Form C-141
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State of New Mexico
Oil Conservation Division

Incident ID	nAPP2035221813
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>690 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☑ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☑ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☑ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☑ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☑ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☑ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☑ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☑ No

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

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

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

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

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Oil Conservation Division

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

Printed Name: Albert Ochoa Title: HSE Representative

Signature: Albert Ochoa Date: 02/05/2021

email: albertochoa@goodnightmidstream.com Telephone: (432)242-6629

OCD Only

Received by: _____ Date: _____

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State of New Mexico
Oil Conservation Division

Incident ID	nAPP2035221813
District RP	
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Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: Albert Ochoa Title: HSE Representative

Signature: Albert Ochoa Date: 02/05/2021

email: albertochoa@goodnightmidstream.com Telephone: (432)242-6629

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

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State of New Mexico
Oil Conservation Division

Incident ID	nAPP2035221813
District RP	
Facility ID	
Application ID	

Closure

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

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

☑ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☑ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☑ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☑ Description of remediation activities

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

Printed Name: Albert Ochoa Title: HSE Representative

Signature: Albert Ochoa Date: 02/05/2021

email: albertochoa@goodnightmidstream.com Telephone: (432)242-6629

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Remediation Summary & Deferral Request

Goodnight Midstream Permian, LLC
Tanks CRP
Eddy County, New Mexico
Unit Letter M, Section 25, Township 22 South, Range 31 East
Latitude 32.35802 North, Longitude 103.73634 West
NMOCD Reference No. nAPP2035221813

Prepared By:

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

Ben J. Arguijo

Joel W. Lowry

Midland • San Antonio • Lubbock • Lovington • Lafayette

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1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of Goodnight Midstream Permian, LLC, has prepared this *Remediation Summary & Deferral Request* for the release site known as the Tanks CRP. Details of the release are summarized below:

Location of Release Source

Latitude: 32.35802 Longitude: -103.73634

Provided GPS are in WGS84 format.

Site Name:	Tanks CRP	Site Type:	Tank Battery
Date Release Discovered:	12/7/2020	API # (if applicable):	

Unit Letter	Section	Township	Range	County
M	25	22S	31E	Eddy

Surface Owner: [ ] State [X] Federal [ ] Tribal [ ] Private (Name _____)

Nature and Volume of Release

[X] Crude Oil	Volume Released (bbls) 634	Volume Recovered (bbls) 624
[X] Produced Water	Volume Released (bbls) 325	Volume Recovered (bbls) 246
	Is the concentration of total dissolved solids (TDS) in the produced water > 10,000 mg/L?	[X] Yes [ ] No [ ] N/A
[ ] Condensate	Volume Released (bbls)	Volume Recovered (bbls)
[ ] Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
[ ] Other (describe)	Volume/Weight Released	Volume/Weight Recovered

Cause of Release:
Failure of a 4-inch nozzle on tank

Initial Response

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

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

2.0 SITE CHARACTERIZATION

A search of groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) was conducted in an effort to determine the horizontal distance to known water sources within a half-mile radius of the release site.

Probable depth to groundwater was determined using data generated by numeric models based on available water well data and published information. Based on well gauging data included in the "Basic Data Report For Drillhole SNL-15 (C-3152)(Waste Isolation Pilot Plant)" published by the United States Department of Energy (US DOE) in September 2008, the depth to groundwater in the vicinity of the release site is greater than 690 feet below ground surface (bgs). Per the data report, "the initial depth to water was 692.65 ft below the top of casing", and "there were no indications of water inflow or accumulation above the Rustler during drilling" (page 26, US DOE, 2008). Based on Figure 1-3 on page 5 of the data report, the upper limit of the Rustler Formation is approximately 624 feet bgs.

Additional 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 in Figures 1, 2, 4, and 5. Depth to groundwater information is provided in Appendix A. The complete text of the DOE drillhole data report is provided in Appendix E.

What is the shallowest depth to groundwater beneath the area affected by the release?	>690'
Did the release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of any occupied permanent residence, school, hospital, institution or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within the incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production or storage site?	☐ Yes ☒ No

3.0 CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE

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

Probable Depth to Groundwater	Constituent	Method	Closure Criteria	Reclamation Standard*
>690'	Chloride	EPA 300.0 or SM4500 Cl B	20,000 mg/kg	600 mg/kg
	TPH (GRO + DRO + MRO)	EPA SW-846 Method 8015M Ext	2,500 mg/kg	100 mg/kg
	DRO + GRO	EPA SW-846 Method 8015M	1,000 mg/kg	-
	BTEX	EPA SW-846 Methods 8021b or 8260b	50 mg/kg	50 mg/kg
	Benzene	EPA SW-846 Methods 8021b or 8260b	10 mg/kg	10 mg/kg

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

4.0 REMEDIATION ACTIVITIES SUMMARY

On December 9, 2020, remediation activities commenced at the release site. Olfactory/visual senses were utilized to determine the horizontal and vertical extent of soil impacts. In accordance with NMOCD regulatory guidelines, impacted soil affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standard was hand-excavated and stockpiled on-site, pending transfer to an NMOCD-approved surface waste facility for disposal. The floor and sidewalls of the excavation were advanced until field observations suggested BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria and/or NMOCD Reclamation Standard.

On December 11, 2020, Etech collected two (2) investigative soil samples (SP1 @ 0-6" and SP2 @ 6-12"). The soil samples were submitted to a certified commercial laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated chloride concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples. However, BTEX, GRO+DRO, and TPH concentrations in soil sample SP1 @ 0-6" exceeded the applicable NMOCD Closure Criteria. Upon review of laboratory analytical results, the excavation was further advanced in the area characterized by soil sample SP1 @ 0-6".

On December 15, 2020, Etech collected nineteen (19) excavation confirmation soil samples (SP1 @ 4", SP2 @ 6", SP3 @ 1', SP4 @ 6", SP5 @ 6", SP6 @ 8", SP7 @ 8", NW1, NW2, NW3, EW1, EW2, EW3, SW1, SW2, SW3, WW1, WW2, and WW3). The soil samples were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated chloride concentrations were below the NMOCD Closure Criteria and/or NMOCD Reclamation Standard in each of the submitted soil samples. However, GRO+DRO concentrations in soil samples SP5 @ 6", SP6 @ 8", and SP7 @ 8" exceeded the NMOCD Closure Criteria. BTEX and TPH concentrations in soil sample SP7 @ 8" also exceeded the applicable NMOCD Closure Criteria. Upon review of laboratory analytical results, the excavation was further advanced in the areas characterized by soil samples SP5 @ 6", SP6 @ 8", and SP7 @ 8".

On December 16, 2020, Etech collected nineteen (19) excavation confirmation soil samples (SP7 @ 1', SP8 @ 4", SP9 @ 4", SP10 @ 4", SP11 @ 4", SP12 @ 4", SP13 @ 4", SP14 @ 4", SP15 @ 4", SP16 @ 4", SP17 @ 4", SP18 @ 4", SP19 @ 4", SP20 @ 4", SP21 @ 4", SP22 @ 4", SP23 @ 6", SP24 @ 6", and SP25 @ 1'). The soil samples were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX and TPH concentrations were below the applicable NMOCD Closure Criteria and/or NMOCD Reclamation Standard in each of the submitted soil samples. However, the chloride concentration in soil sample SP7 @ 1' exceeded the NMOCD Closure Criteria. Upon review of laboratory analytical results, the excavation was further advanced in the area characterized by soil sample SP7 @ 8".

