

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 not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

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: _____ Date: _____

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.

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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: _____

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 not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

State of New Mexico
Oil Conservation Division

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: Cristina Eads Date: 03/25/2020

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: Cristina Eads Date: 03/25/2020

- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature: *Cristina Eads* Date: 04/28/2020

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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- Figure 2 - Aerial Proximity Map
- Figure 3a - Site & Sample Location Map (Pasture)
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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: <input checked="" type="checkbox"/> State <input type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> 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				
<input checked="" type="checkbox"/> The source of the release has been stopped.				
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.				
<input checked="" type="checkbox"/> Release materials have been contained via the use of berms or dikes, absorbent pad, or other containment devices				
<input checked="" type="checkbox"/> 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?	> 141 Ft.	
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

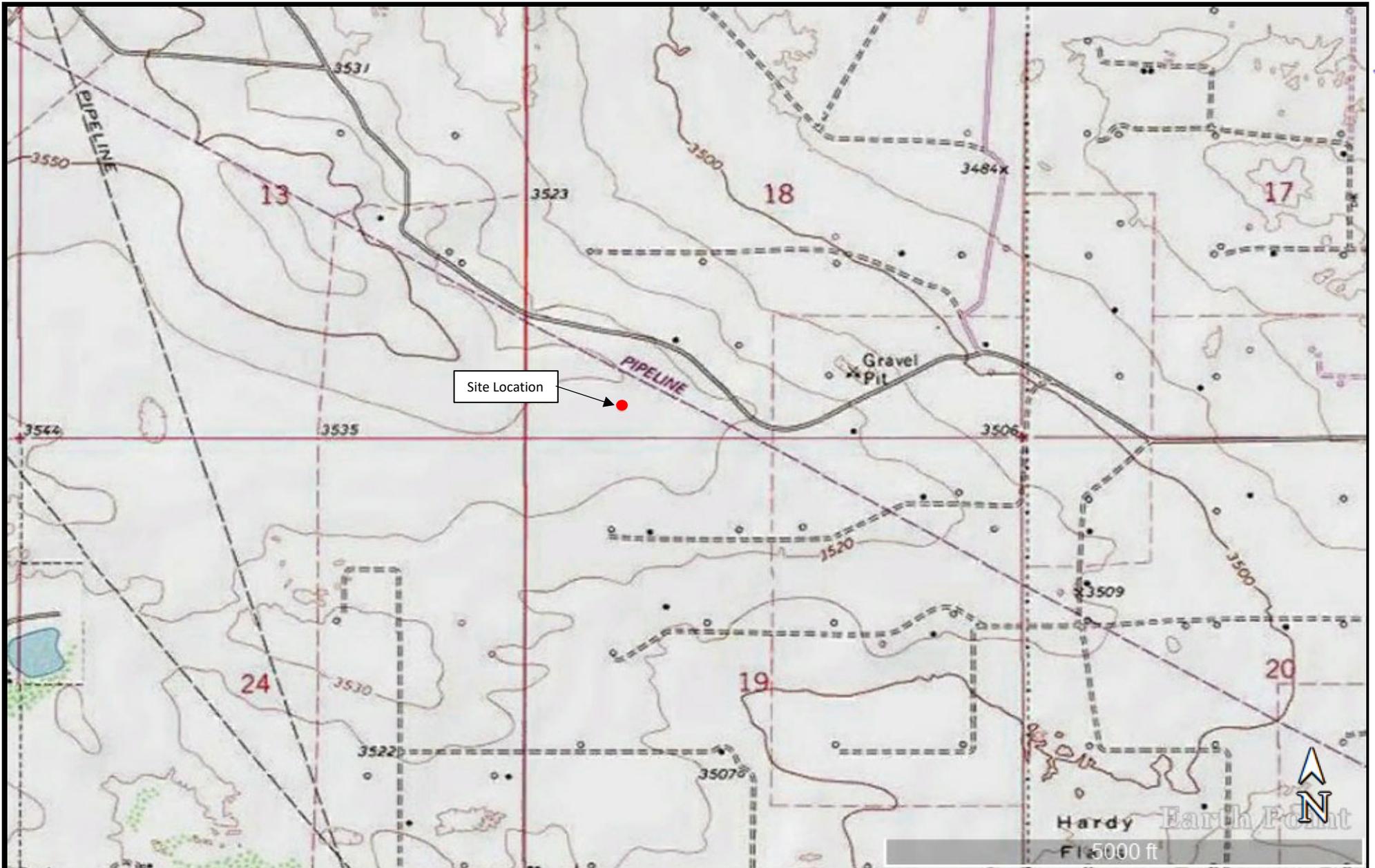
2827 North Dal Paso Street

Suite 117

Hobbs, NM 88240

(Electronic Submission)

