

Incident ID	NCH1903363086
District RP	1RP-5318
Facility ID	
Application ID	pCH1903363384

## 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?	>141 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

State of New Mexico  
Oil Conservation Division

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Incident ID	NCH1903363086
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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: Ralph Tijerina Title: Director EHS  
Signature: *Ralph Tijerina* Date: 3/16/2020  
email: rtijerina@goodnightmidstream.com Telephone: 214-587-4964

**OCD Only**

Received by: Cristina Eads Date: 03/25/2020

Incident ID	NCH1903363086
District RP	1RP-5318
Facility ID	
Application ID	pCH1903363384

## 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: Ralph Tijerina Title: Director EHS  
Signature:  Date: 03/24/2020  
email: rtijerina@goodnightmidstream.com Telephone: 214-587-4964

**OCD Only**

Received by: Cristina Eads Date: 03/25/2020

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

Signature:  Date: 04/28/2020

Incident ID	NDHR1918658476
District RP	1RP-5606
Facility ID	
Application ID	pDHR1918658098

## 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?	>141 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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



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Oil Conservation Division

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Incident ID	NDHR1918658476
District RP	1RP-5606
Facility ID	
Application ID	pDHR1918658098

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: Ralph Tijerina Title: Director EHS  
Signature: *Ralph Tijerina* Date: 3/16/2020  
email: rtijerina@goodnightmidstream.com Telephone: 214-587-4964

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	NDHR1918658476
District RP	1RP-5606
Facility ID	
Application ID	pDHR1918658098

## 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: Ralph Tijerina Title: Director EHS  
Signature: *Ralph Tijerina* Date: 03/24/2020  
email: rtijerina@goodnightmidstream.com Telephone: 214-587-4964

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

1RP-5318 & 1RP-5606 affected the same area. In accordance with the NMOCD, the releases will be remediated simultaneously. To aid in recordkeeping, the attached *Site Assessment Report, Proposed Remediation Workplan & Alternative Closure Strategy* has been submitted through the NMOCD Online Payment Portal for **each** incident; 1RP-5318 & 1RP-5606.

# **Site Assessment Report, Proposed Remediation Workplan & Alternative Closure Strategy**

## **Goodnight Midstream Permian, LLC Penroc State E TR 27 #002 & Piper SWD Fire**

Lea County, New Mexico  
Unit Letter "M", Section 18, Township 21 South, Range 37 West  
Latitude 32.472598 North, Longitude 103.20721 West  
NMOCD Ref. No. 1RP-5318 & 1RP-5606

Prepared By:

**Etech Environmental & Safety Solutions, Inc.**  
3100 Plains Highway  
Lovington, New Mexico 88260



Daniel Dominguez



Joel W. Lowry



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### FIGURES

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Table 1 - Concentrations of BTEX, TPH and/or Chloride in Soil

### APPENDICES

Appendix A - Depth to Groundwater Information  
Appendix B - Field Data and Soil Profile Logs  
Appendix C - Laboratory Analytical Reports  
Appendix D - Photographic Log

## 1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of Goodnight Midstream, has prepared this Report for the Release Sites known as the Penrock State E TR 27 #002 and the Piper SWD. Details of the releases are as follows:

### Location of Release Source

Latitude: 32.47258 Longitude: -103.20732

Provided GPS are in WGS84 format.

Site Name:	Penroc State E	Site Type:	SWD
Date Release Discovered:	12/22/2018	API # (if applicable):	30-025-26491

Unit Letter	Section	Township	Range	County
M	18	21S	37E	Lea

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

### Nature and Volume of Release

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls)	5	Volume Recovered (bbls)	4
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls)	595	Volume Recovered (bbls)	594
	Is the concentration of dissolved chloride in the produced water > 10,000 mg/L?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
<input type="checkbox"/> Condensate	Volume Released (bbls)		Volume Recovered (bbls)	
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)		Volume Recovered (Mcf)	
<input type="checkbox"/> Other (describe)	Volume/Weight Released		Volume/Weight Recovered	

#### Cause of Release:

The release was attributed to a filter having a blockage which caused a back-up of fluid flowing out of the top.

### Initial Response

- ☒ The source of the release has been stopped.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Release materials have been contained via the use of berms or dikes, absorbent pad, or other containment devices
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

**Location of Release Source**Latitude: 32.47259 Longitude: -103.20721

Provided GPS are in format.

Site Name: <u>Penroc State E (Piper SWD)</u>	Site Type: <u>SWD</u>
Date Release Discovered: <u>6/24/2019</u>	API # (if applicable): <u>30-025-26491</u>

Unit Letter	Section	Township	Range	County
M	18	21S	37E	Lea

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name \_\_\_\_\_)**Nature and Volume of Release**

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <u>400</u>	Volume Recovered (bbls) <u>355</u>
	Is the concentration of dissolved chloride in the produced water > 10,000 mg/L?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released	Volume/Weight Recovered

**Cause of Release and Affected Area:**

The release was attributed to a storage tank catching fire. A majority of the release was confined to within the lined containment. Approximately 45 bbls flowed south, outside the containment.

**Initial Response**

- ☒ The source of the release has been stopped.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Release materials have been contained via the use of berms or dikes, absorbent pad, or other containment devices
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

A majority of each of the releases was confined to within the lined containment. Portions of the releases flowed south, outside the containment, affecting the adjacent caliche access road and pasture area. Previously submitted portions of the NMOCD Form C-141 are available on the NMOCD Imaging System.

## 2.0 SITE CHARACTERIZATION

A search of groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) was conducted in an effort to determine the horizontal distance to known water sources within a half mile radius of the Release Site. Probable groundwater depth was determined using data generated by numeric models based on available water well data and published information or available gauging data. Depth to groundwater information is provided as Appendix A.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&gt; 141 Ft.</u>	
Did the release impact groundwater or surface water?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of any occupied permanent residence, school, hospital, institution or church?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Are the lateral extents of the release within the incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production or storage site?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

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

## 3.0 CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE

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

Closure Criteria for Soil Impacted by a Release			
Probable Depth to Groundwater	Constituent	Method	Limit
141 ft	Chloride	EPA 300.0 or SM4500 Cl B	600 mg/kg
	TPH (GRO + DRO + MRO)	EPA SW-846 Method 8015M Ext	100 mg/kg
	DRO + GRO	EPA SW-846 Method 8015M	N/A mg/kg
	BTEX	EPA SW-846 Methods 8021b or 8260b	50 mg/kg
	Benzene	EPA SW-846 Methods 8021b or 8260b	10 mg/kg



## 4.0 INITIAL SITE ASSESSMENT

During initial response activities, free-standing fluid was removed utilizing a vacuum truck and the Site was stabilized.

On June 25 and 26, 2019, Etech conducted an initial site assessment. During the initial site assessment, a series of hand-augered soil bores (SP #1 through SP #10) were advanced within the affected area outside the lined containment in an effort to characterize soil impacts. In addition, one (1) hand-augered soil bore (SP #11) was advanced outside the inferred edges of the affected area in an effort to determine background conditions at the site. During the advancement of the hand-augered soil bores, field soil samples were collected and field-screened for concentrations of chloride utilizing a Hach Quantab® chloride test kit.

Upon conducting the initial site assessment, remediation activities commenced at the release site. Impacted soil outside of the tank battery containment area was excavated and stockpiled on-site, pending disposition at an NMOCD-approved disposal facility. The floor and sidewalls of the excavated area were advanced until laboratory analytical results from excavation confirmation soil samples indicated impacted soil affected above the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard had been removed. The uppermost 4 Ft. was advanced until laboratory analytical results indicated BTEX, TPH and chloride concentrations were below the NMOCD Reclamation Standard. A "Site & Sample Location Map" is provided as Figure 3. Field data and soil profile logs, if applicable, are provided as Appendix B.

On July 11 and 12, 2019, Etech collected fifteen (15) excavation confirmation soil samples (A2, A3, A4, B1, B2, B3, B4, C1, C2, C3 C4, D3, D4, E5 and E6) from the floor of the excavated area south of the salt water disposal facility. The collected soil samples were submitted to the laboratory for analysis of BTEX, TPH and chloride concentrations. Laboratory analytical results from excavation confirmation soil samples indicated BTEX, TPH and chloride concentration were below the NMOCD Closure Criteria and/or Reclamation Standard in each of the submitted soil samples.

In addition, eleven (11) excavation confirmation soil samples (NSW #1, NSW #2, ESW #1, ESW #2, SSW #1, WSW #1, WSW #2, Exc. B NSW, Exc. B ESW, Exc. B SSW and Exc. B WSW) were collected from the sidewalls of the excavated area. The collected soil samples were submitted to the laboratory for analysis of BTEX, TPH and chloride concentrations. Laboratory analytical results from excavation confirmation soil samples indicated BTEX, TPH and chloride concentration were below the NMOCD Closure Criteria and/or Reclamation Standard in each of the submitted soil samples with the exception of soil samples NSW #2 and Exc. B WSW, which exhibited chloride concentrations of 4,800 mg/kg and 15,200 mg/kg, respectively. Further excavation of impacted soil in the areas characterized by soil samples NSW #2 and Exc. B WSW was precluded due to the presence of the salt water disposal containment.

Upon receiving laboratory analytical results from excavation confirmation soil samples collected from the affected area outside of the salt water disposal containment, the excavated area was backfilled with locally sourced, non-impacted "like" material. Excavation backfill was compacted to facilitate the use of a crane to decommission the salt water disposal facility.

Upon removing the remaining equipment from within the salt water disposal containment area, the liner was removed to investigate the underlying soil. During the soil investigation, four (4) test trenches (TT-1 through TT-4) were advanced within the former containment area in an effort to determine the vertical extent of soil impacts. During the advancement of the test trenches, eight (8) delineation soil samples (TT-1 @ Surf., TT-1 @ 4', TT-2 @ Surf., TT-2 @ 9', TT-3 @ Surf., TT-3 @ 7', TT-4 @ Surf., and TT-4 @ 1') were collected and submitted to the laboratory for analysis of BTEX, TPH and chloride. Laboratory analytical results indicated soil was not affected above the NMOCD Closure Criteria and/or Reclamation Standard beyond 4 Ft. bgs in the areas characterized by test trenches TT-1 and TT-4. A "Soil Chemistry Table" is provided as Table 1. Laboratory Analytical Reports are provided in Appendix C.

Upon discovering impacted soil affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standard beneath the former tank battery facility, the uppermost 4 Ft. of the affected area was excavated. The excavation was advanced toward the

west to encompass soil sample Exc. B WSW and south to encompass soil samples NSW #1 and NSW #2. Excavated soil was temporarily stockpiled on-site, then transported to an NMOCD-approved surface waste facility for disposal. Excavation sidewalls were advanced until laboratory analytical results indicated BTEX, TPH and chloride concentrations were below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard.

On **October 14, 2019**, Etech collected twelve (12) soil samples (Floor 1 through Floor 12) from the floor of the excavated area beneath the former salt water disposal containment in an effort to determine if soil remaining in-situ was affected above the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard. The collected soil samples were submitted to the laboratory for analysis of BTEX, TPH and chloride concentrations. Laboratory analytical results from excavation confirmation soil samples indicated BTEX, TPH and chloride concentration were below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in each of the submitted soil samples.

In addition, fifteen (15) excavation confirmation soil samples (NW1b, NW2b, NW3b, EW1b, EW2, EW3, EW4b, SW1, SW2b, SW3b, SW4b, WW1b, WW2b, WW3 and WW4) were collected from the sidewalls of the excavated area. The collected soil samples were submitted to the laboratory for analysis of BTEX, TPH and chloride concentrations. Laboratory analytical results from excavation confirmation soil samples indicated BTEX, TPH and chloride concentrations were below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in each of the submitted soil samples with the exception of soil samples WW1b which exhibited a chloride concentration of 2,800 mg/kg, soil sample WW2b which exhibited a chloride concentration of 960 mg/kg, soil sample WW3 which exhibited a chloride concentration of 1,180 mg/kg, soil sample WW4 which exhibited a chloride concentration of 2,240 mg/kg and EW3 which exhibited a GRO+DRO concentration of 1,441.8 mg/kg.

On February 10, 2020, excavation activities resumed at the Site. Impacted soil affected above the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in the area characterized by soil sample EW3 was excavated. Upon excavating impacted soil in the area characterized by soil sample EW3, Etech collected one (1) excavation confirmation soil sample (EW3b) from the sidewalls of the excavated area. The collected soil samples was submitted to the laboratory for analysis of TPH concentrations, which were determined to be below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard. Further advancement of the west sidewall of the excavation in the area characterized by soil samples WW1b, WW2b, WW3 and WW4 was precluded for safety concerns.

The affected area outside the former salt water disposal containment has been remediated in accordance with the NMOCD. Impacted soil beneath the former salt water disposal containment has been excavated to a depth of approximately 4 Ft. bgs. To date, approximately 3,600 cy of impacted soil has been excavated and transported to an NMOCD-permitted surface waste facility for disposal. Remediation activities were temporarily placed on hold pending the plugging of commercial freshwater wells that were installed by the previous facility owner.