On December 17, 2020, Etech collected twenty-seven (27) excavation confirmation soil samples (FL 5 @ 8", FL 6 @ 10", FL 26 @ 8", FL 27 @ 8", FL 28 @ 8", FL 29 @ 8", FL 30 @ 8", FL 31 @ 8", FL 32 @ 8", FL 33 @ 8", FL 34 @ 8", FL 35 @ 8", FL 36 @ 8", FL 37 @ 8", FL 38 @ 8", FL 39 @ 8", FL 40 @ 8", FL 41 @ 8", FL 42 @ 8", FL 43 @ 8", FL 44 @ 8", FL 45 @ 3", FL 46 @ 3", FL 47 @ 3", FL 48 @ 3", FL 49 @ 3", and FL 50 @ 3"). The soil samples were submitted to the laboratory for

analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX and chloride concentrations were below the applicable NMOCD Closure Criteria and/or NMOCD Reclamation Standard in each of the submitted soil samples. However, GRO+DRO concentrations in soil samples FL35 @ 8", FL 46 @ 3", FL 47 @ 3", and FL 48 @ 3" exceeded the NMOCD Closure Criteria. The TPH concentration in soil sample FL 48 @ 3" also exceeded the NMOCD Closure Criteria. Upon review of laboratory analytical results, the excavation was advanced in the areas characterized by soil samples FL 35 @ 8", FL 46 @ 8", FL 47 @ 8", and FL 48 @ 3".

In addition, Etech collected six (6) deferral characterization soil samples (DEF 1 @ Surface, DEF 1 @ 4', DEF 2 @ Surface, DEF 2 @ 3', DEF 3 @ Surface and DEF 3 @ 3') in an effort to characterize soil impacts adjacent to and underneath the on-site storage tanks and associated steel-walled containment areas. The collected soil samples were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples, with the exception of DEF 2 @ Surface, which exhibited a GRO + DRO concentration of 1,230 mg/kg. Analytical results indicate soil was not affected above the NMOCD Closure Criteria beyond three (3) feet bgs in the area characterized by soil sample DEF 2 @ Surface.

On December 28, 2020, Etech collected three (3) excavation confirmation soil samples (FL 7 @ 14", FL 46 @ 6", and FL 48 @ 9"). The soil samples were submitted to the laboratory for analysis of TPH. Laboratory analytical results indicated TPH concentrations were below the NMOCD Closure Criteria and/or NMOCD Reclamation Standard in each of the submitted soil samples.

On December 30, 2020, Etech collected two (2) excavation confirmation soil samples (FL 35 @ 10" and FL 47 @ 5'). The soil samples were submitted to the laboratory for analysis of TPH. Laboratory analytical results indicated TPH concentrations were below the NMOCD Closure Criteria and/or NMOCD Reclamation Standard in each of the submitted soil samples.

The final dimensions of the excavated area were approximately 175 feet in length, 15 to 150 feet in width, and 3 to 14 inches in depth. During the course of remediation activities, approximately 220 cubic yards of impacted soil were transported to an NMOCD-approved surface waste facility for disposal.

A "Site & Sample Location Map" is provided as Figure 3. A soil chemistry table is provided as Table 1. Field data is provided in Appendix B. Laboratory analytical reports are provided in Appendix C. General photographs of the release site are provided in Appendix D.

5.0 RESTORATION & RECLAMATION ACTIVITIES

Upon receiving laboratory analytical results from confirmation soil samples, excavated areas were backfilled with locally sourced, non-impacted "like" material placed at or near original relative positions, and the affected area was contoured and compacted to fit the needs of the facility.

6.0 DEFERRAL REQUEST

Remediation activities were conducted in accordance with applicable NMOCD regulations. Impacted soil affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standard was excavated to the extent practicable and transported to an NMOCD-approved disposal facility. Laboratory analytical results from confirmation soil samples indicate concentrations of BTEX, TPH, and chloride are below the NMOCD Closure Criteria and/or NMOCD Reclamation Standard in each of the submitted soil samples, with the exception of soil sample DEF 2 @ Surface. Approximately 46 cubic yards of impacted soil remaining adjacent to and/or underneath the on-site storage tanks and/or associated pipes and appurtenances in the area characterized by soil sample DEF 2 @ Surface will be remediated upon abandoning and decommissioning the facility.

Based on laboratory analytical results and field activities conducted to date, Etech recommends Goodnight Midstream Permian, LLC, provide copies of this *Remediation Summary & Deferral Request* to the appropriate agencies and cease remediation activities at the Tanks CRP release site.

7.0 LIMITATIONS

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

This report has been prepared for the benefit of 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.

8.0 DISTRIBUTION

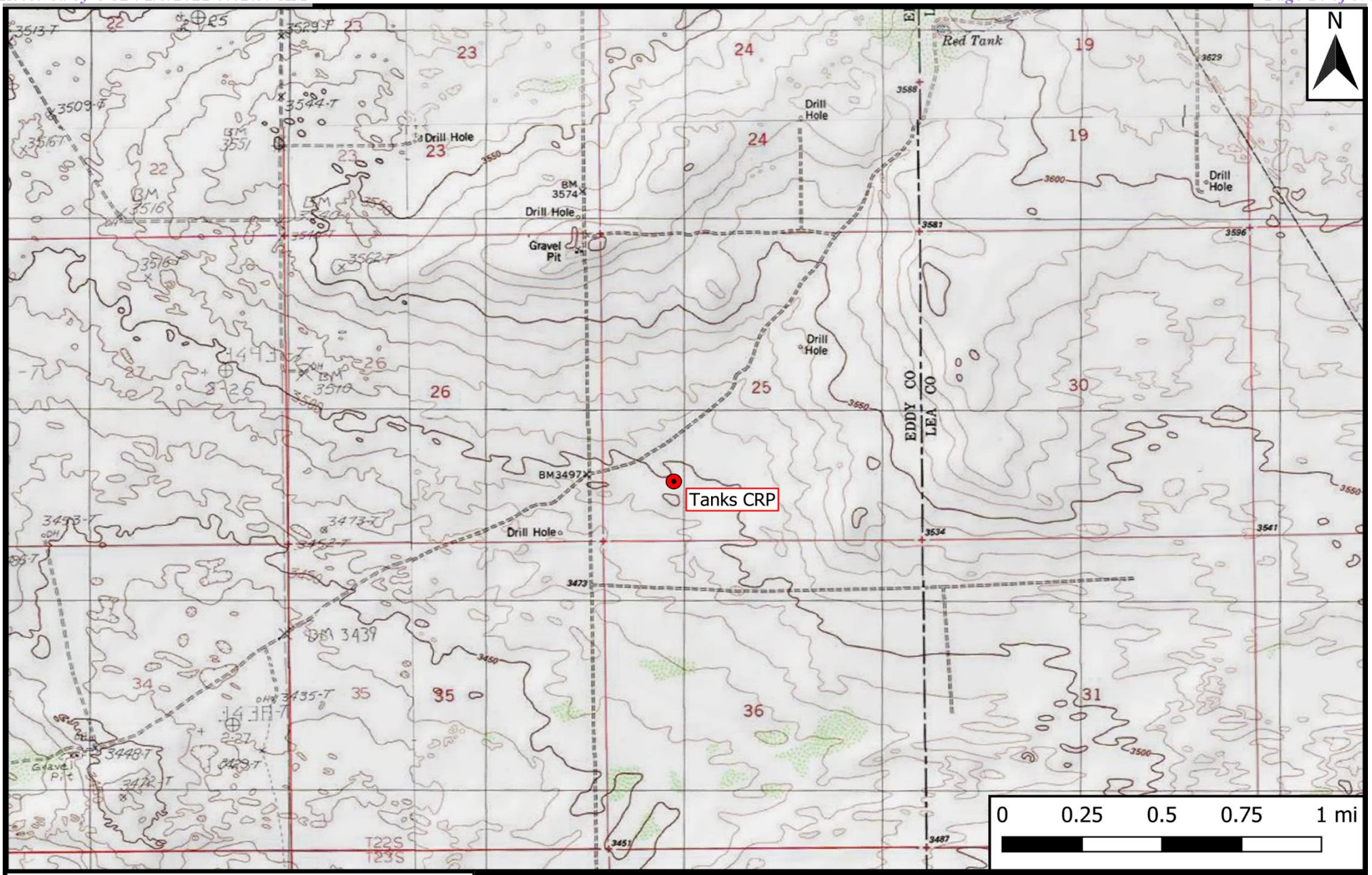
Goodnight Midstream Permian, LLC
5910 N Central Expy
Dallas, TX 75206

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

United States Department of the Interior
Bureau of Land Management
620 E. Greene Street
Carlsbad, NM 88220

(Electronic Submission)