Figure 1
Topographic Map



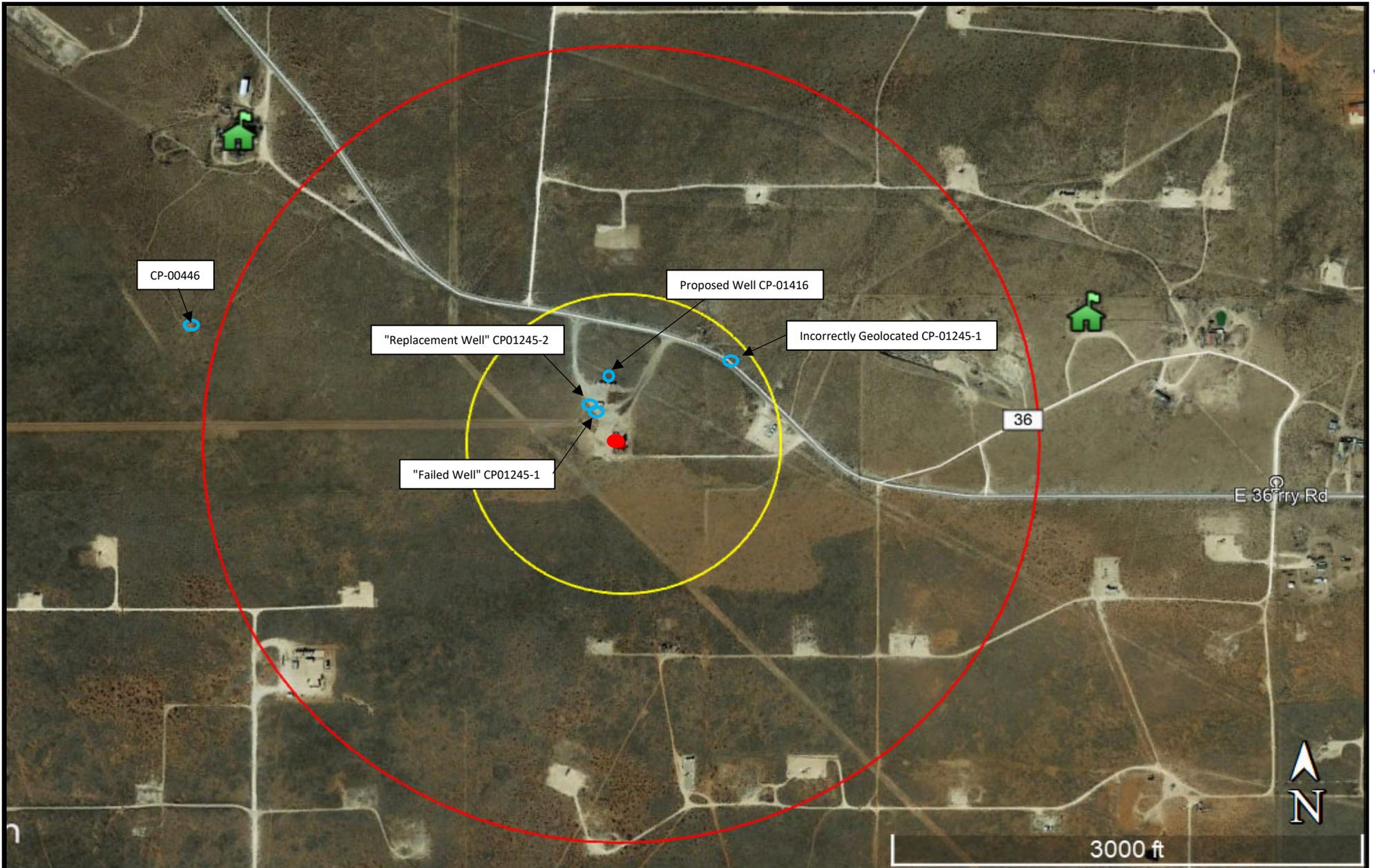
Legend:
 ● Site Location

Figure 1
 Topographic Map
 Goodnight Midstream Permian, LLC
 Penroc State E TR 27 #002
 GPS: 32.472598, -103.20721
 Lea County

eTECH 
 Environmental & Safety Solutions, Inc.

Drafted: Checked: jwl Date: 3/13/20

Figure 2
Aerial Proximity Map



Legend:

● Site Location	Non-Industrial Building
○ Fresh Water Well	Subsurface Mine
○ 1/2 Mile Radius	Playa Lake/Surface Water
○ 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:

	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



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 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

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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 ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (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	4,800
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	15,200
TT-1	8/16/2019	Surface	Excavated	<0.050	<0.300	<10.0	672	672	192	864	4,800
	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	163.5	3,040
	8/16/2019	9'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	800
TT-3	8/16/2019	Surface	Excavated	<0.050	<0.300	27.6	3,210	3,237.6	938	4,175.6	2,320
	8/16/2019	7'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	16.6	16.6	928
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	206.6	2,160
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	2,560
Floor 5	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	2,240
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	688
Floor 8	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	2,600
Floor 9	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	965	965	239	1,204	480
Floor 10	10/14/2019	4'	In-Situ	<0.050	<0.300	<10.0	72.4	72.4	31.5	103.9	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	1,849.8	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	2,800
WW2b	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	960
WW3	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,180
WW4	10/14/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	2,240
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	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
CP 01245 POD1	CP	LE				4	18	21S	37E	668676	3594411	265	220		
CP 00446 POD1	CP	LE	1	4	4	13		21S	36E	667871	3594424*	632	185	148	37
CP 00446 POD2	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