## **5.0 PROPOSED REMEDIAL ACTIVITIES**

Based on laboratory analytical results, site characteristics and field observations made during the initial site assessment, Goodnight Midstream Permian, LLC proposes the following remediation activities designed to advance the Site toward an approved closure:

- Collect the remaining excavation confirmation soil samples from the floor and sidewalls of the excavated area.
- Advance the excavation sidewalls horizontally until laboratory analytical results from excavation confirmation soil samples indicate concentrations of BTEX, TPH and chloride are below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard.
- Upon receiving laboratory analytical results from excavation confirmation soil samples, install a 20-mil polyurethane liner on the floor of the excavated area atop impacted soil affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standard remaining in-situ.
- Upon installing the 20-mil polyurethane liner on the floor of the excavation, backfill the excavated area with locally sourced, non-impacted "like" material. Excavation backfill will be contoured to match the surrounding topography.
- Upon completion of remediation activities, prepare a Remediation Summary and Site Closure Request detailing remediation activities and the results of confirmation soil samples.

## 6.0 VARIANCE REQUEST

In accordance with NMAC 19.15.29.14, Goodnight requests a variance to install a 20-mil string reinforced liner within the floor of the open excavation at approximately 4 Ft. bgs. An approximate 6-inch layer of pad material will be installed below and above the liner in an effort to ensure its maintained integrity during backfilling activities. Goodnight maintains that excavating and disposing of portions the release site to depths up to and beyond 9 Ft. bgs at an active facility or in other areas with potential for soil instability poses a risk to human health that exceeds the benefits of the excavation and disposal of impacted soil affected above the NMOCD Closure Criteria. This assertion is based primarily on the inherent dangers of continued and/or substantial excavation adjacent to oil and gas infrastructure, or in areas where soil stability may be an issue, and the risks associated with transporting the associated soil on public highways to a surface waste disposal facility. The assertion is further substantiated by the understanding that additional remediation activities, beyond that which has been proposed, will result in increasing the duration of exposure among environmental field personnel and/or exposure of additional environmental field personnel. Based on the aforementioned; the Site's distance from populated areas and/or drinking water supplies; a proposed cover consisting of a minimum of four (4) ft. of non-impacted soil and/or a 20-mil polyurethane liner; and the relative unlikelihood of future exposure resulting in diminished public health; Goodnight maintains the proposed variance will provide equal or better protection of public health. Laboratory analytical results indicate BTEX and TPH concentrations were less than the NMOCD Closure Criteria in each of the excavation confirmation soil samples. Analytical results indicate affected soil exhibiting chloride concentrations above the NMOCD Closure Criteria has been delineated to less than 600 mg/kg in each of the vertical sample locations, with the exception of test trenches TT-2 and TT-3, which exhibited a chloride concentrations of 800 mg/kg and 928 mg/kg at 9 Ft. and 7 Ft., respectively. Analytical results indicate the maximum chloride concentration Goodnight proposes to leave in-situ is 2,600 mg/kg (Floor 8). Goodnight proposes to install a 20-mil polyurethane liner on the floor of the excavation at 4 Ft. bgs in the area beneath the former tank battery containment. This engineering control is designed to inhibit the vertical migration of contaminants left in-situ. Based on the aforementioned, and given 19.15.29 NMAC allows for impacted soil exhibiting chloride concentrations ranging from 600 mg/kg to 20,000 mg/kg to remain in-situ at depths of greater than four (4) ft. bgs, where the distance between impacted soil and groundwater is not defined, Goodnight maintains the proposed variance will provide equal or better protection of fresh water and the environment.

## 7.0 ALTERNATIVE CLOSURE STRATEGY

Goodnight is in the process of plugging the on-site commercial fresh water wells installed by the previous facility owner. Prior to plugging the wells, groundwater samples may be obtained and submitted to the laboratory for analysis of BTEX, TPH, and chloride concentrations. Upon receiving laboratory analytical results indicating demonstrating the on-site well are not affected and plugging the on-site commercial fresh water wells installed by the previous owner, backfill the excavated area with locally sourced, non-impacted "like" material. The western portion of the Site will be restored to meet the needs of the well pad; the eastern portion of the Site will be restored and reclaimed to match the surrounding pasture.

## 8.0 SAMPLING PLAN

Upon completion of excavation activities, representative five-point composite excavation confirmation soil samples will be collected from the excavation sidewalls in each cardinal direction, representing no more than 50 linear ft. A minimum of **one (1)** representative five-point composite excavation confirmation soil sample will be collected from the base of the excavated area representing every **400 square feet**. Additional, discrete grab samples will be collected from wet or visibly stained areas inferred to have been affected by the release, as necessary.

## **9.0 TIMELINE AND ESTIMATED VOLUME OF SOIL TO BE REMEDIATED**

Remediation activities are expected to be completed within 90 days of receiving necessary approval of the Site Assessment Summary and Proposed Remediation Plan. It is estimated that approximately 3,600 cubic yards of soil has been impacted above the NMOCD Closure Criteria.

## **10.0 RESTORATION, RECLAMATION AND RE-VEGETATION PLAN**

Areas affected by remediation and closure activities will be substantially restored to the condition that existed prior to the release, to the extent practicable. Excavated areas will be backfilled with locally sourced, non-impacted "like" material placed at or near original relative positions. The affected area will be contoured and/or compacted to achieve erosion control, stability and preservation of surface water flow to the extent practicable. Affected areas not on production pads and/or lease roads will be reseeded with an agency and/or landowner-approved seed mixture during the first favorable growing season following closure of the site.

## **11.0 LIMITATIONS**

Etech Environmental & Safety Solutions, Inc., has prepared this Site Assessment Report and Proposed Remediation Plan 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 on oral statements made by certain individuals. Etech has not conducted an independent examination of the facts contained in referenced materials and statements. Etech has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Etech has prepared the report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Etech notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Goodnight Midstream Permian, LLC. Use of the information contained in this report is prohibited without the consent of Etech and/or Goodnight Midstream Permian, LLC.

## **13.0 DISTRIBUTION**

***Goodnight Midstream Permian, LLC***

*5910 N Central Expy*

*Dallas, TX 75206*

***New Mexico Energy, Minerals and Natural Resources Department***

*Oil Conservation Division, District 1*

*1220 South St. Francis Drive*

*Santa Fe, NM 87505*

***Hobbs Field Office***

*New Mexico State Land Office*

*2827 North Dal Paso Street*

*Suite 117*

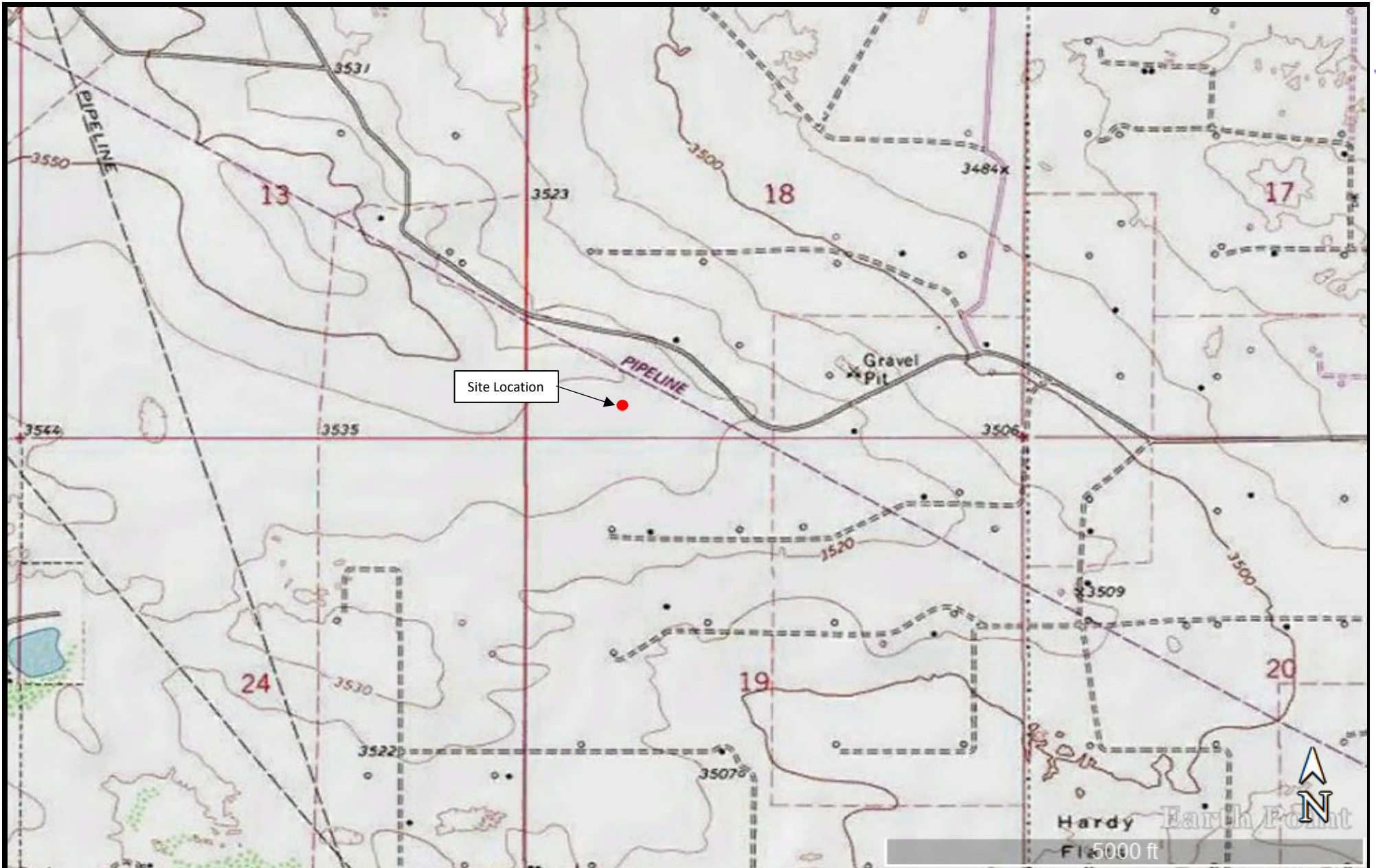
*Hobbs, NM 88240*

*(Electronic Submission)*

## **Figure 1**

### **Topographic Map**





Legend:

- Site Location

Figure 1

Topographic Map  
 Goodnight Midstream Permian, LLC  
 Penroc State E TR 27 #002  
 GPS: 32.472598, -103.20721  
 Lea County



Drafted:

Checked: jwl

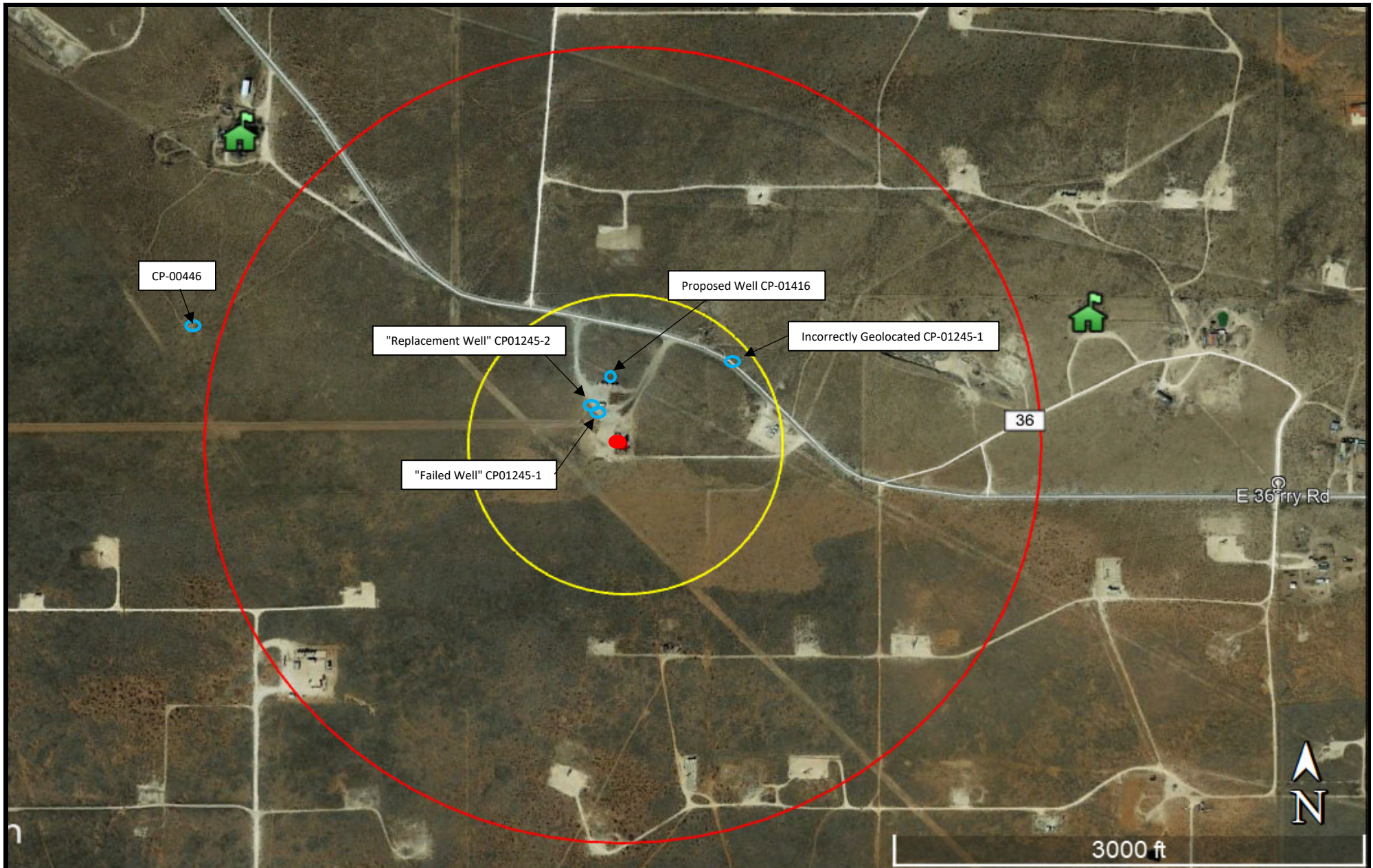
Date:

3/13/20

## **Figure 2**

### **Aerial Proximity Map**





## Legend:

- |  |                          |
|--|--------------------------|
| <span style="color: red;">●</span> Site Location       | Non-Industrial Building  |
| <span style="color: blue;">○</span> Fresh Water Well   | Subsurface Mine          |
| <span style="color: red;">○</span> 1/2 Mile Radius     | Playa Lake/Surface Water |
| <span style="color: yellow;">○</span> 1,000 Ft. Radius | High/Critical Karst      |

**Figure 2**  
**Aerial Map**  
 Goodnight Midstream Permian, LLC  
 Penroc State E TR 27 #002  
 GPS: 32.472598, -103.20721  
 Lea County



Drafted:

Checked: jwl

Date:

3/13/20

**Figure 3**  
**Site and Sample Location Map**





- Legend:**
- ww Sample Location
  - Remediated Area
  - Excavated Area
  - Test Trench

**Figure 3a**  
 Site and Sample Location Map (Pasture)  
 Goodnight Midstream Permian, LLC  
 Penroc State E TR 27 #002  
 GPS: 32.472598, -103.20721  
 Lea County





Drafted:

Checked: jwl

Date: 3/16/20





**Legend:**  
 Sample Location  
 Excavated Area

**Figure 3b**  
Proposed Excavation Map (Containment)  
Goodnight Midstream Permian, LLC  
Penroc State E TR 27 #002  
GPS: 32.472598, -103.20721  
Lea County

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

Drafted:

Checked: jwl

Date: 3/16/20

**Table 1**  
**Concentrations of BTEX, TPH, and/or Chloride in Soil**

TABLE 1  
CONCENTRATIONS OF BENZENE, BTEX TPH AND CHLORIDE IN SOIL  
Goodnight Midstream Permian, LLC  
Penroc State E TR 27 #002  
NMOCD Ref. #: 1RP-5318 & 1RP-5604

Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/kg)	GRO + DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	ORO C <sub>28</sub> -C <sub>36</sub> (mg/kg)	TPH C <sub>6</sub> -C <sub>36</sub> (mg/kg)	Chloride (mg/kg)
A2	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
A3	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
A4	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
B1	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	96.0
B2	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
B3	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
B4	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	192
C1	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	96.0
C2	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	80.0
C3	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	192
C4	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	80.0
D3	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	224
D4	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	176
E5	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
E6	7/11/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	144
NSW#1	7/12/2019	2'	Excavated	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
NSW#2	7/12/2019	2'	Excavated	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<b>4,800</b>
ESW#1	7/12/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
ESW#2	7/12/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
SSW#1	7/12/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
WSW#1	7/12/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	224
WSW#2	7/12/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
Exc. B NSW	7/12/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	272
Exc. B ESW	7/12/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	416
Exc. B SSW	7/12/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	352
Exc. B WSW	7/12/2019	2	Excavated	<0.050	<0.300	<10.0	71.8	71.8	21.5	93.3	<b>15,200</b>
TT-1	8/16/2019	Surface	Excavated	<0.050	<0.300	<10.0	672	672	192	<b>864</b>	<b>4,800</b>
	8/16/2019	4'	In-Situ	<0.050	<0.300	<10.0	45.8	45.8	12.1	57.9	144
TT-2	8/16/2019	Surface	Excavated	<0.050	<0.300	<10.0	134	134	29.5	<b>163.5</b>	<b>3,040</b>
	8/16/2019	9'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<b>800</b>
TT-3	8/16/2019	Surface	Excavated	<0.050	<0.300	27.6	3,210	<b>3,237.6</b>	938	<b>4,175.6</b>	<b>2,320</b>
	8/16/2019	7'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	16.6	16.6	<b>928</b>
TT-4	8/16/2019	Surface	Excavated	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
	8/16/2019	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
Floor 1	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	352
Floor 2	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	147	147	59.6	<b>206.6</b>	<b>2,160</b>
Floor 3	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
Floor 4	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<b>2,560</b>
Floor 5	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<b>2,240</b>
Floor 6	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	448
Floor 7	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<b>688</b>
Floor 8	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<b>2,600</b>
Floor 9	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	965	965	239	<b>1,204</b>	480
Floor 10	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	72.4	72.4	31.5	<b>103.9</b>	288
Floor 11	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	240
Floor 12	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	384
NW1b	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	432
NW2b	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	512
NW3b	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	80.0
EW1b	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
EW2	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
EW3	10/14/2019	2'	Excavated	<0.050	<0.300	11.8	1,430	1,441.8	408	<b>1,849.8</b>	160
EW4b	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	80.0
SW1	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	144
SW2b	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
SW3b	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	528
SW4b	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	240
WW1b	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<b>2,800</b>
WW2b	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<b>960</b>
WW3	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<b>1,180</b>
WW4	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<b>2,240</b>
EW3b	2/10/2020	2'	In-Situ	--	--	<10.0	<10.0	<20.0	<10.0	<30.0	--
Closure Criteria				10	50	-	-	N/A	-	100	600

NOTES:  
- = Not analyzed for constituent  
**Bold** text denotes a concentration that exceeds the NMOCD Closure Criteria and/or NMOCD Reclamation Standard

## **Appendix A**

### **Depth to Groundwater Information**





# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">CP 01245 POD1</a>		CP	LE			4	18	21S	37E	668676	3594411	265	220		
<a href="#">CP 00446 POD1</a>		CP	LE	1	4	4	13	21S	36E	667871	3594424*	632	185	148	37
<a href="#">CP 00446 POD2</a>		CP	LE	1	4	4	13	21S	36E	667871	3594424*	632	200	151	49

Average Depth to Water: **149 feet**

Minimum Depth: **148 feet**

Maximum Depth: **151 feet**

**Record Count:** 3

### UTMNAD83 Radius Search (in meters):

**Easting (X):** 668475

**Northing (Y):** 3594237

**Radius:** 880

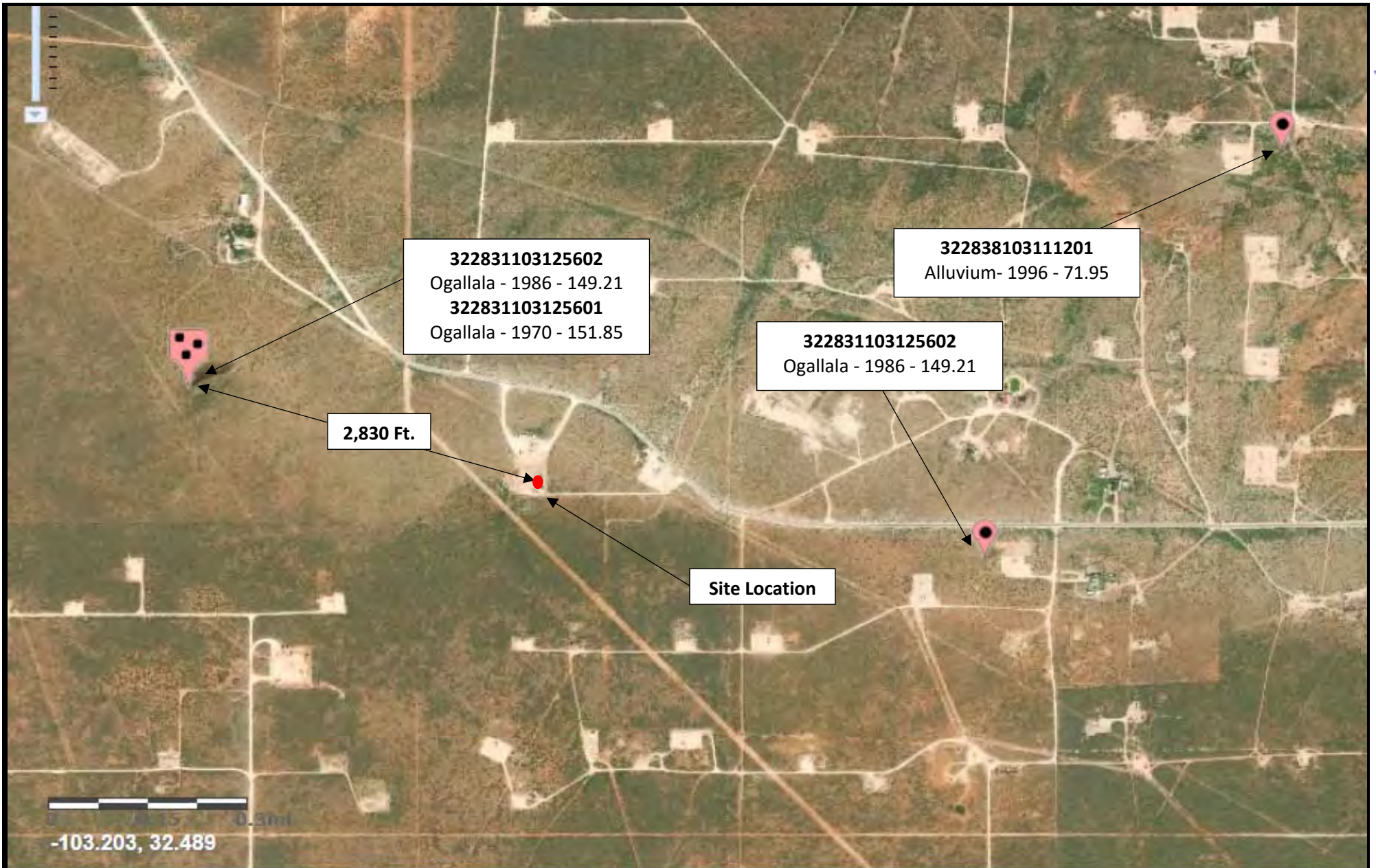
\*UTM location was derived from PLSS - see Help

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

3/16/20 7:01 AM

WATER COLUMN/ AVERAGE DEPTH TO  
WATER





**Legend:**

- Site Location
- USGS Water Well

**Figure 5**  
 USGS Well Proximity Map  
 Goodnight Midstream Permian, LLC  
 Piper SWD Fire  
 GPS: 32.472598, -103.20721  
 Lea County

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

Drafted:

Checked: jwl

Date: 8/27/19



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## National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:	Geographic Area:	
Groundwater	United States	GO

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- [Full News](#) 

Groundwater levels for the Nation

### Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 322831103125602

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

### USGS 322831103125602 21S.36E.13.412232

Lea County, New Mexico

Latitude 32°28'31", Longitude 103°12'56" NAD27

Land-surface elevation 3,557 feet above NAVD88

The depth of the well is 185 feet below land surface.

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement
1967-10-10		D	147.44				2		U	
1970-12-15		D	147.81				2		U	
1981-03-09		D	149.29				2		U	
1986-03-06		D	149.21				2		U	

#### Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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**Title: Groundwater for USA: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**



Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2019-08-19 17:48:17 EDT

0.47 0.44 nadww01



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Data Category:  Geographic Area:

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Groundwater levels for the Nation

### Search Results -- 1 sites found

Agency code = usgs

site\_no list = 

- 322831103125601

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

### USGS 322831103125601 21S.36E.13.41223

Lea County, New Mexico

Latitude 32°28'31", Longitude 103°12'56" NAD27

Land-surface elevation 3,557 feet above NAVD88

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

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
1967-10-10		D	150.88				2		U	
1968-03-19		D	150.97				2		U	
1970-12-15		D	151.85				2	P	U	

#### Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Status	P	Site was being pumped.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

[Questions about sites/data?](#)

[Feedback on this web site](#)

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[Data Tips](#)  
[Explanation of terms](#)  
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[Accessibility](#)   [Plug-Ins](#)   [FOIA](#)   [Privacy](#)   [Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

**Title: Groundwater for USA: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**



Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2019-08-19 17:48:56 EDT

0.47 0.44 nadww01



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Contact USGS  
Search USGS

## National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:	Geographic Area:	
Groundwater	United States	GO

Click to hideNews Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

Groundwater levels for the Nation

### Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 322816103114201

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

### USGS 322816103114201 21S.37E.18.442123

Lea County, New Mexico

Latitude 32°28'16", Longitude 103°11'42" NAD27

Land-surface elevation 3,513 feet above NAVD88

The depth of the well is 125 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement
1954-01-10		D	99.70				2		U	
1968-03-13		D	98.92				2		U	
1970-12-15		D	99.66				2		U	
1981-02-27		D	98.82				2		U	
1986-03-18		D	98.85				2		U	

#### Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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**Title: Groundwater for USA: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**



Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2019-08-19 17:49:52 EDT

0.58 0.55 nadww01

## **Appendix B**

### **Field Data and Soil Profile Logs**





## Soil Profile

Date: 11-Jul-19Project: Piper SWD FireProject Number: 10769Latitude: 32.472598Longitude: -103.20721

Depth (ft. bgs)

Description

TD

1	Topsoil
2	
3	
4	
5	Caliche
6	
7	
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40	

Piper SWD Fire

6/25/19

Matthew Grieco

Point	Time	PPM $Cl_{low}$	$Cl_{high}$
SP11@S	11:05	<108	
SP10@S	11:08	72728	4848
SP9@S	11:11		4484
SP8@S	11:13		6084
SP8@3'		164	
SP7@S	11:15		3252
SP6@S	11:18		3532
SP5@S	11:23		2068
→ SP4@S	11:26		8900 ← Ignoring point
SP3@S	11:29		5644
SP2@S	11:34		4484
SP1@S	11:36		4148
SP10@1'			1508
SP10@2'			2504
SP10@3'		<108	<1184
SP9@1'			3832
SP9@2'		<108	<1144
SP9@3'		164	<1144
SP8@1'			3252
SP8@2'		1728	