Figure 1
Topographic Map



Legend

- Site Location

Figure 1

Topographic Map

Goodnight Midstream Permian, LLC

Tanks CRP

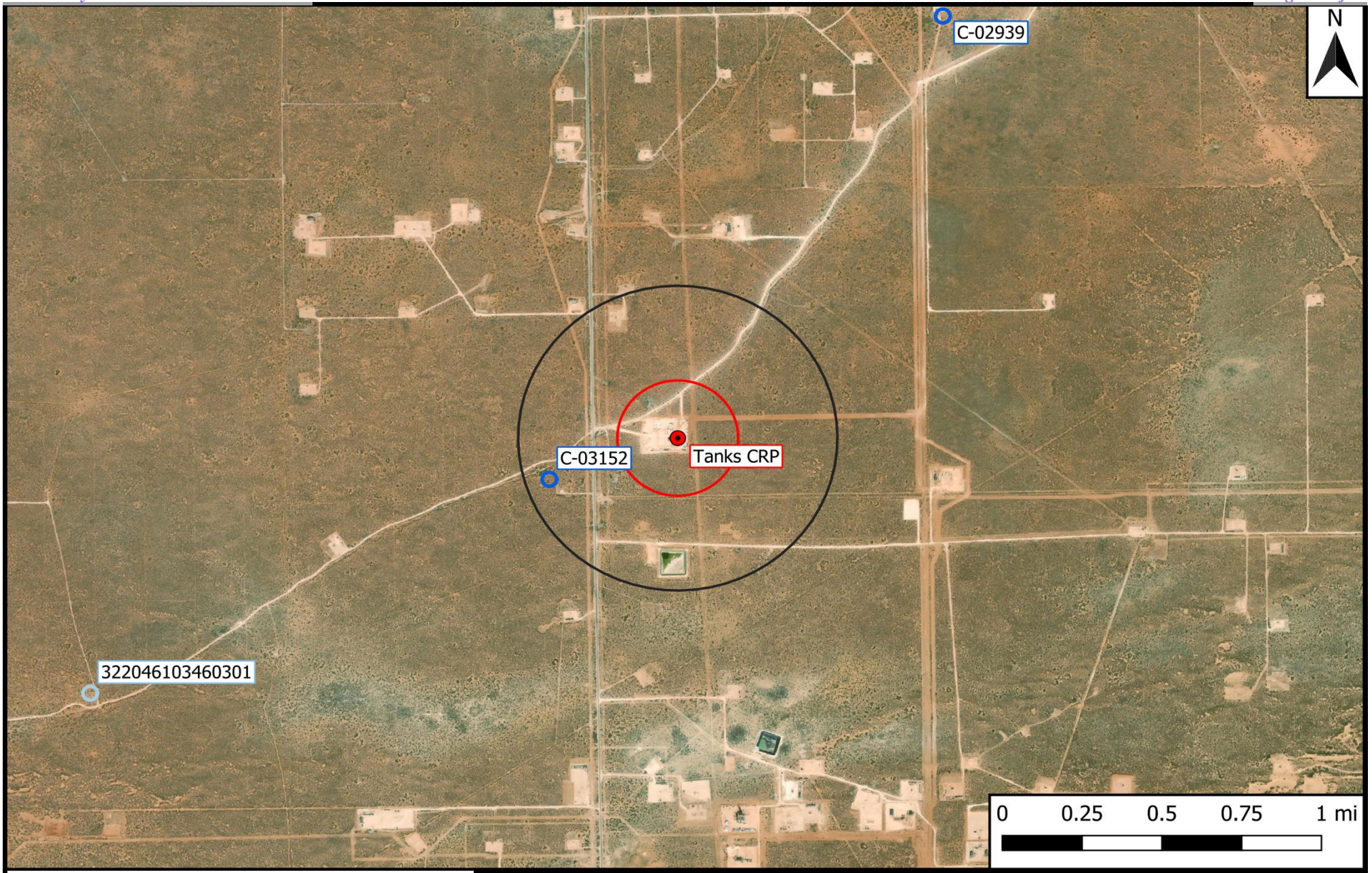
GPS: 32.35802, -103.73634

Eddy County

eTECH Environmental & Safety Solutions, Inc.

Drafted: bja Checked: jwl Date: 1/28/21

Figure 2
Aerial Proximity Map



Legend

- Site Location
- Well - NMOSE
- Well - USGS
- Medium/High Karst
- Potash Mine Workings
- 1,000-Ft Radius
- 0.5-Mi Radius
- 1% Annual Flood Chance
- Lake/Freshwater Pond
- Emergent/Forested Wetlands
- Riverine

Figure 2

Aerial Proximity Map

Goodnight Midstream Permian, LLC

Tanks CRP

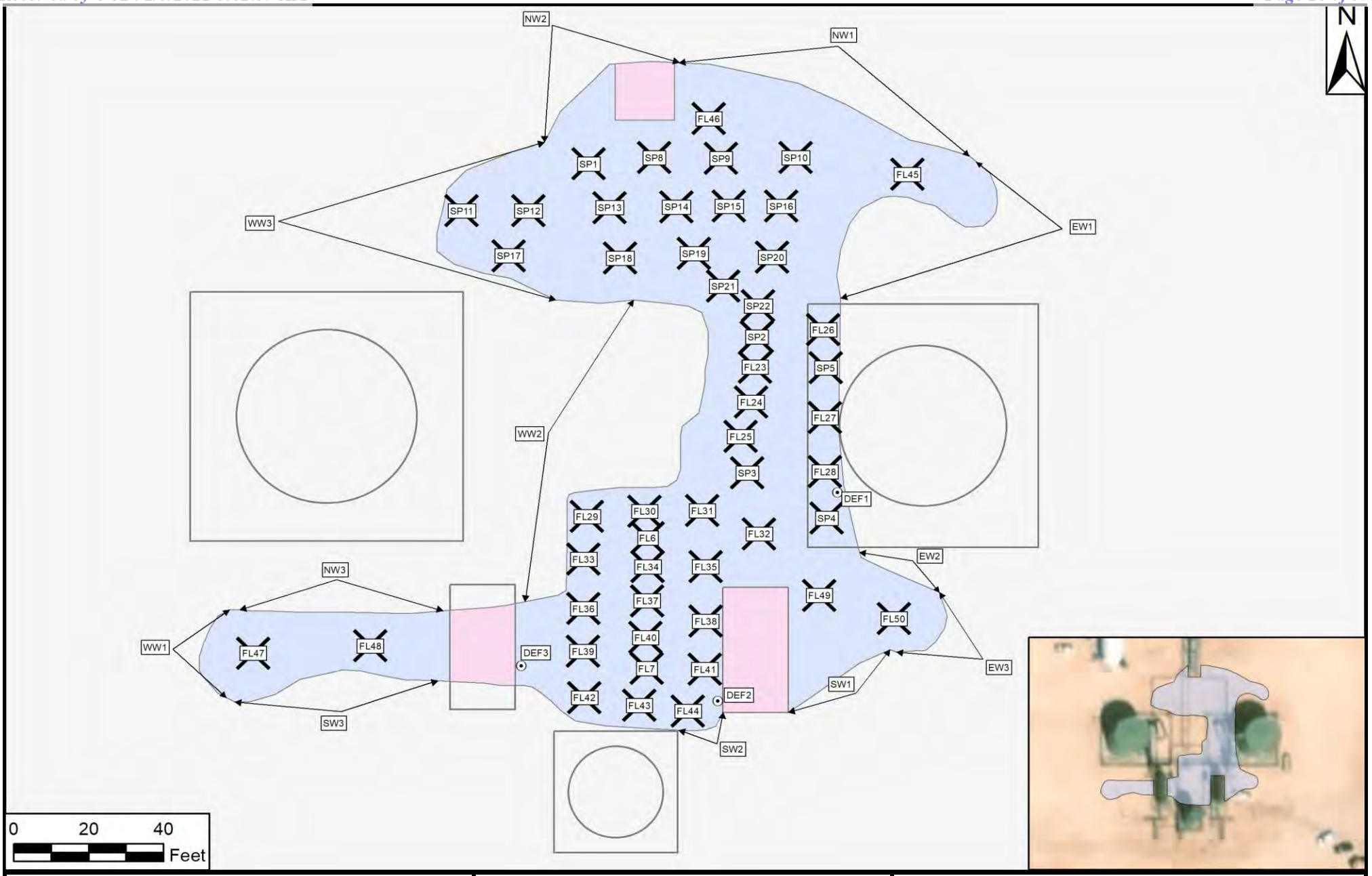
GPS: 32.35802, -103.73634

Eddy County

eTECH Environmental & Safety Solutions, Inc.