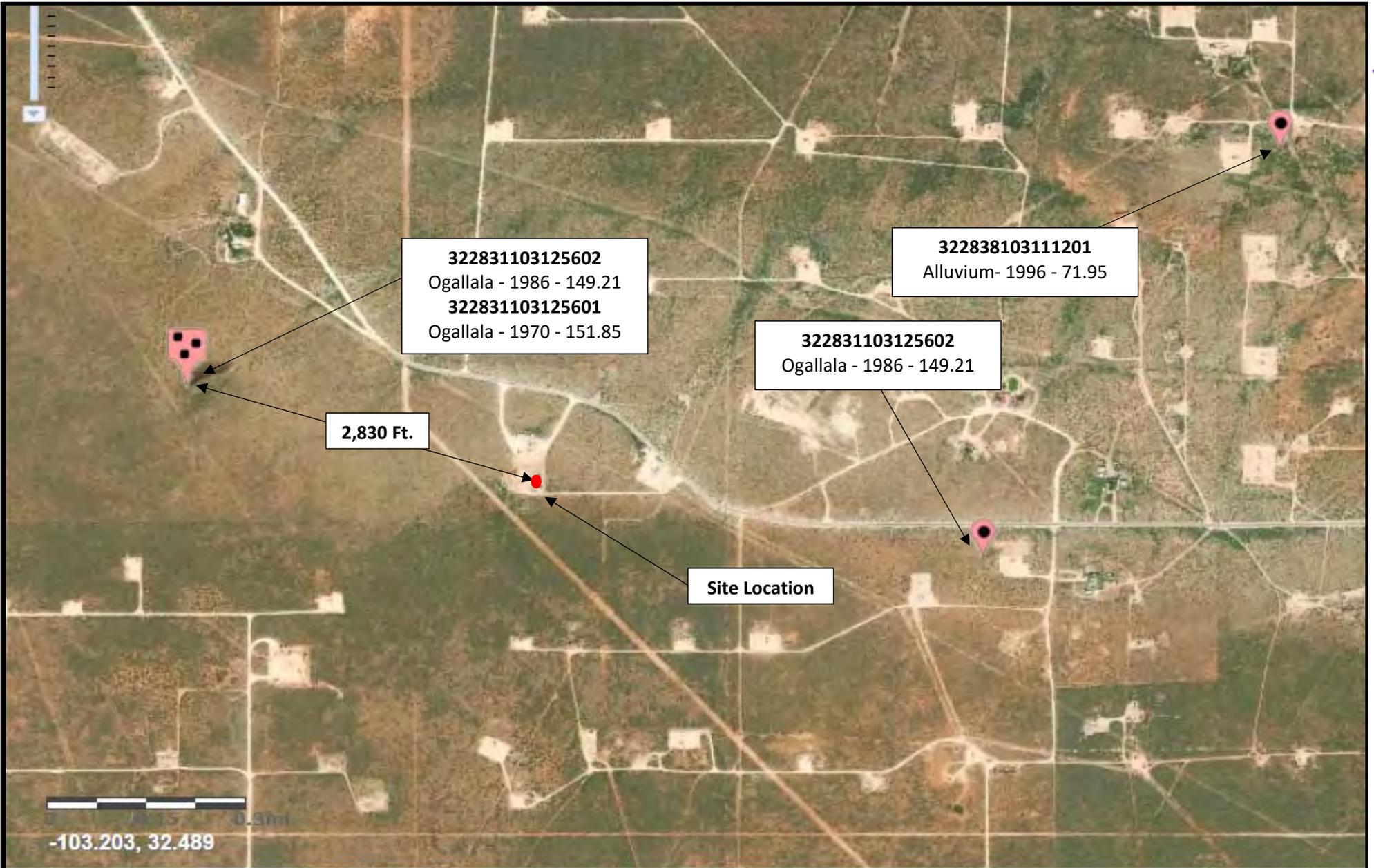
Radius: 880

*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

Drafted:	Checked: jwl
Date:	8/27/19



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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

Table of data
Tab-separated data
Graph of data
Reselect period

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?>



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

0.47 0.44 nadww01



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Agency code = usgs
site_no list =

- 322831103125601

Minimum number of levels = 1

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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

Table of data
Tab-separated data
Graph of data
Reselect period

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	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.

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Title: Groundwater for USA: Water Levels

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Agency code = usgs
site_no list =

- 322816103114201

Minimum number of levels = 1

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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

Table of data
Tab-separated data
Graph of data
Reselect period

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.

- [Questions about sites/data?](#)
[Feedback on this web site](#)
[Automated retrievals](#)
[Help](#)

[Data Tips](#)
[Explanation of terms](#)
[Subscribe for system changes](#)
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[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 17:49:52 EDT

0.58 0.55 nadww01

Appendix B

Field Data and Soil Profile Logs



Soil Profile

Date: 11-Jul-19

Project: Piper SWD Fire

Project Number: 10769 Latitude: 32.472598 Longitude: -103.20721

Depth (ft. bgs)	Description
1	Topsoil
2	
3	
4	
5	Caliche
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
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27	
28	
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32	
33	
34	
35	
36	
37	
38	
39	
40	

TD

Piper SWD Fire
6/25/19
Matthew Grieco

Point	Time	PPM Cl _{low}	Cl _{high}
SP11@s	11:05	4108	
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	<1184
SP9@3'		164	<1184
SP8@1'			3252
SP8@2'		1728	