Piper SWD fine  
6/25/19

Matthew Grieco

<u>Point</u>	<u>Time</u>	<u>PPM</u>	
		<u>Cl<sub>ion</sub></u>	<u>Cl<sub>high</sub></u>
SP7@1'		5	3832
SP7@2'			1508
SP7@3'		1728	
SP3@1'		604	<1184
SP3@2'		1252	
SP3@3'		604	
SP2@1'		<108	<1184
SP2@2'		320	
SP3@3'		604	
SP6@1'		200	<1184
SP6@2'		200	
SP6@3'		364	
SP5@1'		<108	<1184
SP5@2'		<108 <sub>200</sub>	
SP5@3'		200	
SP1@1'		556	
SP1@2'		1620	
SP1@3'		832	

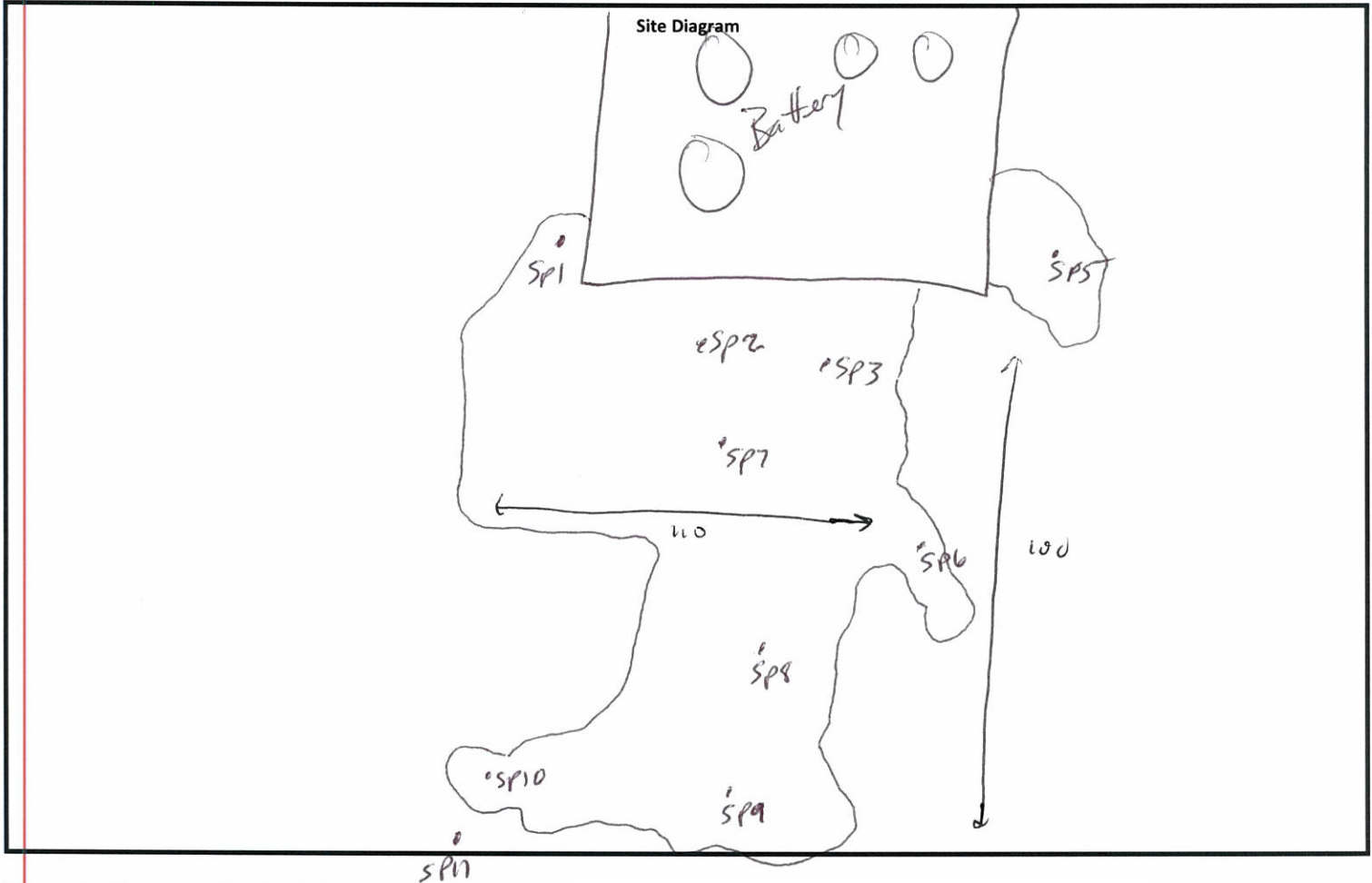




## Initial Release Assessment Form

Date: 6-26-19Project: Piper SWD Fire

Clean Up Level:

Project Number: 10769Latitude: 32.472598Longitude: -103.20721Notes: conduct initial site assessment; sample + field screen~Length: 110~Width: 100

~Area:

~Depth:

Yes

No

3-4 Representative Pictures of the Affected Area including sample locations?

☐☐

Necessary Samples Field Screened and on Ice?

☐☐

Sample and Field Screen Data Entered on Sample Log?

☐☐

Was horizontal and vertical delineation achieved?

☐☐



## Sample Log

Date:

8/16/2019

Project: Piper SWD Fire

Project Number: 10769

Latitude: 32.472598

Longitude: -103.20721

[illegible]

Sample Point = SP #1 @ ## etc

**Floor = FL #1 etc**

**Sidewall = SW #1 etc**

Test Trench = TT #1 @ ##

**Refusal = SP #1 @ 4'-R**

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

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

**Stockpile = Stockpile #1**

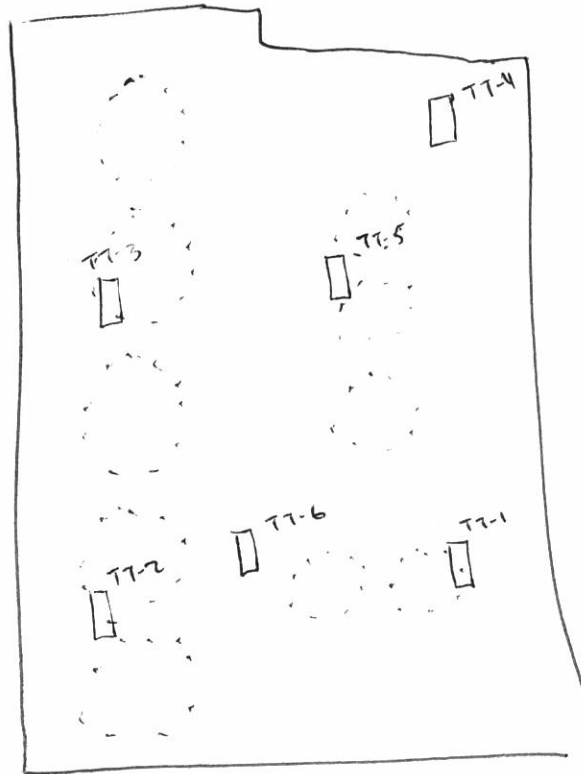
### GPS Sample Points, Center of Comp Areas



## Initial Release Assessment Form

Project: Piper SWD Fire Date: 8/16/2019  
 Clean Up Level:  
 Project Number: 10769 Latitude: 32.472598 Longitude: -103.20721

Site Diagram



Notes: Delineate Soil Impacts beneath Containment  
Conduct Chloride Field Test

~Length: 150 ~Width: 100 ~Area: 15,000 ~Depth: 1-7 ft

3-4 Representative Pictures of the Affected Area including sample locations?

Yes No



Necessary Samples Field Screened and on Ice?



Sample and Field Screen Data Entered on Sample Log?



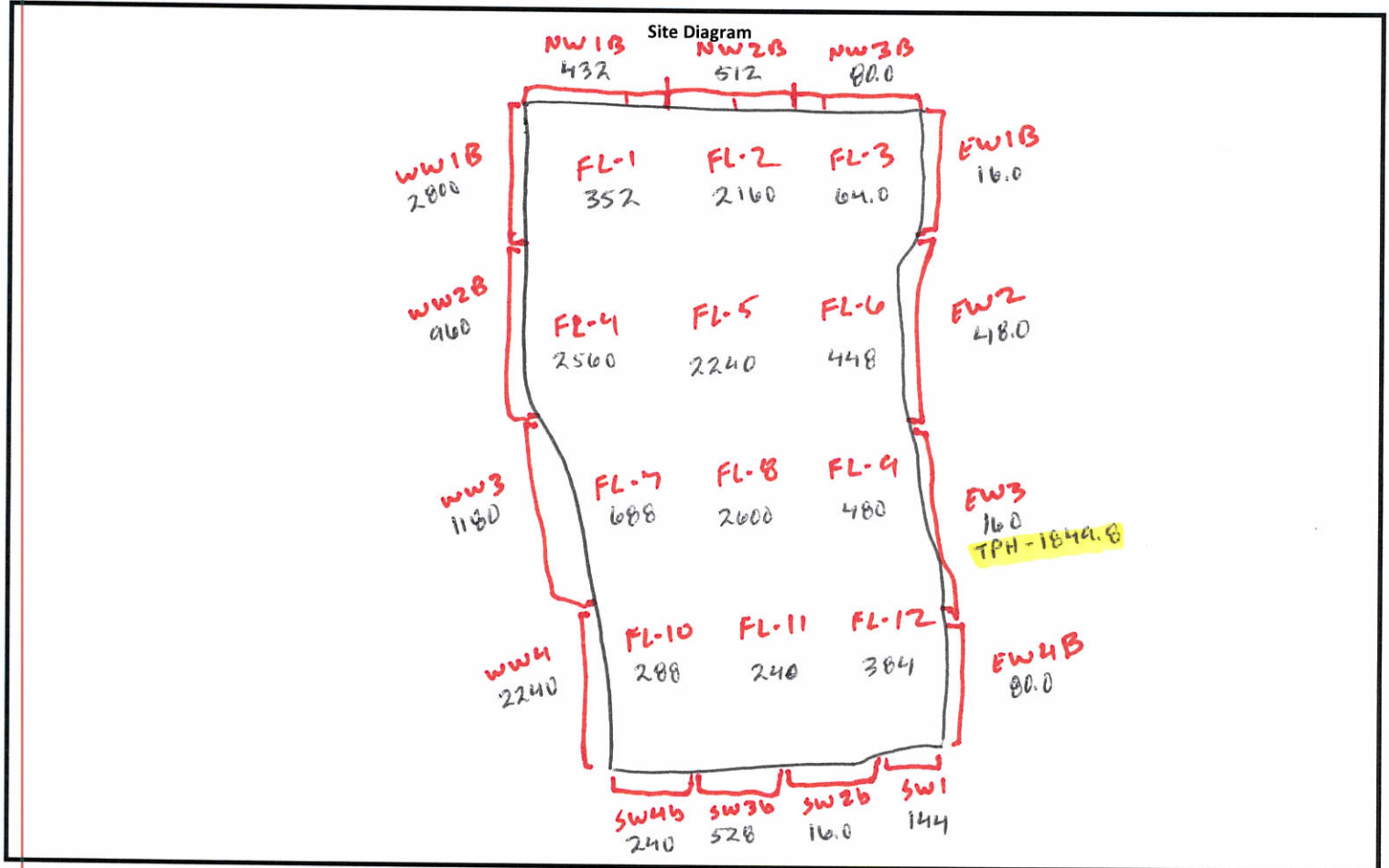
Was horizontal and vertical delineation achieved?





## Initial Release Assessment Form

Project: Piper SWD Five Date: 10/11/19  
 Project Number: 10769 Clean Up Level: \_\_\_\_\_  
 Latitude: 32.472599 Longitude: -103.20721



Notes: Excavate Chloride Impacted Sidewalls  
 Chloride Lab Results in Black Ink  
 TPH good on all sample w/ exception at FW3 BRN+BRN is over!  
 Chloride to East & Souths < 600 (Reclamation Standard)  
 Chloride on West can be up to 20,000 ppm

~Length: \_\_\_\_\_ ~Width: \_\_\_\_\_ ~Area: \_\_\_\_\_ ~Depth: \_\_\_\_\_

3-4 Representative Pictures of the Affected Area including sample locations?

Yes No

☐ ☐

Necessary Samples Field Screened and on Ice?

☐ ☐

Sample and Field Screen Data Entered on Sample Log?

☐ ☐

Was horizontal and vertical delineation achieved?

