTEX by EPA 8021B

Seq Number: 3145808

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.22.2020

Parent Sample Id: 681854-005

MS Sample Id: 681854-005 S

MSD Sample Id: 681854-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.0916	93	0.0876	88	70-130	4	35	mg/kg	12.22.2020 09:32	
Toluene	<0.00198	0.0990	0.104	105	0.0899	90	70-130	15	35	mg/kg	12.22.2020 09:32	
Ethylbenzene	<0.00198	0.0990	0.103	104	0.0894	90	70-130	14	35	mg/kg	12.22.2020 09:32	
m,p-Xylenes	<0.00396	0.198	0.209	106	0.183	92	70-130	13	35	mg/kg	12.22.2020 09:32	
o-Xylene	<0.00198	0.0990	0.102	103	0.0909	91	70-130	12	35	mg/kg	12.22.2020 09:32	

Surrogate

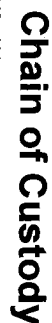
	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		101		70-130	%	12.22.2020 09:32
4-Bromofluorobenzene	104		105		70-130	%	12.22.2020 09:32

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Work Order No:

081854

www.xenco.com Page 1 of 1

Project Name:		Crazy Wolf 1H		Turn Around				
Project Number:		12926		CONTRACT ☐				
Project Location		Lea County, New Mexico		Rush: ☐				
Sampler's Name:		Matt Green		Due Date:				
PO #:		APR 28 01 10 PM '04		APR 28 01 10 PM '04				
SAMPLE RECEIPT		Temp Blank:		Yes	No	Wet Ice:	Yes	No
Temperature (°C):		12.4				Thermometer ID		
Received Intact:		Yes		No		red:services		
Cooler Custody Seals:		Yes		No		Correction Factor:		
Sample Custody Seals:		Yes		No		Total Containers:		
Number of Containers/Preservative								
15M								
021B								
es E300								
ANALYSIS REQUEST								
Preservative Codes								
HNO3: HN								
H2SO4: H2								
HCL: HL								
None: NO								
NaOH: Na								
MeOH: Me								
Zn Acetate+ NaOH: Zn								
TAT starts the day received by the lab, if received by 4:30pm								

[illegible]

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xencio, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xencio will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xencio. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xencio, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 		2/12/16 08:00			
2		4			
3					
4					
5					
6					

~~NORM TAT circle one : 7 day 5 day Push 3 day~~

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 12.18.2020 04.11.27 PM

Work Order #: 681854

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	12.4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 12.21.2020

Checklist reviewed by:



Jessica Kramer

Date: 12.21.2020

Certificate of Analysis Summary 683109

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id:

Contact: Matthew Green

Project Location:

Date Received in Lab: Thu 12.31.2020 11:25

Report Date: 01.04.2021 16:59

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	683109-001					
	Field Id:	NSW-12 @ 6"					
	Depth:						
	Matrix:	SOIL					
	Sampled:	12.23.2020 10:25					
Chloride by EPA 300	Extracted:	12.31.2020 11:56					
	Analyzed:	12.31.2020 15:58					
	Units/RL:	mg/kg RL					
Chloride		488 4.99					

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Analytical Report 683109

for

Etech Environmental & Safety Solution, Inc

Project Manager: Matthew Green

Crazy Wolf 1H

01.04.2021

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



01.04.2021

Project Manager: **Matthew Green**

Etech Environmental & Safety Solution, Inc

P.O. Box 62228

Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **683109**

Crazy Wolf 1H

Project Address:

Matthew Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 683109. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 683109 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 683109

Etech Environmental & Safety Solution, Inc, Midland, TX

Crazy Wolf 1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
NSW-12 @ 6"	S	12.23.2020 10:25		683109-001



CASE NARRATIVE

Client Name: Etech Environmental & Safety Solution, Inc

Project Name: Crazy Wolf 1H

Project ID:

Work Order Number(s): 683109

Report Date: 01.04.2021

Date Received: 12.31.2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

**Certificate of Analytical Results 683109****Etech Environmental & Safety Solution, Inc, Midland, TX**
Crazy Wolf 1HSample Id: **NSW-12 @ 6"**