Piper SWD fine
6/25/19

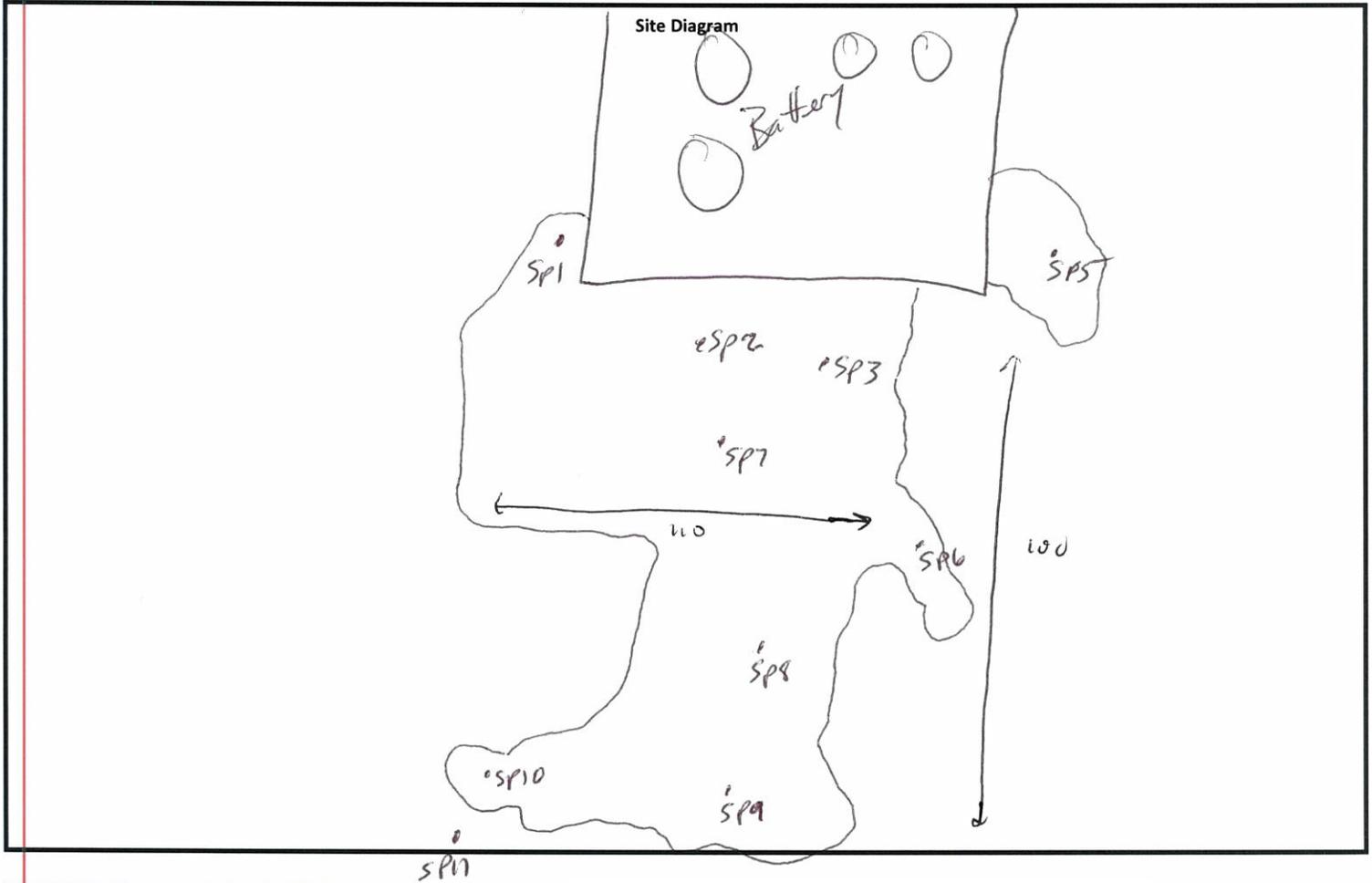
Matthew Grieco

Point	Time	CI _{low}	CI _{high}
SP7@1'		3	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'		<108 200	
SP5@3'		200	
SP1@1'		556	
SP1@2'		1620	
SP1@3'		832	



Initial Release Assessment Form

Project: Piper SWD Fire Date: 6-26-19
 Clean Up Level: _____
 Project Number: 10769 Latitude: 32.472598 Longitude: -103.20721



Notes: 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?	<input type="checkbox"/>	<input type="checkbox"/>
Necessary Samples Field Screened and on Ice?	<input type="checkbox"/>	<input type="checkbox"/>
Sample and Field Screen Data Entered on Sample Log?	<input type="checkbox"/>	<input type="checkbox"/>
Was horizontal and vertical delineation achieved?	<input type="checkbox"/>	<input type="checkbox"/>



Sample Log

Date: 8/16/2019

Project: Piper SWD Fire

Project Number: 10769 Latitude: 32.472598 Longitude: -103.20721

Sample ID	PID/Odor	Chloride Conc.	GPS
TT-1 @ surf.	moderate	72428	32.47251, -103.207104
TT-1 @ 2'	Slight	1844	"
TT-1 @ 3'	Slight	372	"
TT-2 @ surf.	Slight	2482	32.47251, -103.20731
TT-2 @ 2'	None	1520	"
TT-2 @ 4'	"	1348	"
TT-2 @ 5'	"	896	"
TT-2 @ 6'	"	502	"
TT-2 @ 7'	"	712	"
TT-2 @ 8'	"	652	"
TT-2 @ 9'	"	496	"
TT-3 @ surf.	Heavy	2428	32.47266, -103.20732
TT-3 @ 4'	Slight	1520	"
TT-3 @ 5'	Slight	1348	"
TT-3 @ 6'	None	772	"
TT-3 @ 7'	None	544	"
TT-4 @ surf.	None	2108	32.47272, -103.20718
TT-4 @ 1'	"	148	"
TT-5 @ surf.	Slight	1252	32.47267, -103.20716
TT-5 @ 4'	Slight	1620	"
TT-5 @ 5'	None	964	"
TT-5 @ 6'	None	236	"
TT-6 @ 4'	None	2572	32.47244, -103.20723
TT-6 @ 6'	"	1844	"
TT-6 @ 7'	"	492	"