Drafted: bja Checked: jwl Date: 1/28/21

Figure 3
Site & Sample Location Map



Legend

- Excavated Area
- Area to be Deferred
- Tank/Containment Area
- Auger Hole
- Composite Floor Sample
- Composite Wall Sample

Figure 3
Site & Sample Location Map
Goodnight Midstream Permian, LLC
Tanks CRP
GPS: 32.35802, -103.73634
Eddy County

eTECH Environmental & Safety Solutions, Inc.

Drafted: bja Checked: jwl Date: 1/28/21

Table 1
Concentrations of BTEX, TPH & Chloride in Soil

TABLE 1
CONCENTRATIONS OF BTEX, TPH & CHLORIDE IN SOIL
Goodnight Midstream Permian, LLC
Tanks CRP
NMOCD Ref. #: nAPP2035221813

NMOCD Closure Criteria				**10**	**50**	**-**	**-**	**1,000**	**-**	**2,500**	**20,000**
NMOCD Reclamation Standard				**10**	**50**	**-**	**-**	**-**	**-**	**100**	**600**
				SW 846 8021B		**SW 846 8015M Ext.**					**4500 Cl**
Sample ID	**Date**	**Depth**	**Soil Status**	**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)**
SP1 @ 0-6"	12/11/2020	0-6"	Excavated	1.54	**88.2**	1,970	11,700	**13,700**	1,060	**14,700**	13,400
SP2 @ 6-12"	12/11/2020	6-12"	In-Situ	<0.00199	0.00747	<50.0	<50.0	<50.0	<50.0	<50.0	6,310
SP1 @ 4"	12/15/2020	4"	In-Situ	<0.0196	<0.0196	<50.0	<50.0	<50.0	<50.0	<50.0	14,800
SP2 @ 6"	12/15/2020	6"	In-Situ	<0.0196	<0.0196	<49.9	<49.9	<49.9	<49.9	<49.9	13,500
SP3 @ 1'	12/15/2020	1'	In-Situ	<0.0200	<0.0200	<50.0	<50.0	<50.0	<50.0	<50.0	4,540
SP4 @ 6"	12/15/2020	6"	In-Situ	<0.0204	0.790	<49.9	73.4	73.4	<49.9	73.4	14,000
SP5 @ 6"	12/15/2020	6"	Excavated	<0.399	28.8	332	959	**1,290**	<249	1,290	13,900
SP6 @ 8"	12/15/2020	8"	Excavated	<0.0204	2.42	151	1,170	**1,320**	96.6	1,420	14,800
SP7 @ 8"	12/15/2020	8"	Excavated	6.71	**213**	3,090	6,680	**9,770**	544	**10,300**	11,100
NW1	12/15/2020	1'	In-Situ	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	143
NW2	12/15/2020	1'	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	3,300
NW3	12/15/2020	1'	In-Situ	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	409
EW1	12/15/2020	1'	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	67.3
EW2	12/15/2020	1'	In-Situ	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	254
EW3	12/15/2020	1'	In-Situ	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	214
SW1	12/15/2020	1'	In-Situ	<0.00200	<0.00200	<50.1	234	234	<50.1	234	2,030
SW2	12/15/2020	1'	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	723
SW3	12/15/2020	1'	In-Situ	<0.00200	<0.00200	<50.0	81.6	81.6	<50.0	81.6	418
WW1	12/15/2020	1'	In-Situ	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	32.3
WW2	12/15/2020	1'	In-Situ	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	43.5
WW3	12/15/2020	1'	In-Situ	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	78.0
SP7 @ 1'	12/16/2020	1'	Excavated	<0.0200	<0.0200	<50.1	<50.1	<50.1	<50.1	<50.1	**20,200**
SP8 @ 4"	12/16/2020	4"	In-Situ	<0.0192	<0.0192	<50.1	<50.1	<50.1	<50.1	<50.1	16,300
SP9 @ 4"	12/16/2020	4"	In-Situ	<0.0192	<0.0192	<50.1	<50.1	<50.1	<50.1	<50.1	14,700
SP10 @ 4"	12/16/2020	4"	In-Situ	<0.0192	<0.0192	<49.8	<49.8	<49.8	<49.8	<49.8	13,900
SP11 @ 4"	12/16/2020	4"	In-Situ	<0.0189	<0.0189	<49.9	<49.9	<49.9	<49.9	<49.9	10,900
SP12 @ 4"	12/16/2020	4"	In-Situ	<0.0196	<0.0196	<49.9	<49.9	<49.9	<49.9	<49.9	8,620
SP13 @ 4"	12/16/2020	4"	In-Situ	<0.0204	<0.0204	<50.0	<50.0	<50.0	<50.0	<50.0	8,440
SP14 @ 4"	12/16/2020	4"	In-Situ	<0.0192	<0.0192	<50.0	<50.0	<50.0	<50.0	<50.0	9,990
SP15 @ 4"	12/16/2020	4"	In-Situ	<0.0182	<0.0182	<50.1	<50.1	<50.1	<50.1	<50.1	12,200
SP16 @ 4"	12/16/2020	4"	In-Situ	<0.0196	<0.0196	<50.0	<50.0	<50.0	<50.0	<50.0	12,200
SP17 @ 4"	12/16/2020	4"	In-Situ	<0.0192	<0.0192	<49.9	<49.9	<49.9	<49.9	<49.9	14,800
SP18 @ 4"	12/16/2020	4"	In-Situ	<0.0182	<0.0182	<50.3	<50.3	<50.3	<50.3	<50.3	14,700
SP19 @ 4"	12/16/2020	4"	In-Situ	<0.0189	<0.0189	<49.8	<49.8	<49.8	<49.8	<49.8	14,500
SP20 @ 4"	12/16/2020	4"	In-Situ	<0.0189	<0.0189	<50.1	<50.1	<50.1	<50.1	<50.1	14,600
SP21 @ 4"	12/16/2020	4"	In-Situ	<0.0185	<0.0185	<50.0	<50.0	<50.0	<50.0	<50.0	15,000
SP22 @ 4"	12/16/2020	4"	In-Situ	<0.0192	<0.0192	<50.2	<50.2	<50.2	<50.2	<50.2	13,900
SP23 @ 6"	12/16/2020	6"	In-Situ	<0.0204	<0.0204	<50.0	<50.0	<50.0	<50.0	<50.0	14,700
SP24 @ 6"	12/16/2020	6"	In-Situ	<0.0200	<0.0200	<49.9	<49.9	<49.9	<49.9	<49.9	14,400
SP25 @ 1'	12/16/2020	1'	In-Situ	<0.0200	<0.0200	<49.9	<49.9	<49.9	<49.9	<49.9	9,380
DEF 1 @ Surface	12/17/2020	Surface	In-Situ	<0.401	9.54	89.7	766	856	58.4	914	5,510

NOTES:

- = Sample not analyzed for that constituent.