☐ ☐

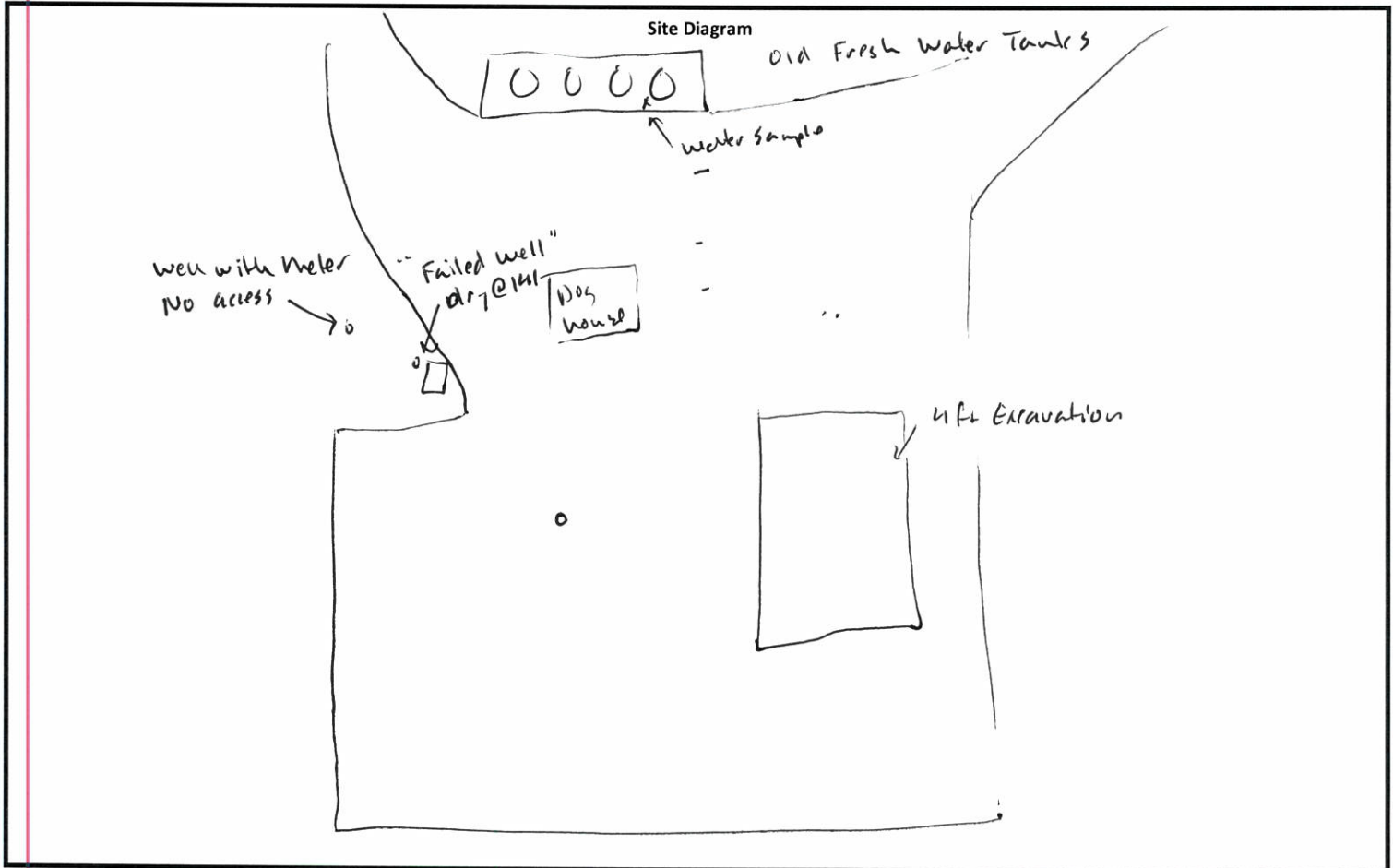




## Initial Release Assessment Form

Date: 3/13/2020Project: Piper SWP

Clean Up Level:

Project Number: 10769Latitude: 32.47259Longitude: -103.20721

Notes: Visit Site to Collect GW Samples

Functioning well connected to meter (DBBIS), no access

Assessed former well, banded dry to 141 ft

Collect Sample from water w/ Fresh Water Tanks

~Length:

~Width:

~Area:

~Depth:

Yes

No

3-4 Representative Pictures of the Affected Area including sample locations?

☐☐

Necessary Samples Field Screened and on Ice?

☐☐

Sample and Field Screen Data Entered on Sample Log?

☐☐

Was horizontal and vertical delineation achieved?

☐☐



## **Appendix C**

### **Laboratory Analytical Reports**



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

---

July 16, 2019

DANIEL DOMINGUEZ

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: PIPER SWD FIRE

Enclosed are the results of analyses for samples received by the laboratory on 07/12/19 14:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: A 2 (H902410-01)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTEX	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/15/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/15/2019	ND	188	94.1	200	2.24	
DRO >C10-C28*	<10.0	10.0	07/15/2019	ND	182	91.1	200	2.90	
EXT DRO >C28-C36	<10.0	10.0	07/15/2019	ND					

Surrogate: 1-Chlorooctane 77.0 % 41-142

Surrogate: 1-Chlorooctadecane 76.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: A 3 (H902410-02)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTEX	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	07/15/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/15/2019	ND	188	94.1	200	2.24	
DRO >C10-C28*	<10.0	10.0	07/15/2019	ND	182	91.1	200	2.90	
EXT DRO >C28-C36	<10.0	10.0	07/15/2019	ND					

Surrogate: 1-Chlorooctane 72.5 % 41-142

Surrogate: 1-Chlorooctadecane 74.8 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: A 4 (H902410-03)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTEX	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	07/15/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/15/2019	ND	188	94.1	200	2.24	
DRO >C10-C28*	<10.0	10.0	07/15/2019	ND	182	91.1	200	2.90	
EXT DRO >C28-C36	<10.0	10.0	07/15/2019	ND					

Surrogate: 1-Chlorooctane 62.3 % 41-142

Surrogate: 1-Chlorooctadecane 61.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: B 1 (H902410-04)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTEX	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	07/15/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/15/2019	ND	188	94.1	200	2.24	
DRO >C10-C28*	<10.0	10.0	07/15/2019	ND	182	91.1	200	2.90	
EXT DRO >C28-C36	<10.0	10.0	07/15/2019	ND					

Surrogate: 1-Chlorooctane 73.4 % 41-142

Surrogate: 1-Chlorooctadecane 72.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: B 2 (H902410-05)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTX	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	07/15/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/15/2019	ND	188	94.1	200	2.24	
DRO >C10-C28*	<10.0	10.0	07/15/2019	ND	182	91.1	200	2.90	
EXT DRO >C28-C36	<10.0	10.0	07/15/2019	ND					

Surrogate: 1-Chlorooctane 76.0 % 41-142

Surrogate: 1-Chlorooctadecane 76.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: B 3 (H902410-06)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTEX	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	07/15/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/15/2019	ND	188	94.1	200	2.24	
DRO >C10-C28*	<10.0	10.0	07/15/2019	ND	182	91.1	200	2.90	
EXT DRO >C28-C36	<10.0	10.0	07/15/2019	ND					

Surrogate: 1-Chlorooctane 73.4 % 41-142

Surrogate: 1-Chlorooctadecane 75.1 % 37.6-147

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**Analytical Results For:**

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: B 4 (H902410-07)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTX	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	07/15/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/15/2019	ND	188	94.1	200	2.24	
DRO >C10-C28*	<10.0	10.0	07/15/2019	ND	182	91.1	200	2.90	
EXT DRO >C28-C36	<10.0	10.0	07/15/2019	ND					

Surrogate: 1-Chlorooctane 76.5 % 41-142

Surrogate: 1-Chlorooctadecane 79.7 % 37.6-147

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: C 1 (H902410-08)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTEX	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	07/15/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	201	100	200	3.33	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	189	94.7	200	6.79	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: C 2 (H902410-09)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTX	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	07/15/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	201	100	200	3.33	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	189	94.7	200	6.79	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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 DANIEL DOMINGUEZ  
 P.O. Box 301  
 Lovington NM, 88260  
 Fax To: (575) 396-1429

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: C 3 (H902410-10)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTX	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	07/15/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	201	100	200	3.33	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	189	94.7	200	6.79	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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**Analytical Results For:**

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: C 4 (H902410-11)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTX	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/15/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	201	100	200	3.33	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	189	94.7	200	6.79	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 98.2 % 41-142

Surrogate: 1-Chlorooctadecane 98.6 % 37.6-147

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**Analytical Results For:**

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: D 3 (H902410-12)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTEX	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	07/15/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	201	100	200	3.33	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	189	94.7	200	6.79	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 93.4 % 41-142

Surrogate: 1-Chlorooctadecane 95.7 % 37.6-147

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**Analytical Results For:**

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: D 4 (H902410-13)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTX	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	07/15/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	201	100	200	3.33	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	189	94.7	200	6.79	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 97.8 % 41-142

Surrogate: 1-Chlorooctadecane 99.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: E 5 (H902410-14)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53	
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03	
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82	
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87	
Total BTEx	<0.300	0.300	07/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/15/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	201	100	200	3.33	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	189	94.7	200	6.79	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 100 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/12/2019	Sampling Date:	07/11/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: E 6 (H902410-15)**

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/15/2019	ND	2.07	103	2.00	2.53		
Toluene*	<0.050	0.050	07/15/2019	ND	2.12	106	2.00	4.03		
Ethylbenzene*	<0.050	0.050	07/15/2019	ND	2.00	100	2.00	4.82		
Total Xylenes*	<0.150	0.150	07/15/2019	ND	6.23	104	6.00	4.87		
Total BTEx	<0.300	0.300	07/15/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	07/15/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	201	100	200	3.33	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	189	94.7	200	6.79	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 96.9 % 41-142

Surrogate: 1-Chlorooctadecane 97.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in cursive script, appearing to read "Celey D. Keene", written in black ink.

---

Celey D. Keene, Lab Director/Quality Manager





61 jo 19 6dgd



## ARDINAL LABORATORIES

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Etech Environmental & Safety Solutions, Inc.		P.O. #:		BILL TO		ANALYSIS REQUEST																															
Project Manager:		Address: P.O. Box 301		Company: E-tech																																	
City: Lovington		State: NM		Attn:																																	
Phone #: (575) 396-2378		Fax #: (575) 396-1429		Address:																																	
Project #: 10769		Project Owner: Goodnight		City:																																	
Project Name: Piper Sud Fire		Midstream		State:																																	
Project Location: Lea County		Zip:		Phone #:																																	
Sample Name: Hilda Villa		Fax #:																																			
FOR LAB USE ONLY		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX		PRESERV.		SAMPLING																											
Lab I.D.		Sample I.D.				GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME											
H902410		11 C4																						7-11-19		2:40											
12 D3		11																						7-11-19		2:45											
13 D4		11																						7-11-19		2:50											
14 ES		11																						7-11-19		2:55											
15 Eip		11																						7-11-19		3:00											





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July 16, 2019

KIM MERRILL

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: PIPER SWD FIRE

Enclosed are the results of analyses for samples received by the laboratory on 07/15/19 14:12.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	07/15/2019	Sampling Date:	07/12/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: NSW # 1 (H902418-01)**

BTEX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/16/2019	ND	2.02	101	2.00	3.53		
Toluene*	<0.025	0.025	07/16/2019	ND	2.10	105	2.00	2.18		
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.17	108	2.00	2.08		
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	1.10		
Total BTEX	<0.150	0.150	07/16/2019	ND						

Surrogate: Dibromofluoromethane 97.0 % 90.4-111

Surrogate: Toluene-d8 98.7 % 85.3-114

Surrogate: 4-Bromofluorobenzene 91.5 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	07/16/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	190	95.1	200	0.351	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	189	94.6	200	4.27	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 74.8 % 41-142

Surrogate: 1-Chlorooctadecane 81.9 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/15/2019	Sampling Date:	07/12/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: NSW # 2 (H902418-02)**

BTX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/16/2019	ND	2.02	101	2.00	3.53		
Toluene*	<0.025	0.025	07/16/2019	ND	2.10	105	2.00	2.18		
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.17	108	2.00	2.08		
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	1.10		
Total BTX	<0.150	0.150	07/16/2019	ND						

Surrogate: Dibromofluoromethane 99.6 % 90.4-111

Surrogate: Toluene-d8 100 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.2 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4800	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	190	95.1	200	0.351	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	189	94.6	200	4.27	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 69.8 % 41-142

Surrogate: 1-Chlorooctadecane 76.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/15/2019	Sampling Date:	07/12/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: ESW # 1 (H902418-03)**

BTX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/16/2019	ND	2.02	101	2.00	3.53		
Toluene*	<0.025	0.025	07/16/2019	ND	2.10	105	2.00	2.18		
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.17	108	2.00	2.08		
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	1.10		
Total BTX	<0.150	0.150	07/16/2019	ND						

Surrogate: Dibromofluoromethane 98.9 % 90.4-111

Surrogate: Toluene-d8 97.9 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.7 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	199	99.4	200	3.66	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	218	109	200	2.06	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 60.3 % 41-142

Surrogate: 1-Chlorooctadecane 71.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/15/2019	Sampling Date:	07/12/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: ESW # 2 (H902418-04)**

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/16/2019	ND	2.02	101	2.00	3.53	
Toluene*	<0.025	0.025	07/16/2019	ND	2.10	105	2.00	2.18	
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.17	108	2.00	2.08	
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	1.10	
Total BTX	<0.150	0.150	07/16/2019	ND					

Surrogate: Dibromofluoromethane 98.6 % 90.4-111

Surrogate: Toluene-d8 98.6 % 85.3-114

Surrogate: 4-Bromofluorobenzene 89.3 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	204	102	200	0.980	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	211	106	200	4.39	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/15/2019	Sampling Date:	07/12/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: SSW # 1 (H902418-05)**

BTX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/16/2019	ND	2.02	101	2.00	3.53		
Toluene*	<0.025	0.025	07/16/2019	ND	2.10	105	2.00	2.18		
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.17	108	2.00	2.08		
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	1.10		
Total BTX	<0.150	0.150	07/16/2019	ND						