Matrix: Soil

Date Received: 12.31.2020 11:25

Lab Sample Id: 683109-001

Date Collected: 12.23.2020 10:25

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SPC

Analyst: SPC

Date Prep: 12.31.2020 11:56

% Moisture:

Seq Number: 3146528

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	488	4.99	mg/kg	12.31.2020 15:58		1

Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Etech Environmental & Safety Solution, Inc
Crazy Wolf 1H

Analytical Method: Chloride by EPA 300

Seq Number: 3146528

MB Sample Id: 7718210-1-BLK

Matrix: Solid

LCS Sample Id: 7718210-1-BKS

Prep Method: E300P

Date Prep: 12.31.2020

LCSD Sample Id: 7718210-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	249	100	251	100	90-110	1	20	mg/kg	12.31.2020 13:27	

Analytical Method: Chloride by EPA 300

Seq Number: 3146528

Parent Sample Id: 683093-001

Matrix: Soil

MS Sample Id: 683093-001 S

Prep Method: E300P

Date Prep: 12.31.2020

MSD Sample Id: 683093-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5.49	249	293	115	290	114	90-110	1	20	mg/kg	12.31.2020 13:42	X

Analytical Method: Chloride by EPA 300

Seq Number: 3146528

Parent Sample Id: 683093-011

Matrix: Soil

MS Sample Id: 683093-011 S

Prep Method: E300P

Date Prep: 12.31.2020

MSD Sample Id: 683093-011 SD

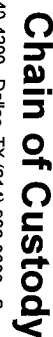
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	58.3	250	329	108	330	109	90-110	0	20	mg/kg	12.31.2020 14:55	

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Work Order No: 1083109

[illegible]

NORM TAT circle one . 7 day 5 day Rush 3 day

Date/Time

1	Henry Abbott	12/31	11:25	2		
3				4		
5				6		

Certificate of Analysis Summary 684229

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Crazy Wolf 1H

Project Id: 12926
Contact: Matthew Green
Project Location: Lea County, New Mexico

Date Received in Lab: Mon 01.11.2021 14:57
Report Date: 01.13.2021 15:52
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	684229-001	684229-002				
	Field Id:	Stockpile A	Stockpile B				
	Depth:						
	Matrix:	SOIL	SOIL				
	Sampled:	01.07.2021 14:05	01.07.2021 14:15				
BTEX by EPA 8021B	Extracted:	01.12.2021 13:00	01.12.2021 13:00				
	Analyzed:	01.13.2021 06:59	01.13.2021 07:25				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		ND 0.00200	ND 0.00200				
Toluene		ND 0.00200	ND 0.00200				
Ethylbenzene		ND 0.00200	ND 0.00200				
m,p-Xylenes		ND 0.00400	ND 0.00400				
o-Xylene		ND 0.00200	ND 0.00200				
Total Xylenes		ND 0.00200	ND 0.00200				
Total BTEX		ND 0.00200	ND 0.00200				
Chloride by EPA 300	Extracted:	01.12.2021 14:55	01.12.2021 14:55				
	Analyzed:	01.12.2021 16:34	01.12.2021 16:39				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		2240 24.8	3360 24.9				
TPH by SW8015 Mod	Extracted:	01.12.2021 17:00	01.12.2021 17:00				
	Analyzed:	01.12.2021 21:41	01.12.2021 22:00				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		ND 50.0	ND 49.9				
Diesel Range Organics (DRO)		74.2 50.0	82.3 49.9				
Motor Oil Range Hydrocarbons (MRO)		ND 50.0	ND 49.9				
Total TPH		74.2 50.0	82.3 49.9				

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Analytical Report 684229

for

Etech Environmental & Safety Solution, Inc

Project Manager: Matthew Green

Crazy Wolf 1H

12926

01.13.2021

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



01.13.2021

Project Manager: **Matthew Green**

Etech Environmental & Safety Solution, Inc

P.O. Box 62228

Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **684229**

Crazy Wolf 1H

Project Address: Lea County, New Mexico

Matthew Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 684229. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 684229 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 684229