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

Date: 8/16/2019

Project: Piper SWD Fire

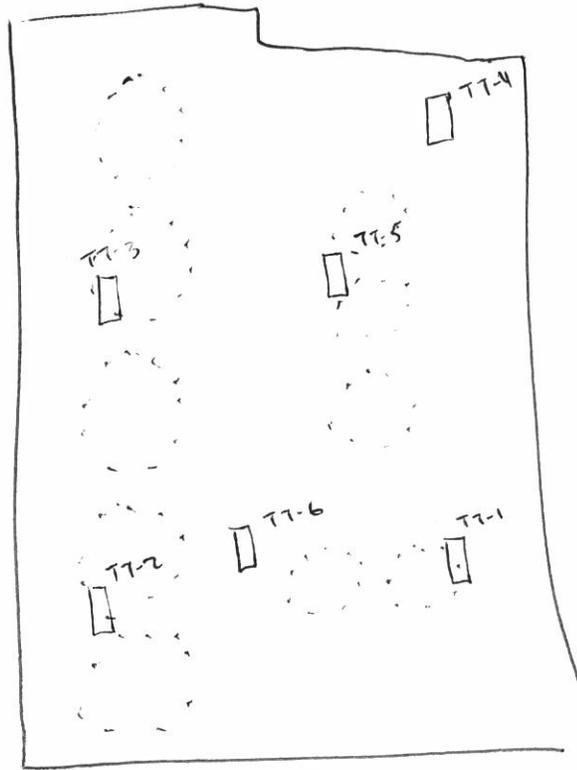
Clean Up Level: _____

Project Number: 10769

Latitude: 32.472598

Longitude: -103.20721

Site Diagram



Notes: Delineate Soil Impacts beneath Containment
Conduct Outside Field Test

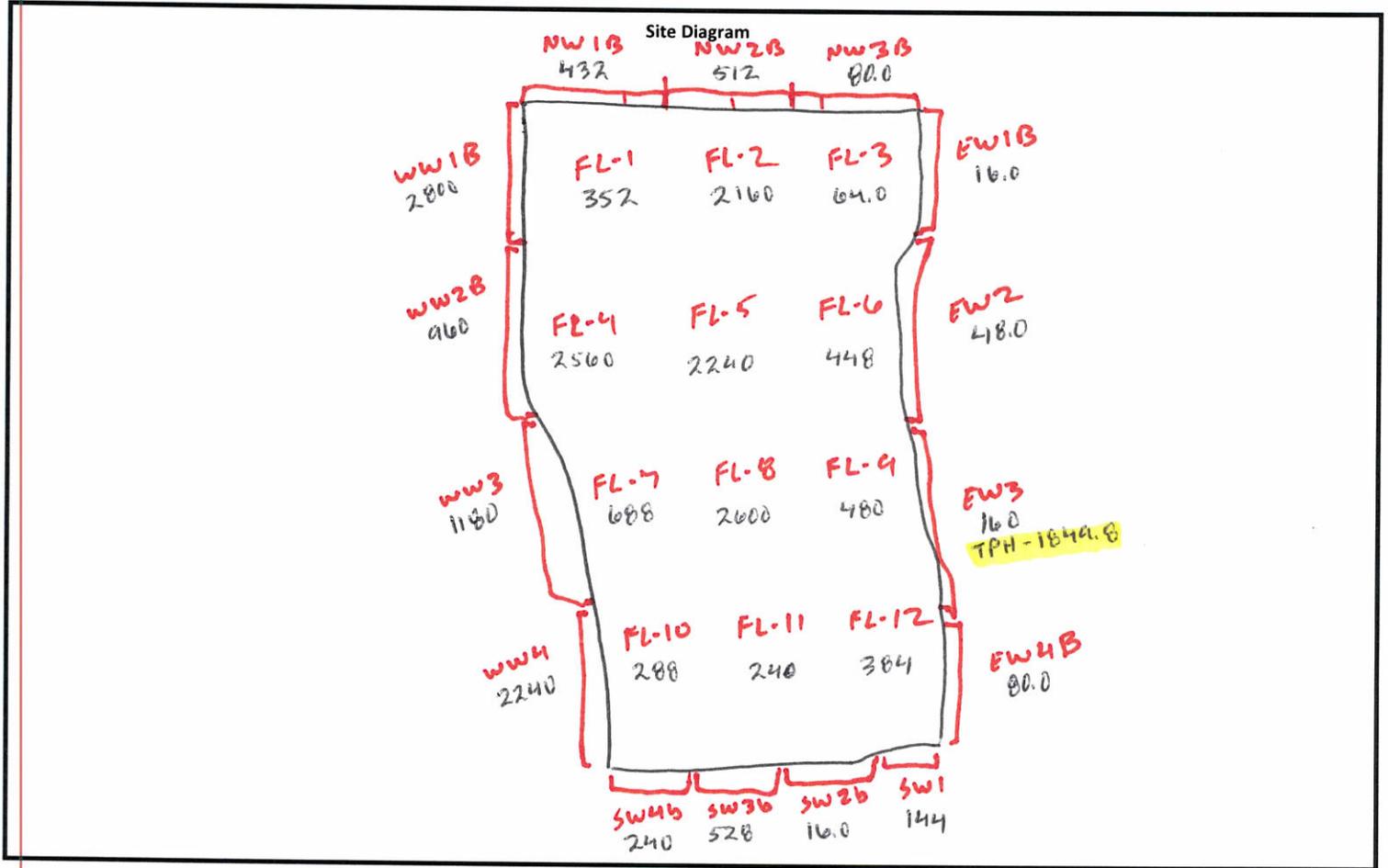
~Length: 150 ~Width: 100 ~Area: 15,000 ~Depth: 1-7 ft

- | | Yes | No |
|--|-------------------------------------|--------------------------|
| 3-4 Representative Pictures of the Affected Area including sample locations? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Necessary Samples Field Screened and on Ice? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Sample and Field Screen Data Entered on Sample Log? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Was horizontal and vertical delineation achieved? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |



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 EW3 680+880 is over!
 Chloride to East & South < 600 (Reclamation Standard)
 Chloride on West can be up to 20,000 ppm

~Length:	~Width:	~Area:	~Depth:	Yes	No
3-4 Representative Pictures of the Affected Area including sample locations?				<input type="checkbox"/>	<input type="checkbox"/>
Necessary Samples Field Screened and on Ice?				<input type="checkbox"/>	<input type="checkbox"/>
Sample and Field Screen Data Entered on Sample Log?				<input type="checkbox"/>	<input type="checkbox"/>
Was horizontal and vertical delineation achieved?				<input type="checkbox"/>	<input type="checkbox"/>