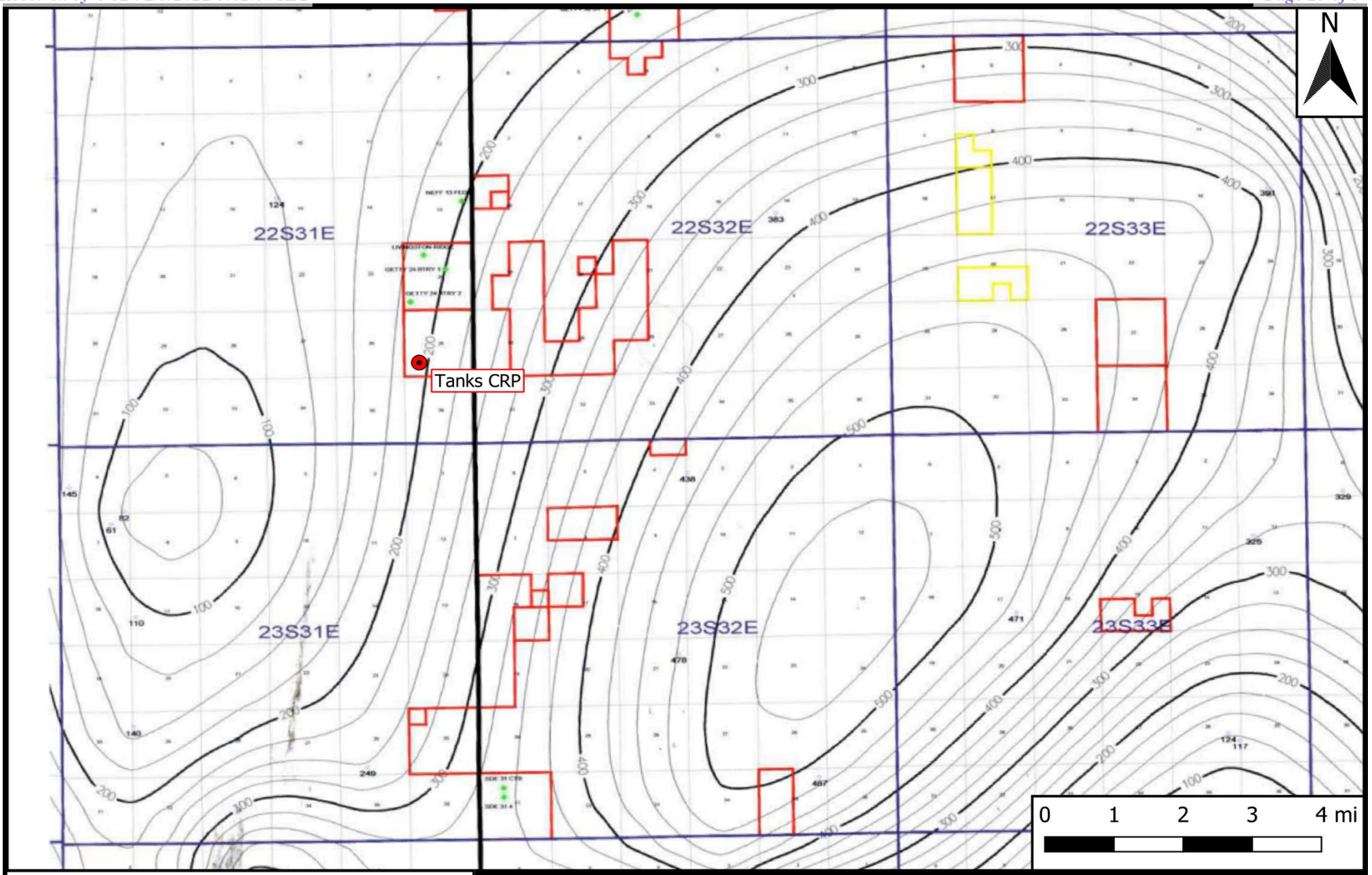
Bold text denotes a concentration that exceeds the NMOCD Closure Criteria

TABLE 1
CONCENTRATIONS OF BTEX, TPH & CHLORIDE IN SOIL
Goodnight Midstream Permian, LLC
Tanks CRP
NMOCD Ref. #: nAPP2035221813

NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard				10	50	-	-	-	-	100	600
				SW 846 8021B		SW 846 8015M Ext.					4500 Cl
Sample ID	Date	Depth	Soil Status	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)
DEF 1 @ 4'	12/17/2020	4'	In-Situ	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	71.7
DEF 2 @ Surface	12/17/2020	Surface	In-Situ	<0.399	12.4	158	1,070	**1,230**	88.7	1,320	14,200
DEF 2 @ 3'	12/17/2020	3'	In-Situ	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	96.1
DEF 3 @ Surface	12/17/2020	Surface	In-Situ	<0.00200	<0.00200	<49.9	216	216	<49.9	216	13,200
DEF 3 @ 3'	12/17/2020	3'	In-Situ	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	83.2
FL 5 @ 8"	12/17/2020	8"	In-Situ	<0.0204	<0.0204	<49.8	<49.8	<49.8	<49.8	<49.8	11,500
FL 6 @ 10"	12/17/2020	10"	In-Situ	<0.0217	<0.0217	<50.3	<50.3	<50.3	<50.3	<50.3	11,600
FL 26 @ 8"	12/17/2020	8"	In-Situ	<0.196	<0.196	<50.0	<50.0	<50.0	<50.0	<50.0	12,600
FL 27 @ 8"	12/17/2020	8"	In-Situ	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	14,800
FL 28 @ 8"	12/17/2020	8"	In-Situ	<0.0204	<0.0204	<50.1	<50.1	<50.1	<50.1	<50.1	15,100
FL 29 @ 8"	12/17/2020	8"	In-Situ	<0.100	2.54	64.8	281	346	<50.3	346	7,630
FL 30 @ 8"	12/17/2020	8"	In-Situ	<0.0992	3.91	112	633	745	52.0	797	9,500
FL 31 @ 8"	12/17/2020	8"	In-Situ	<0.0189	3.08	138	827	965	69.4	1,030	7,980
FL 32 @ 8"	12/17/2020	8"	In-Situ	<0.0996	2.53	104	753	857	65.7	923	9,670
FL 33 @ 8"	12/17/2020	8"	In-Situ	<0.0998	5.99	117	794	911	66.9	978	9,170
FL 34 @ 8"	12/17/2020	8"	In-Situ	<0.0992	4.74	102	630	732	61.0	793	11,500
FL 35 @ 8"	12/17/2020	8"	Excavated	<0.0998	9.40	153	922	**1,080**	78.1	1,150	10,600
FL 36 @ 8"	12/17/2020	8"	In-Situ	<0.0196	<0.0196	<50.0	<50.0	<50.0	<50.0	<50.0	13,400
FL 37 @ 8"	12/17/2020	8"	In-Situ	<0.0204	0.714	<49.9	104	104	<49.9	104	12,400
FL 38 @ 8"	12/17/2020	8"	In-Situ	<0.0196	1.52	<50.1	53.4	53.4	<50.1	53.4	13,800
FL 39 @ 8"	12/17/2020	8"	In-Situ	<0.0192	<0.0192	<50.3	<50.3	<50.3	<50.3	<50.3	8,350
FL 40 @ 8"	12/17/2020	8"	In-Situ	<0.0204	<0.0204	<49.8	<49.8	<49.8	<49.8	<49.8	10,800
FL 41 @ 8"	12/17/2020	8"	In-Situ	<0.0185	<0.0185	<49.9	<49.9	<49.9	<49.9	<49.9	11,800
FL 42 @ 8"	12/17/2020	8"	In-Situ	<0.0189	<0.0189	<49.9	<49.9	<49.9	<49.9	<49.9	10,100
FL 43 @ 8"	12/17/2020	8"	In-Situ	<0.0196	<0.0196	<50.1	<50.1	<50.1	<50.1	<50.1	10,800
FL 44 @ 8"	12/17/2020	8"	In-Situ	<0.0204	<0.0204	<50.1	<50.1	<50.1	<50.1	<50.1	10,300
FL 45 @ 3"	12/17/2020	3"	In-Situ	<0.00200	0.0986	<50.1	<50.1	<50.1	<50.1	<50.1	18,100
FL 46 @ 3"	12/17/2020	3"	Excavated	<0.00198	<0.00198	347	1,410	**1,760**	111	1,870	16,100
FL 47 @ 3"	12/17/2020	3"	Excavated	<0.101	13.9	241	810	**1,050**	70.9	1,120	14,400
FL 48 @ 3"	12/17/2020	3"	Excavated	<0.100	14.9	476	2,000	**2,480**	161	**2,640**	14,700
FL 49 @ 3"	12/17/2020	3"	In-Situ	<0.00199	<0.00199	<50.1	81.3	81.3	<50.1	81.3	14,600
FL 50 @ 3"	12/17/2020	3"	In-Situ	<0.0213	<0.0213	<50.0	<50.0	<50.0	<50.0	<50.0	14,100
FL 7 @ 14"	12/28/2020	14"	In-Situ	-	-	<49.8	<49.8	<49.8	<49.8	<49.8	-
FL 46 @ 6"	12/28/2020	6"	In-Situ	-	-	<50.0	<50.0	<50.0	<50.0	<50.0	-
FL 48 @ 9"	12/28/2020	9"	In-Situ	-	-	<49.8	204	204	<49.8	204	-
FL 35 @ 10"	12/30/2020	10"	In-Situ	-	-	<49.9	<49.9	<49.9	<49.9	<49.9	-
FL 47 @ 5"	12/30/2020	5"	In-Situ	-	-	<50.0	<50.0	<50.0	<50.0	<50.0	-

NOTES:
- = Sample not analyzed for that constituent.
Bold text denotes a concentration that exceeds the NMOCD Closure Criteria

Appendix A
Depth to Groundwater Information



Legend

- Site Location

Figure 4

Inferred Depth to Groundwater Trend Map

Goodnight Midstream Permian, LLC

Tanks CRP

GPS: 32.35802, -103.73634

Eddy County

ETECH Environmental & Safety Solutions, Inc.