Etech Environmental & Safety Solution, Inc, Midland, TX

Crazy Wolf 1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Stockpile A	S	01.07.2021 14:05		684229-001
Stockpile B	S	01.07.2021 14:15		684229-002



CASE NARRATIVE

Client Name: Etech Environmental & Safety Solution, Inc

Project Name: Crazy Wolf 1H

Project ID: 12926
Work Order Number(s): 684229

Report Date: 01.13.2021
Date Received: 01.11.2021

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3147617 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits Samples affected are: 7719041-1-BLK, 7719041-1-BSD, 684229-002, 684229-001.



Certificate of Analytical Results 684229

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **Stockpile A** Matrix: Soil Date Received: 01.11.2021 14:57
 Lab Sample Id: 684229-001 Date Collected: 01.07.2021 14:05
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 01.12.2021 14:55 % Moisture:
 Seq Number: 3147628 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2240	24.8	mg/kg	01.12.2021 16:34		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 01.12.2021 17:00 % Moisture:
 Seq Number: 3147669 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	50.0	mg/kg	01.12.2021 21:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	74.2	50.0	mg/kg	01.12.2021 21:41		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	50.0	mg/kg	01.12.2021 21:41	U	1
Total TPH	PHC635	74.2	50.0	mg/kg	01.12.2021 21:41		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	72	%	70-130	01.12.2021 21:41		
o-Terphenyl	84-15-1	74	%	70-130	01.12.2021 21:41		



Certificate of Analytical Results 684229

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **Stockpile A**

Matrix: Soil

Date Received: 01.11.2021 14:57

Lab Sample Id: 684229-001

Date Collected: 01.07.2021 14:05

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.12.2021 13:00

% Moisture:

Seq Number: 3147617

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	01.13.2021 06:59	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	01.13.2021 06:59	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	01.13.2021 06:59	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	01.13.2021 06:59	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	01.13.2021 06:59	U	1
Total Xylenes	1330-20-7	ND	0.00200	mg/kg	01.13.2021 06:59	U	1
Total BTEX		ND	0.00200	mg/kg	01.13.2021 06:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	01.13.2021 06:59	
4-Bromofluorobenzene	460-00-4	138	%	70-130	01.13.2021 06:59	**



Certificate of Analytical Results 684229

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **Stockpile B** Matrix: Soil Date Received: 01.11.2021 14:57
 Lab Sample Id: 684229-002 Date Collected: 01.07.2021 14:15
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 01.12.2021 14:55 % Moisture:
 Seq Number: 3147628 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3360	24.9	mg/kg	01.12.2021 16:39		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 01.12.2021 17:00 % Moisture:
 Seq Number: 3147669 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	ND	49.9	mg/kg	01.12.2021 22:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	82.3	49.9	mg/kg	01.12.2021 22:00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	ND	49.9	mg/kg	01.12.2021 22:00	U	1
Total TPH	PHC635	82.3	49.9	mg/kg	01.12.2021 22:00		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	78	%	70-130	01.12.2021 22:00		
o-Terphenyl	84-15-1	79	%	70-130	01.12.2021 22:00		



Certificate of Analytical Results 684229

Etech Environmental & Safety Solution, Inc, Midland, TX Crazy Wolf 1H

Sample Id: **Stockpile B**

Matrix: Soil

Date Received: 01.11.2021 14:57

Lab Sample Id: 684229-002

Date Collected: 01.07.2021 14:15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MNR

Analyst: MNR

Date Prep: 01.12.2021 13:00

% Moisture:

Seq Number: 3147617

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00200	mg/kg	01.13.2021 07:25	U	1
Toluene	108-88-3	ND	0.00200	mg/kg	01.13.2021 07:25	U	1
Ethylbenzene	100-41-4	ND	0.00200	mg/kg	01.13.2021 07:25	U	1
m,p-Xylenes	179601-23-1	ND	0.00400	mg/kg	01.13.2021 07:25	U	1
o-Xylene	95-47-6	ND	0.00200	mg/kg	01.13.2021 07:25	U	1
Total Xylenes	1330-20-7	ND	0.00200	mg/kg	01.13.2021 07:25	U	1
Total BTEX		ND	0.00200	mg/kg	01.13.2021 07:25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	139	%	70-130	01.13.2021 07:25	**	
1,4-Difluorobenzene	540-36-3	87	%	70-130	01.13.2021 07:25		

Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: Chloride by EPA 300

Seq Number: 3147628

MB Sample Id: 7719000-1-BLK

Matrix: Solid

LCS Sample Id: 7719000-1-BKS

Prep Method: E300P

Date Prep: 01.12.2021

LCSD Sample Id: 7719000-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	247	99	247	99	90-110	0	20	mg/kg	01.12.2021 15:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3147628

Parent Sample Id: 684229-002

Matrix: Soil

MS Sample Id: 684229-002 S

Prep Method: E300P

Date Prep: 01.12.2021

MSD Sample Id: 684229-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3360	1250	4600	99	4720	109	90-110	3	20	mg/kg	01.12.2021 16:44	

Analytical Method: Chloride by EPA 300

Seq Number: 3147628

Parent Sample Id: 684279-013

Matrix: Soil

MS Sample Id: 684279-013 S

Prep Method: E300P

Date Prep: 01.12.2021

MSD Sample Id: 684279-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	36.8	253	293	101	294	102	90-110	0	20	mg/kg	01.12.2021 15:32	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3147669

MB Sample Id: 7719050-1-BLK

Matrix: Solid

LCS Sample Id: 7719050-1-BKS

Prep Method: SW8015P

Date Prep: 01.12.2021

LCSD Sample Id: 7719050-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	938	94	853	85	70-130	9	20	mg/kg	01.12.2021 17:01	
Diesel Range Organics (DRO)	<50.0	1000	960	96	950	95	70-130	1	20	mg/kg	01.12.2021 17:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	82		114		104		70-130	%	01.12.2021 17:01
o-Terphenyl	89		99		88		70-130	%	01.12.2021 17:01

Analytical Method: TPH by SW8015 Mod

Seq Number: 3147669

Matrix: Solid

MB Sample Id: 7719050-1-BLK

Prep Method: SW8015P

Date Prep: 01.12.2021

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	ND	mg/kg	01.12.2021 16:43	

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Etech Environmental & Safety Solution, Inc

Crazy Wolf 1H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3147669

Parent Sample Id: 684218-001

Matrix: Soil

MS Sample Id: 684218-001 S

Prep Method: SW8015P

Date Prep: 01.12.2021

MSD Sample Id: 684218-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	828	83	828	83	70-130	0	20	mg/kg	01.12.2021 17:57	
Diesel Range Organics (DRO)	<49.9	997	837	84	805	81	70-130	4	20	mg/kg	01.12.2021 17:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		91		70-130	%	01.12.2021 17:57
o-Terphenyl	82		82		70-130	%	01.12.2021 17:57

Analytical Method: BTEX by EPA 8021B

Seq Number: 3147617

MB Sample Id: 7719041-1-BLK

Matrix: Solid

LCS Sample Id: 7719041-1-BKS

Prep Method: SW5035A

Date Prep: 01.12.2021

LCSD Sample Id: 7719041-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0775	78	0.0784	78	70-130	1	35	mg/kg	01.13.2021 02:12	
Toluene	<0.00200	0.100	0.0861	86	0.0874	87	70-130	1	35	mg/kg	01.13.2021 02:12	
Ethylbenzene	<0.00200	0.100	0.0875	88	0.0888	89	70-130	1	35	mg/kg	01.13.2021 02:12	
m,p-Xylenes	<0.00400	0.200	0.174	87	0.177	89	70-130	2	35	mg/kg	01.13.2021 02:12	
o-Xylene	<0.00200	0.100	0.0922	92	0.0954	95	70-130	3	35	mg/kg	01.13.2021 02:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	81		97		105		70-130	%	01.13.2021 02:12
4-Bromofluorobenzene	151	**	124		134	**	70-130	%	01.13.2021 02:12