Surrogate: Dibromofluoromethane 99.1 % 90.4-111

Surrogate: Toluene-d8 98.0 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.8 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	204	102	200	0.980	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	211	106	200	4.39	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 99.8 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	07/15/2019	Sampling Date:	07/12/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: WSW # 1 (H902418-06)**

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/16/2019	ND	2.02	101	2.00	3.53	
Toluene*	<0.025	0.025	07/16/2019	ND	2.10	105	2.00	2.18	
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.17	108	2.00	2.08	
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	1.10	
Total BTX	<0.150	0.150	07/16/2019	ND					

Surrogate: Dibromofluoromethane 100 % 90.4-111

Surrogate: Toluene-d8 98.5 % 85.3-114

Surrogate: 4-Bromofluorobenzene 91.9 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	204	102	200	0.980	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	211	106	200	4.39	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 97.0 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

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

Received:	07/15/2019	Sampling Date:	07/12/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: WSW # 2 (H902418-07)**

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/16/2019	ND	2.02	101	2.00	3.53	
Toluene*	<0.025	0.025	07/16/2019	ND	2.10	105	2.00	2.18	
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.17	108	2.00	2.08	
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	1.10	
Total BTX	<0.150	0.150	07/16/2019	ND					

Surrogate: Dibromofluoromethane 99.2 % 90.4-111

Surrogate: Toluene-d8 99.1 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.1 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	204	102	200	0.980	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	211	106	200	4.39	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 97.4 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/15/2019	Sampling Date:	07/12/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: EXC. B NSW (H902418-08)**

BTEx 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/16/2019	ND	2.02	101	2.00	3.53		
Toluene*	<0.025	0.025	07/16/2019	ND	2.10	105	2.00	2.18		
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.17	108	2.00	2.08		
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	1.10		
Total BTEx	<0.150	0.150	07/16/2019	ND						

Surrogate: Dibromofluoromethane 98.5 % 90.4-111

Surrogate: Toluene-d8 97.9 % 85.3-114

Surrogate: 4-Bromofluorobenzene 87.8 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	199	99.4	200	3.66	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	218	109	200	2.06	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 66.3 % 41-142

Surrogate: 1-Chlorooctadecane 74.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/15/2019	Sampling Date:	07/12/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: EXC. B ESW (H902418-09)**

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/16/2019	ND	2.02	101	2.00	3.53	
Toluene*	<0.025	0.025	07/16/2019	ND	2.10	105	2.00	2.18	
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.17	108	2.00	2.08	
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	1.10	
Total BTX	<0.150	0.150	07/16/2019	ND					

Surrogate: Dibromofluoromethane 100 % 90.4-111

Surrogate: Toluene-d8 98.7 % 85.3-114

Surrogate: 4-Bromofluorobenzene 91.4 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	199	99.4	200	3.66	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	218	109	200	2.06	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 61.5 % 41-142

Surrogate: 1-Chlorooctadecane 74.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/15/2019	Sampling Date:	07/12/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: EXC. B SSW (H902418-10)**

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/16/2019	ND	2.02	101	2.00	3.53	
Toluene*	<0.025	0.025	07/16/2019	ND	2.10	105	2.00	2.18	
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.17	108	2.00	2.08	
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	1.10	
Total BTX	<0.150	0.150	07/16/2019	ND					

Surrogate: Dibromofluoromethane 101 % 90.4-111

Surrogate: Toluene-d8 97.9 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.5 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	199	99.4	200	3.66	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	218	109	200	2.06	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 56.5 % 41-142

Surrogate: 1-Chlorooctadecane 72.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/15/2019	Sampling Date:	07/12/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - LEA CO NM		

**Sample ID: EXC. B WSW (H902418-11)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/16/2019	ND	2.02	101	2.00	3.53	
Toluene*	<0.025	0.025	07/16/2019	ND	2.10	105	2.00	2.18	
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.17	108	2.00	2.08	
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	1.10	
Total BTEx	<0.150	0.150	07/16/2019	ND					

Surrogate: Dibromofluoromethane 101 % 90.4-111

Surrogate: Toluene-d8 99.4 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.2 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	15200	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	199	99.4	200	3.66	
DRO >C10-C28*	71.8	10.0	07/16/2019	ND	218	109	200	2.06	
EXT DRO >C28-C36	21.5	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 71.5 % 41-142

Surrogate: 1-Chlorooctadecane 92.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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---

### Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in cursive script, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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





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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

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



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---

August 29, 2019

DANIEL DOMINGUEZ

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: PIPER SWD FIRE

Enclosed are the results of analyses for samples received by the laboratory on 08/23/19 15:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	08/23/2019	Sampling Date:	08/16/2019
Reported:	08/29/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - M, 18,21,37		

**Sample ID: TT - 1 @ SURFACE (H902917-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/27/2019	ND	1.72	86.2	2.00	2.96	
Toluene*	<0.050	0.050	08/27/2019	ND	1.93	96.5	2.00	2.57	
<b>Ethylbenzene*</b>	<b>0.066</b>	0.050	08/27/2019	ND	1.98	99.2	2.00	3.86	
Total Xylenes*	<0.150	0.150	08/27/2019	ND	6.02	100	6.00	4.76	
Total BTEX	<0.300	0.300	08/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>4800</b>	16.0	08/28/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/28/2019	ND	229	114	200	3.48	
<b>DRO &gt;C10-C28*</b>	<b>672</b>	10.0	08/28/2019	ND	232	116	200	0.504	QM-07
<b>EXT DRO &gt;C28-C36</b>	<b>192</b>	10.0	08/28/2019	ND					

Surrogate: 1-Chlorooctane 76.1 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	08/23/2019	Sampling Date:	08/16/2019
Reported:	08/29/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - M, 18,21,37		

**Sample ID: TT - 1 @ 4' (H902917-02)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/27/2019	ND	1.72	86.2	2.00	2.96		
Toluene*	<0.050	0.050	08/27/2019	ND	1.93	96.5	2.00	2.57		
Ethylbenzene*	<0.050	0.050	08/27/2019	ND	1.98	99.2	2.00	3.86		
Total Xylenes*	<0.150	0.150	08/27/2019	ND	6.02	100	6.00	4.76		
Total BTX	<0.300	0.300	08/27/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	08/28/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/28/2019	ND	229	114	200	3.48	
DRO >C10-C28*	45.8	10.0	08/28/2019	ND	232	116	200	0.504	
EXT DRO >C28-C36	12.1	10.0	08/28/2019	ND					

Surrogate: 1-Chlorooctane 90.9 % 41-142

Surrogate: 1-Chlorooctadecane 98.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	08/23/2019	Sampling Date:	08/16/2019
Reported:	08/29/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - M, 18,21,37		

**Sample ID: TT - 2 @ SURFACE (H902917-03)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/27/2019	ND	1.72	86.2	2.00	2.96		
Toluene*	<0.050	0.050	08/27/2019	ND	1.93	96.5	2.00	2.57		
Ethylbenzene*	<0.050	0.050	08/27/2019	ND	1.98	99.2	2.00	3.86		
Total Xylenes*	<0.150	0.150	08/27/2019	ND	6.02	100	6.00	4.76		
Total BTX	<0.300	0.300	08/27/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3040	16.0	08/28/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/28/2019	ND	229	114	200	3.48	
DRO >C10-C28*	134	10.0	08/28/2019	ND	232	116	200	0.504	
EXT DRO >C28-C36	29.5	10.0	08/28/2019	ND					

Surrogate: 1-Chlorooctane 93.6 % 41-142

Surrogate: 1-Chlorooctadecane 113 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	08/23/2019	Sampling Date:	08/16/2019
Reported:	08/29/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - M, 18,21,37		

**Sample ID: TT - 2 @ 9' (H902917-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/27/2019	ND	1.72	86.2	2.00	2.96		
Toluene*	<0.050	0.050	08/27/2019	ND	1.93	96.5	2.00	2.57		
Ethylbenzene*	<0.050	0.050	08/27/2019	ND	1.98	99.2	2.00	3.86		
Total Xylenes*	<0.150	0.150	08/27/2019	ND	6.02	100	6.00	4.76		
Total BTEX	<0.300	0.300	08/27/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	800	16.0	08/28/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/28/2019	ND	229	114	200	3.48	
DRO >C10-C28*	<10.0	10.0	08/28/2019	ND	232	116	200	0.504	
EXT DRO >C28-C36	<10.0	10.0	08/28/2019	ND					

Surrogate: 1-Chlorooctane 93.1 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

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

Received:	08/23/2019	Sampling Date:	08/16/2019
Reported:	08/29/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - M, 18,21,37		

**Sample ID: TT - 3 @ SURFACE (H902917-05)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/27/2019	ND	1.72	86.2	2.00	2.96	
Toluene*	<0.050	0.050	08/27/2019	ND	1.93	96.5	2.00	2.57	
Ethylbenzene*	0.061	0.050	08/27/2019	ND	1.98	99.2	2.00	3.86	
Total Xylenes*	0.196	0.150	08/27/2019	ND	6.02	100	6.00	4.76	
Total BTX	<0.300	0.300	08/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2320	16.0	08/28/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	27.6	10.0	08/28/2019	ND	227	113	200	0.151	
DRO >C10-C28*	3210	10.0	08/28/2019	ND	234	117	200	3.14	QM-07
EXT DRO >C28-C36	938	10.0	08/28/2019	ND					

Surrogate: 1-Chlorooctane 109 % 41-142

Surrogate: 1-Chlorooctadecane 190 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	08/23/2019	Sampling Date:	08/16/2019
Reported:	08/29/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - M, 18,21,37		

**Sample ID: TT - 3 @ 7' (H902917-06)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/27/2019	ND	1.72	86.2	2.00	2.96		
Toluene*	<0.050	0.050	08/27/2019	ND	1.93	96.5	2.00	2.57		
Ethylbenzene*	<0.050	0.050	08/27/2019	ND	1.98	99.2	2.00	3.86		
Total Xylenes*	<0.150	0.150	08/27/2019	ND	6.02	100	6.00	4.76		
Total BTX	<0.300	0.300	08/27/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	08/28/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/28/2019	ND	227	113	200	0.151	
DRO >C10-C28*	<10.0	10.0	08/28/2019	ND	234	117	200	3.14	
EXT DRO >C28-C36	16.6	10.0	08/28/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 114 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	08/23/2019	Sampling Date:	08/16/2019
Reported:	08/29/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - M, 18,21,37		

**Sample ID: TT - 4 @ SURFACE (H902917-07)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/27/2019	ND	1.72	86.2	2.00	2.96		
Toluene*	<0.050	0.050	08/27/2019	ND	1.93	96.5	2.00	2.57		
Ethylbenzene*	<0.050	0.050	08/27/2019	ND	1.98	99.2	2.00	3.86		
Total Xylenes*	<0.150	0.150	08/27/2019	ND	6.02	100	6.00	4.76		
Total BTX	<0.300	0.300	08/27/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/28/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/28/2019	ND	227	113	200	0.151	
DRO >C10-C28*	<10.0	10.0	08/28/2019	ND	234	117	200	3.14	
EXT DRO >C28-C36	<10.0	10.0	08/28/2019	ND					

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 115 % 37.6-147

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**Analytical Results For:**

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

Received:	08/23/2019	Sampling Date:	08/16/2019
Reported:	08/29/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	GOODNIGHT MIDSTREAM - M, 18,21,37		

**Sample ID: TT - 4 @ 1' (H902917-08)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/27/2019	ND	1.72	86.2	2.00	2.96		
Toluene*	<0.050	0.050	08/27/2019	ND	1.93	96.5	2.00	2.57		
Ethylbenzene*	<0.050	0.050	08/27/2019	ND	1.98	99.2	2.00	3.86		
Total Xylenes*	<0.150	0.150	08/27/2019	ND	6.02	100	6.00	4.76		
Total BTEX	<0.300	0.300	08/27/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/28/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/28/2019	ND	227	113	200	0.151	
DRO >C10-C28*	<10.0	10.0	08/28/2019	ND	234	117	200	3.14	
EXT DRO >C28-C36	<10.0	10.0	08/28/2019	ND					

Surrogate: 1-Chlorooctane 106 % 41-142

Surrogate: 1-Chlorooctadecane 120 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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





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

---

October 23, 2019

DANIEL DOMINGUEZ

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: PIPER SWD FIRE

Enclosed are the results of analyses for samples received by the laboratory on 10/17/19 16:41.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: FLOOR 1 (H903563-01)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/19/2019	ND	1.88	93.9	2.00	5.62		
Toluene*	<0.050	0.050	10/19/2019	ND	1.89	94.7	2.00	5.58		
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	1.90	95.0	2.00	5.65		
Total Xylenes*	<0.150	0.150	10/19/2019	ND	5.69	94.8	6.00	5.77		
Total BTX	<0.300	0.300	10/19/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 84.6 % 41-142

Surrogate: 1-Chlorooctadecane 95.4 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: FLOOR 2 (H903563-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/19/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/19/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/19/2019	ND	5.38	89.6	6.00	9.46		
Total BTEX	<0.300	0.300	10/19/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2160	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	147	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	59.6	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 90.6 % 41-142

Surrogate: 1-Chlorooctadecane 115 % 37.6-147

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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: FLOOR 3 (H903563-03)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/19/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/19/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/19/2019	ND	5.38	89.6	6.00	9.46		
Total BTX	<0.300	0.300	10/19/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	10/22/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 90.6 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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**Analytical Results For:**

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 DANIEL DOMINGUEZ  
 P.O. Box 301  
 Lovington NM, 88260  
 Fax To: (575) 396-1429