Initial Release Assessment Form

Date: 3/13/2020

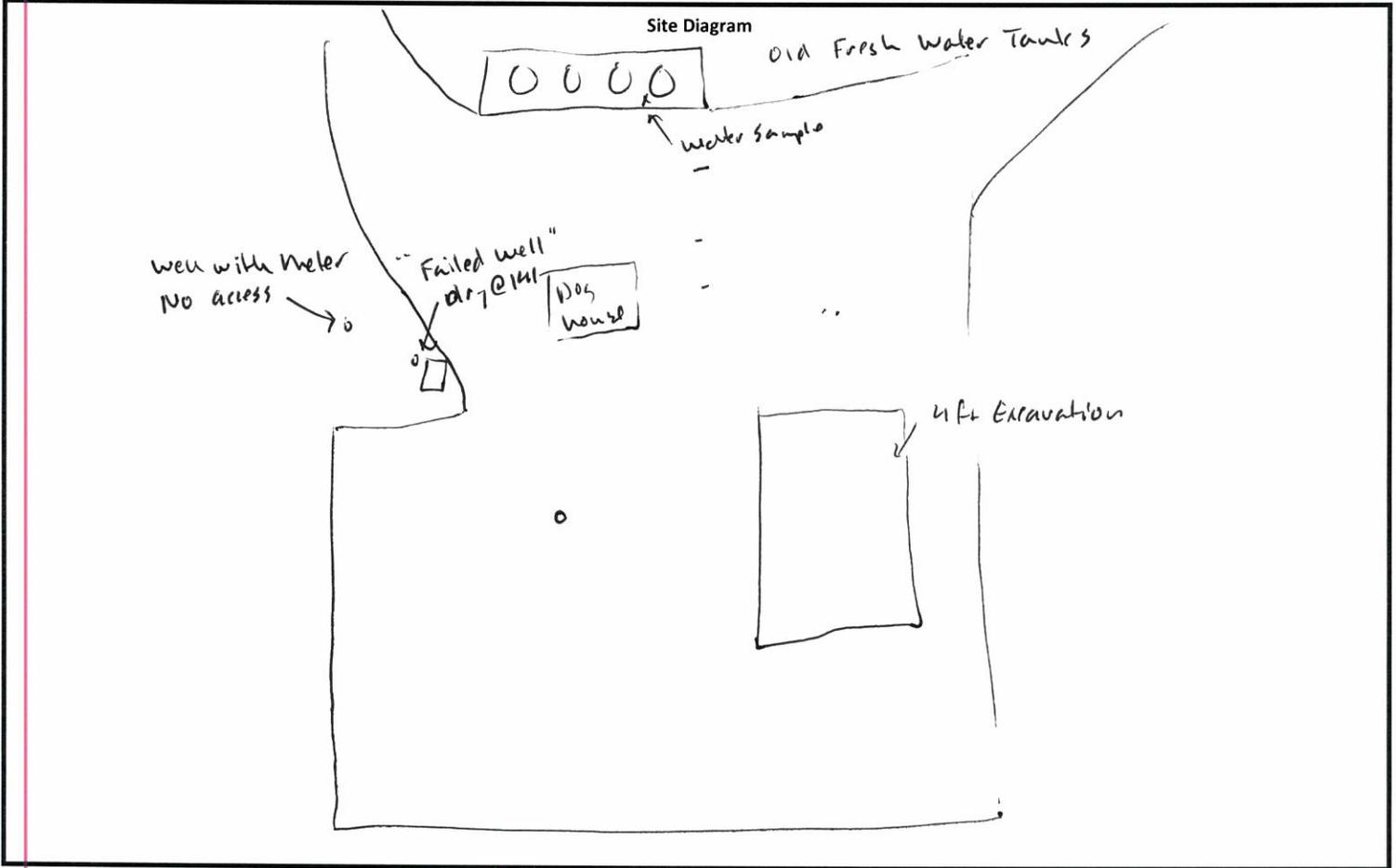
Project: Piper SWP

Clean Up Level:

Project Number: 10769

Latitude: 32.47259

Longitude: -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?				<input type="checkbox"/>	<input type="checkbox"/>
Necessary Samples Field Screened and on Ice?				<input type="checkbox"/>	<input type="checkbox"/>
Sample and Field Screen Data Entered on Sample Log?				<input type="checkbox"/>	<input type="checkbox"/>
Was horizontal and vertical delineation achieved?				<input type="checkbox"/>	<input type="checkbox"/>

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.

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.

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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* = 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: 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)

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	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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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, SM4500CI-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)

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	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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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 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)

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, 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)

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	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)

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	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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 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)

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	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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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



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 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, 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	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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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.

BILL TO

ANALYSIS REQUEST

Project Manager:

P.O. #:

Address: P.O. Box 301

Company: E-tech

City: Lovington

State: NM Zip: 88260

Phone #: (575) 396-2378

Fax #: (575) 396-1429

Project #: 10769

Project Owner: Goodnight

Project Name: Piper Sudd Fire

Midstream

Project Location: Lea County

City:

Sampler Name: Hilda Villa

State:

FOR LAB USE ONLY

Address:

Phone #:

Fax #:

Lab I.D.

Sample I.D.

H902410

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	Chloride	TPH (8015M)	BTEX (8021B)
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
	A2	✓	1	✓	✓	✓	✓	✓	7-11-19	1:00pm	✓	✓	✓	
	A3	✓	1	✓	✓	✓	✓	✓	7-11-19	1:05	✓	✓	✓	
	A4	✓	1	✓	✓	✓	✓	✓	7-11-19	1:15	✓	✓	✓	
	B1	✓	1	✓	✓	✓	✓	✓	7-11-19	1:18	✓	✓	✓	
	B2	✓	1	✓	✓	✓	✓	✓	7-11-19	1:22	✓	✓	✓	
	B3	✓	1	✓	✓	✓	✓	✓	7-11-19	1:30	✓	✓	✓	
	B4	✓	1	✓	✓	✓	✓	✓	7-11-19	1:45	✓	✓	✓	
	C1	✓	1	✓	✓	✓	✓	✓	7-11-19	1:50	✓	✓	✓	
	C2	✓	1	✓	✓	✓	✓	✓	7-11-19	2:00	✓	✓	✓	
	C3	✓	1	✓	✓	✓	✓	✓	7-11-19	2:35	✓	✓	✓	

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Relinquished By:

Date: 7/12/19

Received By:

Phone Result: Yes No

Fax Result: Yes No

REMARKS:

Relinquished By:

Date: 7/11/19

Received By:

Phone Result: Yes No

Fax Result: Yes No

REMARKS:

Delivered By: (Circle One)

UPS

Bus

Other

Sample Condition

CHECKED BY: (Initials)

Cool Intact

Yes No

Yes No

1.4e #97

70

Please email results to danield@etechnv.com



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. **BILL TO**

Project Manager: P.O. Box 301 **ANALYSIS REQUEST**

City: Lovington State: NM Zip: 88260 Company: E-tech

Phone #: (575) 396-2378 Fax #: (575) 396-1429 Attn:

Project #: DT-69 Project Owner: Goodnight

Project Name: Piper Sudd Fire Midstream

Project Location: Lea County

Sampler Name: Wida Villa

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	Chloride	TPH (8015M)	BTEX (8021B)
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H902410														
	11 C4		1						7-11-19	2:40	✓	✓		
	12 D3		1						7-11-19	2:45	✓	✓		
	13 D4		1						7-11-19	2:50	✓	✓		
	14 FS		1						7-11-19	2:55	✓	✓		
	15 Eip		1						7-11-19	3:00	✓	✓		

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Relinquished By: *Wida Villa* Date: 7/11/19 Received By: *Jamara Adams* Time: 14:55

Delivered By: (Circle One) UPS Bus Other: 1.4c #92

Sample Condition: Cool Intact Yes No Yes No

FORM-006
 Revision 1.0
 † Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476
 CHECKED BY: (Initials) *729*
 Please email results to pm@etechnv.com



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

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.