Drafted: bja Checked: jwl Date: 1/28/21

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02756		CUB	ED	3	4	4	26	22S	31E	618250	3580606*	682	1998		
C 03152		CUB	ED	3	4	4	26	22S	31E	618250	3580606*	682	938		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 618897.46 **Northing (Y):** 3580822.44 **Radius:** 804.67

***UTM location was derived from PLSS - see Help**

12/9/20 8:00 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	C 02756	3	4	4	26	22S	31E	618250	3580606*

Driller License: **Driller Company:**

Driller Name: SANDIA NATIONAL LABS/USGS

Drill Start Date:		**Drill Finish Date:**	12/31/1976	**Plug Date:**	
Log File Date:		**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	4.50	**Depth Well:**	1998 feet	**Depth Water:**	

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer

Point of Diversion Summary

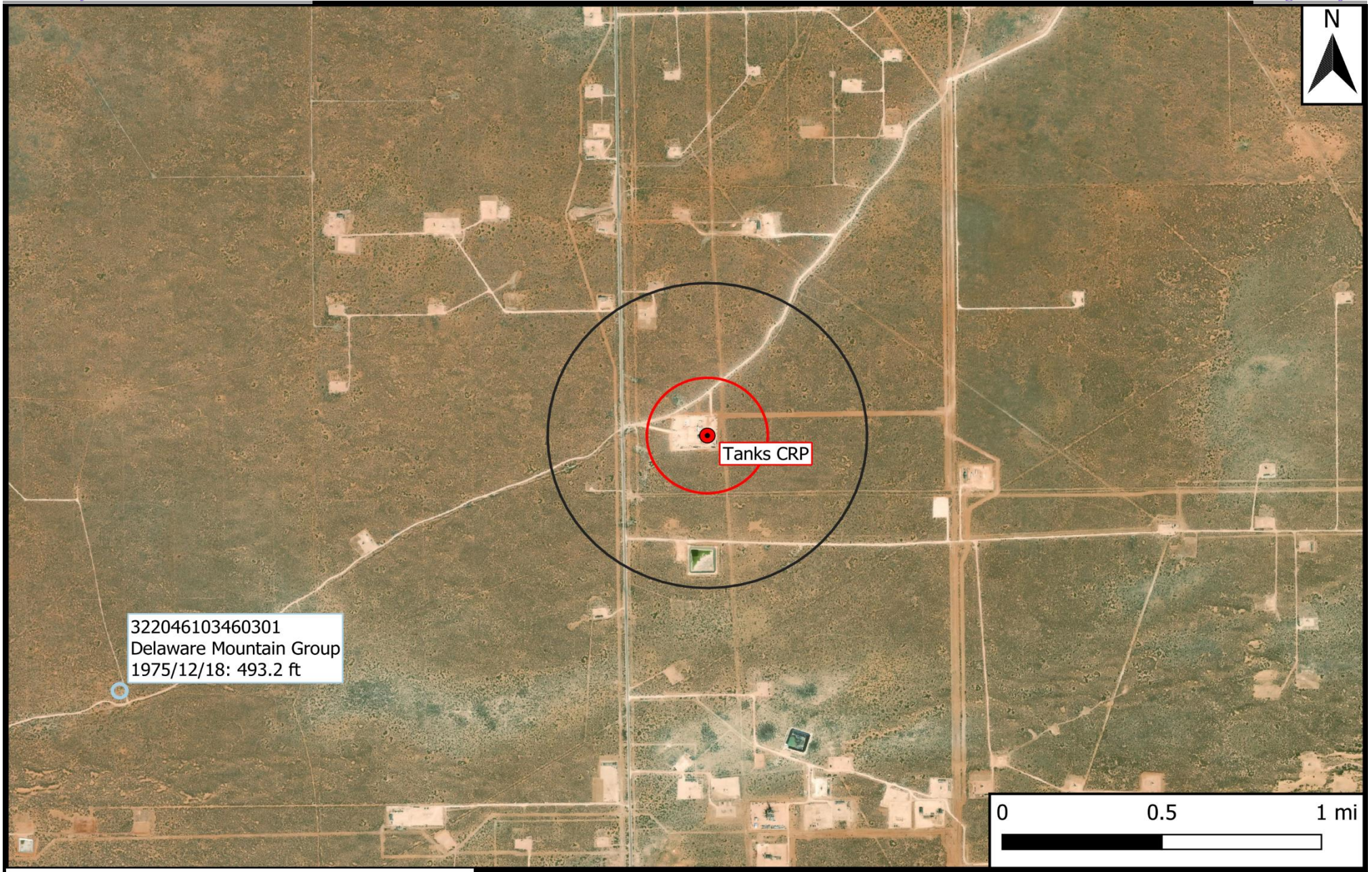
		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	**POD Number**	**Q64**	**Q16**	**Q4**	**Sec**	**Tws**	**Rng**	**X**	**Y**
	C 03152	3	4	4	26	22S	31E	618250	3580606*

Driller License: 1184 **Driller Company:** WEST TEXAS WATER WELL SERVICE

Driller Name: BROCKMAN, BERNARD J.

Drill Start Date:	06/01/2005	**Drill Finish Date:**	06/07/2005	**Plug Date:**	
Log File Date:	06/10/2005	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	8.00	**Depth Well:**	938 feet	**Depth Water:**	

***UTM location was derived from PLSS - see Help**



Legend
- Site Location
- Well - USGS
- 1,000-Ft Radius
- 0.5-Mi Radius

Figure 5
USGS Well Proximity Map
Goodnight Midstream Permian, LLC
Tanks CRP
GPS: 32.35802, -103.73634
Eddy County

eTECH Environmental & Safety Solutions, Inc.

Drafted: bja Checked: jwl Date: 1/28/21

National Water Information System: Web Interface

USGS Water Resources

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

Click to hideNews Bulletins

- Explore the **NEW** USGS National Water Dashboard to access real-time data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322046103460301

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 322046103460301 22S.31E.34.321

Eddy County, New Mexico
Latitude 32°20'46", Longitude 103°46'03" NAD27
Land-surface elevation 3,448 feet above NGVD29
This well is completed in the Delaware Mountain Group (313DLRM) 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	? Wate level appr statu
1975-12-18		D	493.2			1		Z	USGS	S	

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	1	Water level accuracy to nearest tenth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	Z	Other.
Measuring agency	USGS	U.S. Geological Survey
Source of measurement	S	Measured by personnel of reporting agency.
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
News

Appendix B
Field Data

ETECH Environmental & Safety Solutions, Inc.