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: FLOOR 4 (H903563-04)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/19/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/19/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/19/2019	ND	5.38	89.6	6.00	9.46		
Total BTX	<0.300	0.300	10/19/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2560	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 83.6 % 41-142

Surrogate: 1-Chlorooctadecane 92.6 % 37.6-147

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**Analytical Results For:**

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 DANIEL DOMINGUEZ  
 P.O. Box 301  
 Lovington NM, 88260  
 Fax To: (575) 396-1429

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: FLOOR 5 (H903563-05)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/19/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/19/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/19/2019	ND	5.38	89.6	6.00	9.46		
Total BTX	<0.300	0.300	10/19/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2240	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 86.3 % 41-142

Surrogate: 1-Chlorooctadecane 95.0 % 37.6-147

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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: FLOOR 6 (H903563-06)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/19/2019	ND	1.81	90.5	2.00	9.55	
Toluene*	<0.050	0.050	10/19/2019	ND	1.81	90.4	2.00	9.40	
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	1.80	90.1	2.00	9.42	
Total Xylenes*	<0.150	0.150	10/19/2019	ND	5.38	89.6	6.00	9.46	
Total BTX	<0.300	0.300	10/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 88.1 % 41-142

Surrogate: 1-Chlorooctadecane 97.0 % 37.6-147

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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: FLOOR 7 (H903563-07)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/19/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/19/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/19/2019	ND	5.38	89.6	6.00	9.46		
Total BTX	<0.300	0.300	10/19/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	688	16.0	10/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 93.3 % 41-142

Surrogate: 1-Chlorooctadecane 99.9 % 37.6-147

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**Analytical Results For:**

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 DANIEL DOMINGUEZ  
 P.O. Box 301  
 Lovington NM, 88260  
 Fax To: (575) 396-1429

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: FLOOR 8 (H903563-08)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/19/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/19/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/19/2019	ND	5.38	89.6	6.00	9.46		
Total BTX	<0.300	0.300	10/19/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2600	16.0	10/22/2019	ND	432	108	400	3.77	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 85.4 % 41-142

Surrogate: 1-Chlorooctadecane 99.2 % 37.6-147

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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: FLOOR 9 (H903563-09)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/20/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/20/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/20/2019	ND	5.38	89.6	6.00	9.46		
Total BTX	<0.300	0.300	10/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	480	16.0	10/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	965	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	239	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 82.2 % 41-142

Surrogate: 1-Chlorooctadecane 130 % 37.6-147

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: FLOOR 10 (H903563-10)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/20/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/20/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/20/2019	ND	5.38	89.6	6.00	9.46		
Total BTX	<0.300	0.300	10/20/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	10/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	72.4	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	31.5	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 86.9 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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 DANIEL DOMINGUEZ  
 P.O. Box 301  
 Lovington NM, 88260  
 Fax To: (575) 396-1429

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: FLOOR 11 (H903563-11)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/20/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/20/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/20/2019	ND	5.38	89.6	6.00	9.46		
Total BTEX	<0.300	0.300	10/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	10/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 84.6 % 41-142

Surrogate: 1-Chlorooctadecane 95.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager





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 DANIEL DOMINGUEZ  
 P.O. Box 301  
 Lovington NM, 88260  
 Fax To: (575) 396-1429

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: FLOOR 12 (H903563-12)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/20/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/20/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/20/2019	ND	5.38	89.6	6.00	9.46		
Total BTEx	<0.300	0.300	10/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	10/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 88.8 % 41-142

Surrogate: 1-Chlorooctadecane 99.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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 DANIEL DOMINGUEZ  
 P.O. Box 301  
 Lovington NM, 88260  
 Fax To: (575) 396-1429

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: NW 1 b (H903563-13)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/20/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/20/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/20/2019	ND	5.38	89.6	6.00	9.46		
Total BTX	<0.300	0.300	10/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	432	16.0	10/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 92.7 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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 DANIEL DOMINGUEZ  
 P.O. Box 301  
 Lovington NM, 88260  
 Fax To: (575) 396-1429

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: NW 2 b (H903563-14)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/20/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/20/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/20/2019	ND	5.38	89.6	6.00	9.46		
Total BTX	<0.300	0.300	10/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	512	16.0	10/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 84.9 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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 DANIEL DOMINGUEZ  
 P.O. Box 301  
 Lovington NM, 88260  
 Fax To: (575) 396-1429

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: NW 3 b (H903563-15)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/20/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/20/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/20/2019	ND	5.38	89.6	6.00	9.46		
Total BTX	<0.300	0.300	10/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	10/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 90.6 % 41-142

Surrogate: 1-Chlorooctadecane 110 % 37.6-147

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 Fax To: (575) 396-1429

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: EW 1 b (H903563-16)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/20/2019	ND	1.81	90.5	2.00	9.55	
Toluene*	<0.050	0.050	10/20/2019	ND	1.81	90.4	2.00	9.40	
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	1.80	90.1	2.00	9.42	
Total Xylenes*	<0.150	0.150	10/20/2019	ND	5.38	89.6	6.00	9.46	
Total BTX	<0.300	0.300	10/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 84.1 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: EW 2 (H903563-17)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/20/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/20/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/20/2019	ND	5.38	89.6	6.00	9.46		
Total BTX	<0.300	0.300	10/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	10/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/19/2019	ND	205	103	200	5.85	
DRO >C10-C28*	<10.0	10.0	10/19/2019	ND	197	98.5	200	4.30	
EXT DRO >C28-C36	<10.0	10.0	10/19/2019	ND					

Surrogate: 1-Chlorooctane 90.5 % 41-142

Surrogate: 1-Chlorooctadecane 109 % 37.6-147

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: EW 3 (H903563-18)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/20/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/20/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/20/2019	ND	5.38	89.6	6.00	9.46		
Total BTX	<0.300	0.300	10/20/2019	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	10/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	11.8	10.0	10/21/2019	ND	215	108	200	2.74	
DRO >C10-C28*	1430	10.0	10/21/2019	ND	208	104	200	1.57	
EXT DRO >C28-C36	408	10.0	10/21/2019	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 146 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: EW 4 b (H903563-19)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/20/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/20/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/20/2019	ND	5.38	89.6	6.00	9.46		
Total BTX	<0.300	0.300	10/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	10/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/21/2019	ND	215	108	200	2.74	
DRO >C10-C28*	<10.0	10.0	10/21/2019	ND	208	104	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	10/21/2019	ND					

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: SW 1 (H903563-20)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/20/2019	ND	1.81	90.5	2.00	9.55	
Toluene*	<0.050	0.050	10/20/2019	ND	1.81	90.4	2.00	9.40	
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	1.80	90.1	2.00	9.42	
Total Xylenes*	<0.150	0.150	10/20/2019	ND	5.38	89.6	6.00	9.46	
Total BTX	<0.300	0.300	10/20/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	10/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/21/2019	ND	215	108	200	2.74	
DRO >C10-C28*	<10.0	10.0	10/21/2019	ND	208	104	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	10/21/2019	ND					

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: SW 2 b (H903563-21)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/20/2019	ND	1.81	90.5	2.00	9.55		
Toluene*	<0.050	0.050	10/20/2019	ND	1.81	90.4	2.00	9.40		
Ethylbenzene*	<0.050	0.050	10/20/2019	ND	1.80	90.1	2.00	9.42		
Total Xylenes*	<0.150	0.150	10/20/2019	ND	5.38	89.6	6.00	9.46		
Total BTEx	<0.300	0.300	10/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	10/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/21/2019	ND	215	108	200	2.74	
DRO >C10-C28*	<10.0	10.0	10/21/2019	ND	208	104	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	10/21/2019	ND					

Surrogate: 1-Chlorooctane 98.3 % 41-142

Surrogate: 1-Chlorooctadecane 99.9 % 37.6-147

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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: SW 3 b (H903563-22)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/19/2019	ND	1.88	93.9	2.00	5.62		
Toluene*	<0.050	0.050	10/19/2019	ND	1.89	94.7	2.00	5.58		
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	1.90	95.0	2.00	5.65		
Total Xylenes*	<0.150	0.150	10/19/2019	ND	5.69	94.8	6.00	5.77		
Total BTX	<0.300	0.300	10/19/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	10/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/21/2019	ND	215	108	200	2.74	
DRO >C10-C28*	<10.0	10.0	10/21/2019	ND	208	104	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	10/21/2019	ND					

Surrogate: 1-Chlorooctane 97.0 % 41-142

Surrogate: 1-Chlorooctadecane 99.4 % 37.6-147

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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: SW 4 b (H903563-23)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/19/2019	ND	1.88	93.9	2.00	5.62	
Toluene*	<0.050	0.050	10/19/2019	ND	1.89	94.7	2.00	5.58	
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	1.90	95.0	2.00	5.65	
Total Xylenes*	<0.150	0.150	10/19/2019	ND	5.69	94.8	6.00	5.77	
Total BTX	<0.300	0.300	10/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	10/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/21/2019	ND	215	108	200	2.74	
DRO >C10-C28*	<10.0	10.0	10/21/2019	ND	208	104	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	10/21/2019	ND					

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 107 % 37.6-147

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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: WW 1 b (H903563-24)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/19/2019	ND	1.88	93.9	2.00	5.62		
Toluene*	<0.050	0.050	10/19/2019	ND	1.89	94.7	2.00	5.58		
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	1.90	95.0	2.00	5.65		
Total Xylenes*	<0.150	0.150	10/19/2019	ND	5.69	94.8	6.00	5.77		
Total BTX	<0.300	0.300	10/19/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2800	16.0	10/22/2019	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/21/2019	ND	215	108	200	2.74	
DRO >C10-C28*	<10.0	10.0	10/21/2019	ND	208	104	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	10/21/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: WW 2 b (H903563-25)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/19/2019	ND	1.88	93.9	2.00	5.62		
Toluene*	<0.050	0.050	10/19/2019	ND	1.89	94.7	2.00	5.58		
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	1.90	95.0	2.00	5.65		
Total Xylenes*	<0.150	0.150	10/19/2019	ND	5.69	94.8	6.00	5.77		
Total BTX	<0.300	0.300	10/19/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	10/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/21/2019	ND	215	108	200	2.74	
DRO >C10-C28*	<10.0	10.0	10/21/2019	ND	208	104	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	10/21/2019	ND					

Surrogate: 1-Chlorooctane 95.1 % 41-142

Surrogate: 1-Chlorooctadecane 95.1 % 37.6-147

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**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: WW 3 (H903563-26)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/19/2019	ND	1.88	93.9	2.00	5.62	
Toluene*	<0.050	0.050	10/19/2019	ND	1.89	94.7	2.00	5.58	
Ethylbenzene*	<0.050	0.050	10/19/2019	ND	1.90	95.0	2.00	5.65	
Total Xylenes*	<0.150	0.150	10/19/2019	ND	5.69	94.8	6.00	5.77	
Total BTX	<0.300	0.300	10/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1180	16.0	10/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/21/2019	ND	215	108	200	2.74	
DRO >C10-C28*	<10.0	10.0	10/21/2019	ND	208	104	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	10/21/2019	ND					

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	10/17/2019	Sampling Date:	10/14/2019
Reported:	10/23/2019	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	GOODNIGHT MIDSTREAM - 10769	Sample Received By:	Jodi Henson
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: WW 4 (H903563-27)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/23/2019	ND	1.76	87.9	2.00	0.186	
Toluene*	<0.050	0.050	10/23/2019	ND	1.75	87.7	2.00	0.319	
Ethylbenzene*	<0.050	0.050	10/23/2019	ND	1.76	88.2	2.00	0.455	
Total Xylenes*	<0.150	0.150	10/23/2019	ND	5.28	88.1	6.00	0.430	
Total BTX	<0.300	0.300	10/23/2019	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2240	16.0	10/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	209	104	200	2.83	
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	207	103	200	2.45	
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND					

Surrogate: 1-Chlorooctane 95.4 % 41-142

Surrogate: 1-Chlorooctadecane 91.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager

Page 30 of 32



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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Goodnight Midstream Permian, LLC										P.O. #:										BILL TO										ANALYSIS REQUEST																			
Project Manager: Daniel Dominguez										Company: Etech Environmental & Safety Solutions																																							
Address: 3100 Plains Hwy										Attn: Daniel Dominguez																																							
City: Lovington										Address: P.O. Box 301																																							
State: NM										City: Lovington																																							
Zip: 88260										State: NM																																							
Phone #: 575-396-2378										Phone #: 575-396-2378																																							
Fax #: 575-396-1429										Fax #: 575-396-1429																																							
Project #: 10769										Project Owner: Goodnight Midstream Permian, LLC																																							
Project Name: Piper SWD Fire										State: NM																																							
Project Location: U/L "W" Sec 18 T21S - R37W										Zip: 88260																																							
Sample Name: Daniel Dominguez										Phone #: 575-396-2378																																							
FOR LAB USE ONLY										Fax #: 575-396-1429																																							
Lab I.D. Sample I.D.										PRESERV.										SAMPLING																													
H9D3563										DATE										TIME																													
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Page 31 of 32



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(575) 393-2326 FAX (575) 393-2476

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Page 32 of 32



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Goodnight Midstream Permian, LLC		<b>BILL TO</b>		ANALYSIS REQUEST					
Project Manager: Daniel Dominguez									
Address: 3100 Plains Hwy		P.O. #:							
City: Lovington		Company: Etech Environmental & Safety Solutions							
State: NM		Attn: Daniel Dominguez							
Zip: 88260		Address: P.O. Box 301							
Phone #: 575-396-2378	Fax #: 575-396-1429	City: Lovington							
Project #: 10769	Project Owner: Goodnight Midstream Permian, LLC	State: NM	Zip: 88260						
Project Name: Piper SWD Fire		Phone #: 575-396-2378							
Project Location: U/L "W" Sec 18 T21S - R37W		Fax #: 575-396-1429							
Sampler Name:									