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.

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, SM4500CI-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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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)

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 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)

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 98.9 % 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)

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 98.6 % 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)

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 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



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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 # 1 (H902418-06)

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 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)

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 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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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)

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 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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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)

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 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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Analytical Results For:

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 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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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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 2

Company Name: Etech Environmental & Safety Solutions, Inc. Project Manager: Kim Merrill Address: PO Box 301 City: Lovington St NM Zip: # Phone #: 575 396 2378 Fax #: # Project #: 10769 Project Owner Goodnight MidStream Project Name: Piper SWD Project Location: Lea Sampler Name: Joel Lowry		P.O. #: BILL TO Company: Etech Attn: Address: City: State: Zip: Phone #: Fax #:	
ANALYSIS REQUEST			
FOR LAB USE ONLY			
Lab I.D. H902418 Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :	MATRIX PRESERV.	SAMPLING DATE TIME
1	NSW #1	C 1	7/12/19 10:15
2	NSW #2	C 1	7/12/19 10:17
3	ESW #1	C 1	7/12/19 10:25
4	ESW #2	C 1	7/12/19 10:29
5	SSW #1	C 1	7/12/19 10:30
6	WSW #1	C 1	7/12/19 10:30
7	WSW #2	C 1	7/12/19 10:35
8	Exc. B NSW	C 1	7/12/19 10:35
9	Exc. B ESW	C 1	7/12/19 10:37
10	Exc. B SSW	C 1	7/12/19 10:38
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Relinquished By: <i>Joel Lowry</i> Date: 7/15/19 Time: 10:02 Date: 7/15/19 Time: 11:12	Received By: <i>Janina</i> Date: 7/15/19 Time: 11:12	CHECKED BY: <i>Joel</i> Sample Condition Cool <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: <i>3.6c #97</i>		REMARKS: Please email results to pm@etechnv.com, daniel@etechnv.com and joel@etechnv.com <i>Push!!</i>	

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

FORM-006 R 2.0



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 2

Company Name: Etech Environmental & Safety Solutions, Inc. Project Manager: Kim Merrill Address: PO Box 301 City: Lovington St NM Zip: # Phone #: 575 396 2378 Fax #: Project #: 10769 Project Owner Goodnight MidStream Project Name: Piper SWD Project Location: Lea Sampler Name: Joel Lowry		P.O. #: Company: Etech Attn: Address: City: State: Zip: Phone #: Fax #:	
FOR LAB USE ONLY		BILL TO	
Lab I.D. H902418 11 Exc. B WSW		ANALYSIS REQUEST	
Sample I.D.		(G)RAB OR (C)OMP. C # CONTAINERS 1 GROUNDWATER WASTEWATER SOIL X OIL SLUDGE OTHER : ACID/BASE: ICE / COOL X OTHER :	
DATE 7/12/19 TIME 10:40		Chloride X TPH X BTEX 8021 X	
Relinquished By: Joel Lowry Date: 7/15/19 Time: 10:02 Received By: [Signature] Date: 7/15/19 Time: 14:12		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: Add'l Fax #: REMARKS: Push!!	
Delivered By: (Circle One) UPS <input checked="" type="checkbox"/> Bus <input type="checkbox"/> Other: 3.6c #37		Sample Condition: <input type="checkbox"/> Intact <input type="checkbox"/> Cool <input type="checkbox"/> Yes <input type="checkbox"/> No CHECKED BY: [Signature] (Initials)	

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



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

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.

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.

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	
Ethylbenzene*	0.066	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
Chloride	4800	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	
DRO >C10-C28*	672	10.0	08/28/2019	ND	232	116	200	0.504	QM-07
EXT DRO >C28-C36	192	10.0	08/28/2019	ND					

Surrogate: 1-Chlorooctane 76.1 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 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 - 1 @ 4' (H902917-02)

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	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	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

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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)

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) 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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 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)

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*	0.061	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 BTEX	<0.300	0.300	08/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 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	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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*=Accredited Analyte

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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:	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)

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) 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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 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)

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) 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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Celey D. Keene, Lab Director/Quality Manager



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 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, SM4500CI-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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* = Accredited Analyte

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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

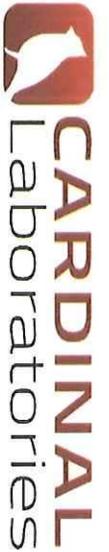
Cardinal Laboratories

*=Accredited Analyte

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Celestine Keene

Celey D. Keene, Lab Director/Quality Manager



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 Project Manager: Daniel Dominguez Address: 3100 Plains Hwy City: Lovington State: NM Zip: 88260 Phone #: 575-396-2378 Fax #: 575-396-1429 Project #: 10769 Project Owner: Goodnight Midstream Per Project Name: Piper SWD Fire Project Location: "M", 18, 21, 37, Lea Sampler Name: FOR LAB USE ONLY		P.O. #: _____ Company: Etech Environmental & Sa Attn: Daniel Dominguez Address: P.O. Box 301 City: Lovington State: NM Zip: 88260 Phone #: 575-396-2378 Fax #: 575-396-1429		BILL TO		ANALYSIS REQUEST					
Lab I.D. H902917		(G)RAB OR (C)OMF # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :		MATRIX PRESERV SAMPLING		DATE TIME		Chloride TPH BTEX 8021			
1	TT-1 @ Surface	G	1	X							
2	TT-1 @ 4'	G	1	X							
3	TT-2 @ Surface	G	1	X							
4	TT-2 @ 9'	G	1	X							
5	TT-3 @ Surface	G	1	X							
6	TT-3 @ 7'	G	1	X							
7	TT-4 @ Surface	G	1	X							
8	TT-4 @ 1'	G	1	X							

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Relinquished By: _____ Date: 8-23-19 Time: 3:35 pm	Received By: <i>[Signature]</i> Date: _____ Time: _____	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #: _____ Add'l Fax #: _____
--	---	--	--

REMARKS: email results to daniel@etechnv.com

Delivered By: (Circle One) *5.28* *#97* Sample Condition Cool Yes No Intact Yes No
 Sampler - UPS - Bus - Other: *Estimated 5.6c* *TO*

Relinquished By: _____ Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____

† 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.