Analytical Method: BTEX by EPA 8021B

Seq Number: 3147617

Parent Sample Id: 684218-001

Matrix: Soil

MS Sample Id: 684218-001 S

Prep Method: SW5035A

Date Prep: 01.12.2021

MSD Sample Id: 684218-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0340	34	0.0385	39	70-130	12	35	mg/kg	01.13.2021 03:05	X
Toluene	<0.00201	0.101	0.0423	42	0.0447	45	70-130	6	35	mg/kg	01.13.2021 03:05	X
Ethylbenzene	<0.00201	0.101	0.0429	42	0.0433	43	70-130	1	35	mg/kg	01.13.2021 03:05	X
m,p-Xylenes	<0.00402	0.201	0.0884	44	0.0879	44	70-130	1	35	mg/kg	01.13.2021 03:05	X
o-Xylene	<0.00201	0.101	0.0501	50	0.0498	50	70-130	1	35	mg/kg	01.13.2021 03:05	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		85		70-130	%	01.13.2021 03:05
4-Bromofluorobenzene	119		125		70-130	%	01.13.2021 03:05

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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



Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440, El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
 Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 688-6707
 Atlanta, GA (770) 449-8800

684 229

www.xenco.com Page 1 of 1

Work Order Comments

Program: UST/ST ☐ PPP ☐ Brownfields ☐ RRC ☒ Superfund ☐

State of Project:

Reporting Level I ☐ Level II ☐ PST/UST ☐ TRRF ☐ Level IV ☐

Deliverables: EDD ☐ ADaPT ☐ Other: contract

[illegible]

~~NORTHAT circle one . 7 day, 5 day, Rush 3 day,~~

produce, signature of this document and reimbursement of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	<i>Kelley Wells</i>	<i>[Signature]</i>	11/1 1487			
2						
3						
4						
5						
6						

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 01.11.2021 02:57.00 PM

Work Order #: 684229

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 01.11.2021

Checklist reviewed by:



Jessica Kramer

Date: 01.13.2021

APPENDIX C

Release Notification and Corrective Action Form (Form C-141)

Closure Request and Remediation Summary Report Crazy Wolf Fed COM 1H



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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
District RP	
Facility ID	38325
Application ID	

Release Notification

Responsible Party

Responsible Party: Centennial Resource Production, Inc	OGRID: 372165
Contact Name: Jamon Hohensee	Contact Telephone: 432-241-4283
Contact email: jamon.hohensee@cdevinc.com	Incident # (assigned by OCD)
Contact mailing address: 500 W. Illinois Ave, Suite 500, Midland Texas 79705	

Location of Release Source

Latitude 32.68320 _____ Longitude -103.72417 _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Crazy Wolf Fed Com 1H	Site Type: Production Facility
Date Release Discovered: 8-16-20	API# 30025431350000

Unit Letter	Section	Township	Range	County
M	1	19S	32E	Lea

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 50	Volume Recovered (bbls) 15
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The threads on the transfer pump swedge had corroded and released the produced water. The free-standing fluids were recovered and properly disposed of. The square footage, porosity, and saturation was used in determining the amount of liquids released. The site will be delineated and remediated to the state standards and a final C141 closure report will be submitted.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Volume released was greater than 25bbbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Email notification was given to Jim Griswold and emnrd-ocd-district1spills.	

Initial Response

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

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

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

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

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

Printed Name: Samuel Hohensee

Title: Sr. Environmental Analyst

Signature: Sam H

Date: 8-31-20

email: jamon.hohensee@cedevinc.com

Telephone: 432-241-4283

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

Printed Name: _____ Title: _____
Signature: _____ Date: _____
email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____
Printed Name: _____ Title: _____

District I

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

District II

811 S. First St., Artesia, NM 88210
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

District IV

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

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

CONDITIONS

Action 21563

CONDITIONS OF APPROVAL

Operator:				OGRID:	Action Number:	Action Type:
CENTENNIAL RESOURCE PRODUCTION	1001 17th Street, Suite 1800	Denver, CO80202		372165	21563	C-141

OCD Reviewer	Condition
chensley	None