Sample Log

Date: 12.15.20

Project: Tanks RP

Project Number: 13553 Latitude: 32.35802 Longitude: -103.73634

Sample ID	PID/Odor	Chloride Conc.	GPS
NW1	-		
NW2	-		
NW3	-		
EW1	-		
EW2	-		
EW3	-		
SW1	-		
SW2	-		
SW3	-		
WW1	-		
WW2	-		
WW3	-		
SP1@4"	Some		
SP2@6"	Some		
SP3@1'	Some		
SP4@6"	Some		
SP5@6"	Some		
SP6@8"	Some		
SP7@8"	Some		
SP7@1'			
SP8@4"			
SP9@4"			
SP10@4"			
SP11@4"			
SP12@4"			
SP13@4"			
SP14@4"			
SP15@4"			
SP16@4"			
SP17@4"			
SP18@4"			
SP19@4"			
SP20@4"			
SP21@4"			
SP22@4"			
SP23@6"			

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

eTECH Environmental & Safety Solutions, Inc.

Sample Log

Date: _____

Project: Tanks RP

Project Number: 13553 Latitude: 32.35802 Longitude: -103.73634

Sample ID	PID/Odor	Chloride Conc.	GPS
SP24@6"			
SP25@1'			
SP5@8"			
SP6@16"			
SP26@8"			
SP27@8"			
SP28@8"			
SP29@8"			
SP30@8"			
SP31@8"			
SP32@8"			
SP33@8"			
SP34@8"			
SP35@8"			
SP36@8"			
SP37@8"			
SP38@8"			
SP39@8"			
SP40@9"			
SP41@8"			
SP42@8"			
SP43@8"			
SP44@8"			
SP45@8"			
SP46@3"			
SP47@3"			
SP48@3"			
SP49@3"			
SP50@3'			
DEF1@surface			
DEF1@4'			
DEF2@surface			
DEF2@3'			
DEF3@surface			
DEF3@3'			

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

Appendix C
Laboratory Analytical Reports

eurofins | Environment Testing Xenco

Certificate of Analysis Summary 680805

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tank RP Release

Project Id: 13553
Contact: Joel Lowry
Project Location: Rural Eddy County, New Mexico

Date Received in Lab: Fri 12.11.2020 14:50
Report Date: 12.14.2020 11:53
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	680805-001		680805-002					
	Field Id:	SP @ 0-6"		SP @ 6-12"					
	Depth:	6- in		1- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	12.11.2020 00:00		12.11.2020 00:00					
BTEX by EPA 8021B	***Extracted:***	12.11.2020 16:22		12.11.2020 16:22					
	Analyzed:	12.12.2020 13:13		12.12.2020 14:11					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		1.54	0.399	<0.00199	0.00199				
Toluene		22.8	0.399	0.00747	0.00199				
Ethylbenzene		13.0	0.399	<0.00199	0.00199				
m,p-Xylenes		36.1	0.798	<0.00398	0.00398				
o-Xylene		14.8	0.399	<0.00199	0.00199				
Total Xylenes		50.90	0.3990	<0.001990	0.001990				
Total BTEX		88.24	0.3990	0.007470	0.001990				
Chloride by EPA 300	***Extracted:***	12.11.2020 16:00		12.11.2020 16:00					
	Analyzed:	12.11.2020 17:15		12.11.2020 17:20					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		13400	200	6310	50.0				
TPH By SW8015 Mod	***Extracted:***	12.11.2020 17:56		12.11.2020 17:56					
	Analyzed:	12.12.2020 07:03		12.12.2020 06:42					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		1970	250	<50.0	50.0				
Diesel Range Organics (DRO)		11700	250	<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		1060	250	<50.0	50.0				
Total TPH		14730	250.0	<50.00	50.00				

BRL - Below Reporting Limit

Jessica Kramer

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

eurofins | Environment Testing Xenco

Analytical Report 680805

for

Etech Environmental & Safety Solution, Inc

Project Manager: Joel Lowry

Tank RP Release

13553

12.14.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

eurofins | Environment Testing Xenco

12.14.2020

Project Manager: **Joel Lowry**
Etech Environmental & Safety Solution, Inc
P.O. Box 62228
Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **680805**
Tank RP Release
Project Address: Rural Eddy County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 680805. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 680805 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 680805

Etech Environmental & Safety Solution, Inc, Midland, TX

Tank RP Release

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP @ 0-6"	S	12.11.2020 00:00	6 in	680805-001
SP @ 6-12"	S	12.11.2020 00:00	1 ft	680805-002

CASE NARRATIVE

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Client Name: Etech Environmental & Safety Solution, Inc

Project Name: Tank RP Release

Project ID: *13553*
Work Order Number(s): *680805*

Report Date: *12.14.2020*
Date Received: *12.11.2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 680805

Etech Environmental & Safety Solution, Inc, Midland, TX

Tank RP Release

Sample Id:	**SP @ 0-6''**	Matrix:	Soil	Date Received:	12.11.2020 14:50
Lab Sample Id:	680805-001	Date Collected:	12.11.2020 00:00	Sample Depth:	6 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.11.2020 16:00	% Moisture:	
Seq Number:	3144663			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13400**	200	mg/kg	12.11.2020 17:15		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.11.2020 17:56	% Moisture:	
Seq Number:	3144731			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1970**	250	mg/kg	12.12.2020 07:03		5
Diesel Range Organics (DRO)	C10C28DRO	**11700**	250	mg/kg	12.12.2020 07:03		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1060**	250	mg/kg	12.12.2020 07:03		5
Total TPH	PHC635	**14730**	250.0	mg/kg	12.12.2020 07:03		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	12.12.2020 07:03	
o-Terphenyl	84-15-1	111	%	70-135	12.12.2020 07:03	

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Certificate of Analytical Results 680805

Etech Environmental & Safety Solution, Inc, Midland, TX

Tank RP Release

Sample Id:	**SP @ 0-6''**	Matrix:	Soil	Date Received:	12.11.2020 14:50
Lab Sample Id:	680805-001	Date Collected:	12.11.2020 00:00	Sample Depth:	6 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.11.2020 16:22	% Moisture:	
Seq Number:	3144729			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**1.54**	0.399	mg/kg	12.12.2020 13:13		200
Toluene	108-88-3	**22.8**	0.399	mg/kg	12.12.2020 13:13		200
Ethylbenzene	100-41-4	**13.0**	0.399	mg/kg	12.12.2020 13:13		200
m,p-Xylenes	179601-23-1	**36.1**	0.798	mg/kg	12.12.2020 13:13		200
o-Xylene	95-47-6	**14.8**	0.399	mg/kg	12.12.2020 13:13		200
Total Xylenes	1330-20-7	**50.90**	0.3990	mg/kg	12.12.2020 13:13		200
Total BTEX		**88.24**	0.3990	mg/kg	12.12.2020 13:13		200

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.12.2020 13:13	
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.12.2020 13:13	

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Certificate of Analytical Results 680805

Etech Environmental & Safety Solution, Inc, Midland, TX

Tank RP Release

Sample Id:	**SP @ 6-12''**	Matrix:	Soil	Date Received:	12.11.2020 14:50
Lab Sample Id:	680805-002	Date Collected:	12.11.2020 00:00	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.11.2020 16:00	% Moisture:	
Seq Number:	3144663			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6310**	50.0	mg/kg	12.11.2020 17:20		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.11.2020 17:56	% Moisture:	
Seq Number:	3144731			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.12.2020 06:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.2020 06:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.2020 06:42	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.12.2020 06:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.12.2020 06:42	
o-Terphenyl	84-15-1	107	%	70-135	12.12.2020 06:42	

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Certificate of Analytical Results 680805

Etech Environmental & Safety Solution, Inc, Midland, TX

Tank RP Release

Sample Id:	**SP @ 6-12''**	Matrix:	Soil	Date Received:	12.11.2020 14:50
Lab Sample Id:	680805-002	Date Collected:	12.11.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.11.2020 16:22	% Moisture:	
Seq Number:	3144729			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.12.2020 14:11	U	1
Toluene	108-88-3	**0.00747**	0.00199	mg/kg	12.12.2020 14:11		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.12.2020 14:11	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.12.2020 14:11	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.12.2020 14:11	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.12.2020 14:11	U	1
Total BTEX		**0.007470**	0.001990	mg/kg	12.12.2020 14:11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.12.2020 14:11	
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.12.2020 14:11	

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 680805

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Etech Environmental & Safety Solution, Inc