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, flowing "C" at the beginning.

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: FLOOR 1 (H903563-01)

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	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 BTEX	<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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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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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 3 (H903563-03)

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	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) 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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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 4 (H903563-04)

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	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) 98.3 % 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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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 5 (H903563-05)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	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) 98.3 % 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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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 6 (H903563-06)

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	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) 98.6 % 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	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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* = 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 7 (H903563-07)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	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) 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	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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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 8 (H903563-08)

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	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) 98.2 % 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)

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	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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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 10 (H903563-10)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	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) 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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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 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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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 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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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: NW 1 b (H903563-13)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	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) 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	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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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: NW 2 b (H903563-14)

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	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) 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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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: NW 3 b (H903563-15)

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	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) 98.8 % 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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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: EW 1 b (H903563-16)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	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	10/19/2019	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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 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 2 (H903563-17)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	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) 98.2 % 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
 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 3 (H903563-18)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	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) 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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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)

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) 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	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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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)

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) 98.9 % 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	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)

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	1.88	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 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	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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 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)

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	1.88	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 BTEX	<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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 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)

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	1.88	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 BTEX	<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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* = 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 2 b (H903563-25)

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	1.88	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 BTEX	<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	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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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: WW 3 (H903563-26)

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	1.88	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 BTEX	<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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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: WW 4 (H903563-27)

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	10/23/2019	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 BTEX	<0.300	0.300	10/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	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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Celest D. Keene

Celey D. Keene, Lab Director/Quality Manager

2020 03 26 PM



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Daniel Dominguez
 Project Manager: Daniel Dominguez
 Address: 3100 Plains Hwy
 City: Lovington State: NM Zip: 88260
 Phone #: 575-396-2378 Fax #: 575-396-1429
 Project #: 10769 Project Owner: Goodnight Midstream Permian, LLC
 Project Name: Piper SWD Fire
 Project Location: UL "W" Sec 18 T21S - R37W
 Sampler Name: Daniel Dominguez
 FOR LAB USE ONLY

P.O. #: **BILL TO**
 Company: Etech Environmental & Safety Solutions
 Attn: Daniel Dominguez
 Address: P.O. Box 301
 City: Lovington State: NM Zip: 88260
 Phone #: 575-396-2378 Fax #: 575-396-1429

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	Chloride	TPH	BTEX 8021
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :							
H9D3563																
1	FLOOR 1	C	1	X								10/14/19	11:57	X	X	X
2	FLOOR 2	C	1	X								10/14/19	11:58	X	X	X
3	FLOOR 3	C	1	X								10/14/19	11:59	X	X	X
4	FLOOR 4	C	1	X								10/14/19	12:00	X	X	X
5	FLOOR 5	C	1	X								10/14/19	12:01	X	X	X
6	FLOOR 6	C	1	X								10/14/19	12:02	X	X	X
7	FLOOR 7	C	1	X								10/14/19	12:03	X	X	X
8	FLOOR 8	C	1	X								10/14/19	12:04	X	X	X
9	FLOOR 9	C	1	X								10/14/19	12:05	X	X	X
10	FLOOR 10	C	1	X								10/14/19	12:06	X	X	X

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Relinquished By: *[Signature]* Date: 10/17 Time: 4:41
 Received By: *[Signature]* Date: *[Blank]* Time: *[Blank]*

Delivered By: (Circle One) *114* #97 Sample Condition Intact Cool Yes No
 Sampler - UPS - Bus - Other: *2.50c 2.92c* Yes No
 CHECKED BY: *[Signature]*

REMARKS: email results to daniel@etechny.com



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

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.

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.

Celey D. Keene

Lab Director/Quality Manager



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

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					
<i>Surrogate: 1-Chlorooctane</i>	<i>103 %</i>	<i>41-142</i>							
<i>Surrogate: 1-Chlorooctadecane</i>	<i>104 %</i>	<i>37.6-147</i>							

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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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

Appendix D

Photographic Log

Photographic Log

Photo Number: 1	
Photo Direction: South	
Photo Description: View of portion of the excavated area south of the of the salt water disposal containment.	

Photo Number: 2	
Photo Direction: West	
Photo Description: View of portion of the excavated area south of the of the salt water disposal containment.	

Photographic Log

Photo Number: 3	 <p>7/10/19, 8:33 AM +32.472379,-103.20708</p> <p>The photograph shows a large, excavated area of reddish-brown earth. In the background, a yellow excavator is positioned near a pile of dirt. Two workers in light-colored clothing are visible in the middle ground. To the right, there is a chain-link fence with several yellow buckets hanging from it. The sky is clear and blue.</p>
Photo Direction: West	
Photo Description: View of portion of the excavated area south of the of the salt water disposal containment.	

Photo Number: 4	 <p>7/10/19, 8:32 AM +32.472409,-103.20697</p> <p>The photograph shows several large, black cylindrical storage tanks with metal ladders and walkways. In the foreground, there is a large, muddy, excavated area with a red safety fence on the right side. The ground is uneven and appears to be under construction or maintenance. The sky is clear and blue.</p>
Photo Direction: Northwest	
Photo Description: View of portion of the excavated area east of the of the salt water disposal containment.	

Photographic Log

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

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

Photographic Log

Photo Number: 7	 <p>8/1/19, 7:35 AM +32.472323,-103.20738</p>
Photo Direction: South	
Photo Description: View of the affected area outside the salt water disposal containment after backfilling activities.	

Photo Number: 8	 <p>8/2/19, 7:11 AM +32.472357,-103.20719</p>
Photo Direction: North	
Photo Description: View of initial surface scrape after removal of tank battery and equipment	

Photographic Log

Photo Number: 9	
Photo Direction: Southeast	
Photo Description: View of portion of the open excavation beneath the former salt water disposal containment.	

Photo Number: 10	
Photo Direction: South	
Photo Description: View of portion of the open excavation beneath the former salt water disposal containment.	