[illegible]

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Reinquinshed By:	Date:	10/17	Received By:	daniel derson			
	Time:	9:41					
Reinquinshed By:	Date:		Received By:				
	Time:						
Delivered By: (Circle One)	#14	#97	Sample Condition				
Sampler - UPS - Bus - Other:	2.50	2.90	Cool	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Intact	<input checked="" type="checkbox"/> Yes
			No	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes
			CHECKED BY:	(initials)			
REMARKS:				email results to daniel@etechnv.com			

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



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February 14, 2020

JOEL LOWRY

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: PIPER SWD FIRE

Enclosed are the results of analyses for samples received by the laboratory on 02/12/20 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	02/12/2020	Sampling Date:	02/10/2020
Reported:	02/14/2020	Sampling Type:	Soil
Project Name:	PIPER SWD FIRE	Sampling Condition:	Cool & Intact
Project Number:	10769	Sample Received By:	Tamara Oldaker
Project Location:	UL M SEC18 T21S R37W		

**Sample ID: EW 36 (H000426-01)**

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/13/2020	ND	219	109	200	2.23	
DRO >C10-C28*	<10.0	10.0	02/13/2020	ND	221	110	200	1.01	
EXT DRO >C28-C36	<10.0	10.0	02/13/2020	ND					
<hr/>									
Surrogate: 1-Chlorooctane	103 %	41-142							
Surrogate: 1-Chlorooctadecane	104 %	37.6-147							

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### Notes and Definitions

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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

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Celey D. Keene, Lab Director/Quality Manager



Page 4 of 4



# ORDINAL LABORATORIES

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

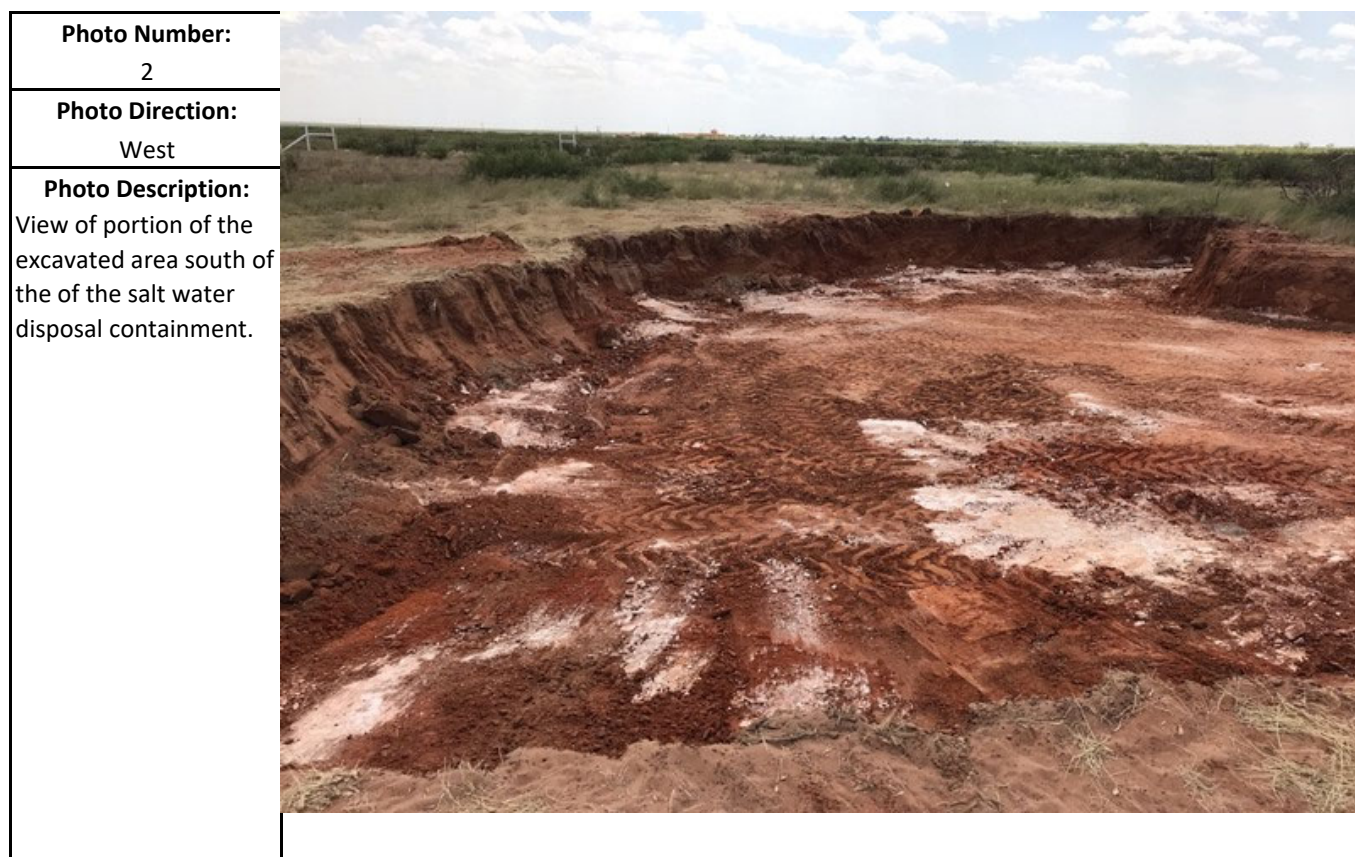
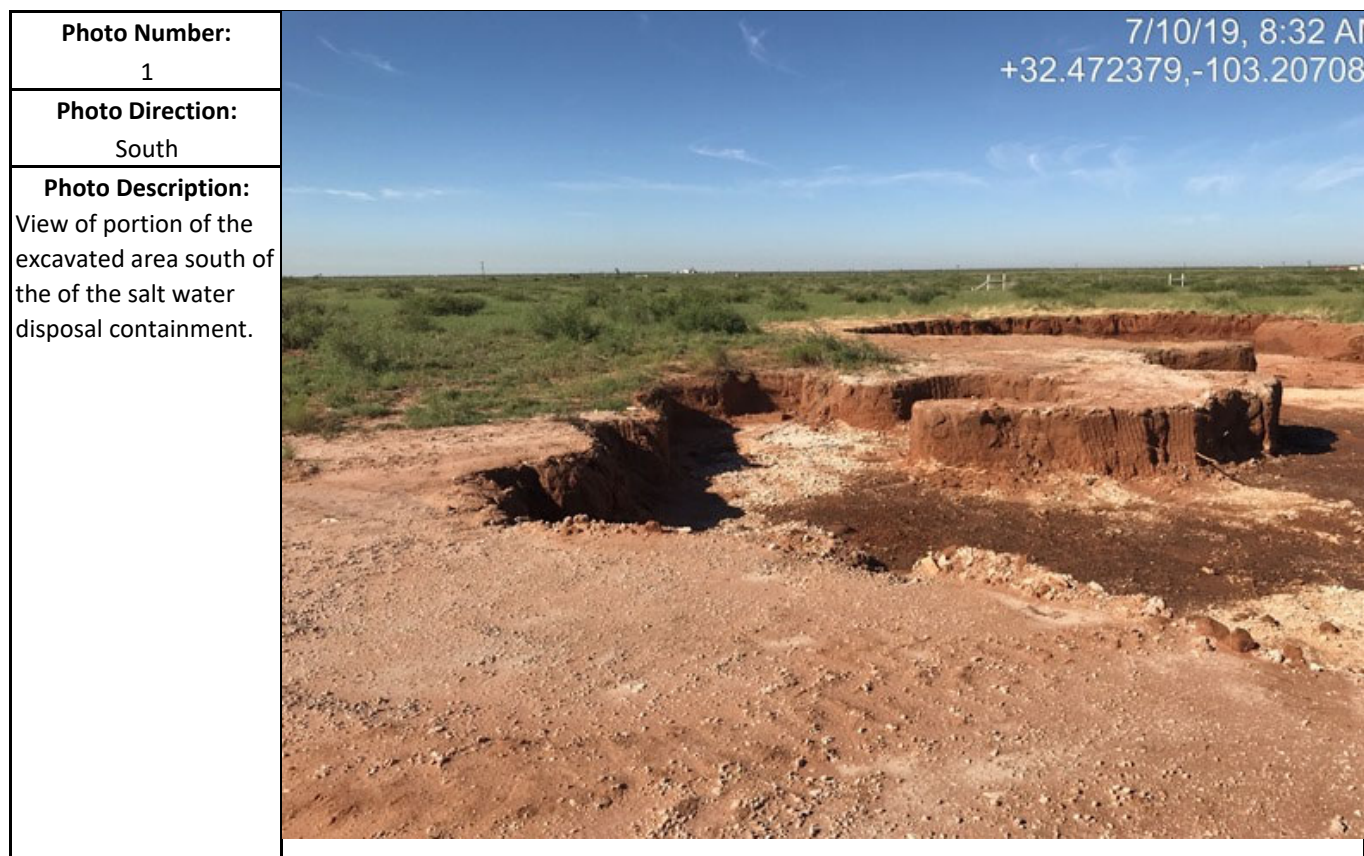
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## **Appendix D**

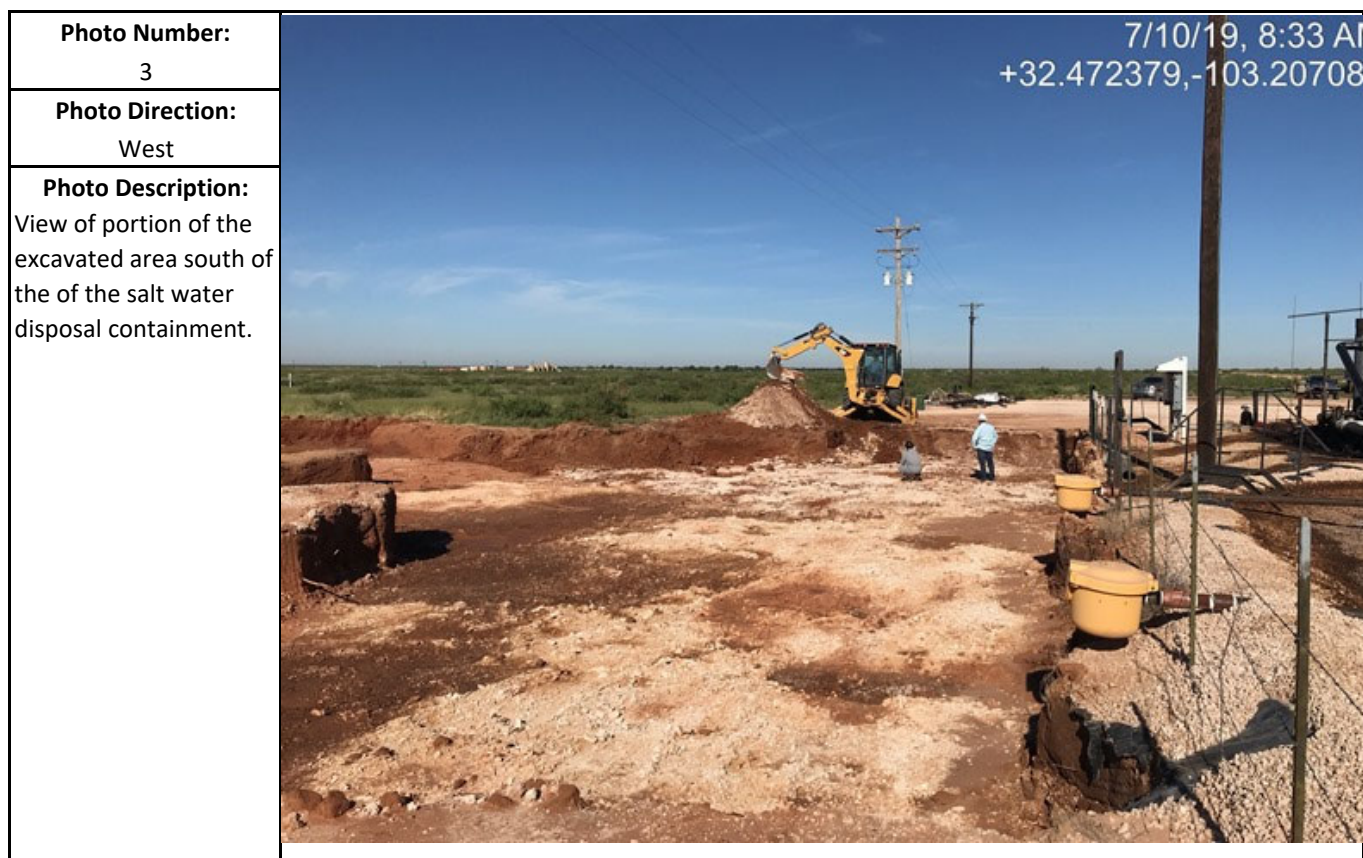
### **Photographic Log**

## Photographic Log







## Photographic Log





## Photographic Log

<b>Photo Number:</b> 5	
<b>Photo Direction:</b> South	
<b>Photo Description:</b> View of the affected area outside the salt water disposal containment after backfilling activities.	

<b>Photo Number:</b> 6	
<b>Photo Direction:</b> South	
<b>Photo Description:</b> View of the affected area outside the salt water disposal containment after backfilling activities.	



## Photographic Log





## Photographic Log