Tank RP Release

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144663 — Matrix: Solid — Date Prep: 12.11.2020
MB Sample Id: 7716916-1-BLK — LCS Sample Id: 7716916-1-BKS — LCSD Sample Id: 7716916-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.00	250.0	244.9	98	246.6	99	90-110	1	20	mg/kg	12.11.2020 15:02	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144663 — Matrix: Soil — Date Prep: 12.11.2020
Parent Sample Id: 680594-101 — MS Sample Id: 680594-101 S — MSD Sample Id: 680594-101 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.06	201.0	185.5	92	199.9	99	90-110	7	20	mg/kg	12.11.2020 15:17	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144663 — Matrix: Soil — Date Prep: 12.11.2020
Parent Sample Id: 680641-022 — MS Sample Id: 680641-022 S — MSD Sample Id: 680641-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3905	202.0	4096	95	4108	100	90-110	0	20	mg/kg	12.11.2020 16:29	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3144731 — Matrix: Solid — Date Prep: 12.11.2020
MB Sample Id: 7716950-1-BLK — LCS Sample Id: 7716950-1-BKS — LCSD Sample Id: 7716950-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	922	92	913	91	70-135	1	35	mg/kg	12.11.2020 22:58	
Diesel Range Organics (DRO)	<50.0	1000	996	100	1120	112	70-135	12	35	mg/kg	12.11.2020 22:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		100		126		70-135	%	12.11.2020 22:58
o-Terphenyl	94		107		118		70-135	%	12.11.2020 22:58

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3144731 — Matrix: Solid — Date Prep: 12.11.2020
MB Sample Id: 7716950-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.11.2020 22:38	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 680805

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Etech Environmental & Safety Solution, Inc

Tank RP Release

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3144731 Matrix: Soil Date Prep: 12.11.2020
Parent Sample Id: 680582-001 MS Sample Id: 680582-001 S MSD Sample Id: 680582-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	1040	104	1110	111	70-135	7	35	mg/kg	12.11.2020 23:58	
Diesel Range Organics (DRO)	<50.0	999	1140	114	998	100	70-135	13	35	mg/kg	12.11.2020 23:58	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		111		70-135	%	12.11.2020 23:58
o-Terphenyl	108		116		70-135	%	12.11.2020 23:58

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3144729 Matrix: Solid Date Prep: 12.11.2020
MB Sample Id: 7716958-1-BLK LCS Sample Id: 7716958-1-BKS LCSD Sample Id: 7716958-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0879	88	0.0935	94	70-130	6	35	mg/kg	12.12.2020 02:05	
Toluene	<0.00200	0.100	0.0826	83	0.0873	87	70-130	6	35	mg/kg	12.12.2020 02:05	
Ethylbenzene	<0.00200	0.100	0.0858	86	0.0931	93	71-129	8	35	mg/kg	12.12.2020 02:05	
m,p-Xylenes	<0.00400	0.200	0.174	87	0.188	94	70-135	8	35	mg/kg	12.12.2020 02:05	
o-Xylene	<0.00200	0.100	0.0860	86	0.0929	93	71-133	8	35	mg/kg	12.12.2020 02:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		96		101		70-130	%	12.12.2020 02:05
4-Bromofluorobenzene	123		108		111		70-130	%	12.12.2020 02:05

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3144729 Matrix: Soil Date Prep: 12.11.2020
Parent Sample Id: 680635-001 MS Sample Id: 680635-001 S MSD Sample Id: 680635-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0873	87	0.0876	88	70-130	0	35	mg/kg	12.12.2020 02:49	
Toluene	<0.00200	0.100	0.0791	79	0.0780	78	70-130	1	35	mg/kg	12.12.2020 02:49	
Ethylbenzene	<0.00200	0.100	0.0770	77	0.0770	77	71-129	0	35	mg/kg	12.12.2020 02:49	
m,p-Xylenes	<0.00401	0.200	0.160	80	0.154	77	70-135	4	35	mg/kg	12.12.2020 02:49	
o-Xylene	<0.00200	0.100	0.0807	81	0.0756	76	71-133	7	35	mg/kg	12.12.2020 02:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		101		70-130	%	12.12.2020 02:49
4-Bromofluorobenzene	115		114		70-130	%	12.12.2020 02:49

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

XENCO

Chain of Custody

Work Order No: 680805

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

Page 1 of 1

Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	Etech Environmental & Safety	Company Name:	Goodnight Midstream
Address:	3100 Plains Highway	Address:	
City, State ZIP:	Lovington, NM, 88260	City, State ZIP:	
Phone:	575-396-2378 Email:	Email Results to PM@etechenv.com + Client	

Work Order Comments

Program: UST/PST [ ] PRP [ ] Brownfields [ ] RRC [ ] Superfund [ ]
State of Project:
Reporting: Level I [ ] Level II [ ] PST/UST [ ] TRRP [ ] Level IV [ ]
Deliverables: EDD [ ] ADaPT [ ] Other:

Project Name:	Tank RP Release	Turn Around	
Project Number:	13553	Routine:	[ ]
Project Location	Rural Eddy County	Rush:	2 [X]
Sampler's Name:	Miguel Ramirez	Due Date:	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	2.0/1.8	Thermometer ID	T-WM-007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	2

ANALYSIS REQUEST

Preservative Codes

HNO3: HN
H2SO4: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	Chloride E300	BTEX 8021	TPH Modified Ext	TPH TX1005	Sample Comments
SP1 @ [illegible] 0-6"	S	12.11.20		6"	1	X	X	X		
SP2 @ [illegible] 6-12"	S	12.11.20		1'	1	X	X	X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [signature]	[signature]	12.11.20 1450	2		
3			4		
5			6		

Revised Date 101419 Rev. 2019.1

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Certificate of Analysis Summary 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP

Project Id: 13553
Contact: PM
Project Location: Eddy County

Date Received in Lab: Tue 12.15.2020 15:00
Report Date: 12.16.2020 14:41
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	681163-001		681163-002		681163-003		681163-004		681163-005		681163-006	
	Field Id:	SP1@4"		SP2@6"		SP3@1'		SP4@6"		SP5@6"		SP6@8"	
	Depth:	4-in		6-in		1-ft		6-in		6-in		8"	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.15.2020 00:00		12.15.2020 00:00		12.15.2020 00:00		12.15.2020 00:00		12.15.2020 00:00		12.15.2020 00:00	
BTEX by EPA 8021B	***Extracted:***	12.15.2020 17:01		12.15.2020 17:01		12.15.2020 17:01		12.15.2020 17:01		12.15.2020 17:01		12.15.2020 17:01	
	Analyzed:	12.16.2020 02:57		12.16.2020 03:19		12.16.2020 04:16		12.16.2020 05:29		12.16.2020 05:59		12.16.2020 05:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0196	0.0196	<0.0196	0.0196	<0.0200	0.0200	<0.0204	0.0204	<0.399	0.399	<0.0204	0.0204
Toluene		<0.0196	0.0196	<0.0196	0.0196	<0.0200	0.0200	<0.0204	0.0204	5.80	0.399	0.154	0.0204
Ethylbenzene		<0.0196	0.0196	<0.0196	0.0196	<0.0200	0.0200	<0.0204	0.0204	4.62	0.399	0.382	0.0204
m,p-Xylenes		<0.0392	0.0392	<0.0392	0.0392	<0.0400	0.0400	<0.0408	0.0408	13.5	0.798	1.28	0.0408
o-Xylene		<0.0196	0.0196	<0.0196	0.0196	<0.0200	0.0200	0.790	0.0204	4.86	0.399	0.603	0.0204
Total Xylenes		<0.0196	0.0196	<0.0196	0.0196	<0.0200	0.0200	0.790	0.0204	18.4	0.399	1.88	0.0204
Total BTEX		<0.0196	0.0196	<0.0196	0.0196	<0.0200	0.0200	0.790	0.0204	28.8	0.399	2.42	0.0204
Inorganic Anions by EPA 300	***Extracted:***	12.15.2020 17:56		12.15.2020 17:56		12.15.2020 17:56		12.15.2020 17:56		12.15.2020 17:56		12.15.2020 17:56	
	Analyzed:	12.15.2020 21:41		12.15.2020 21:59		12.15.2020 22:05		12.15.2020 22:11		12.15.2020 22:17		12.15.2020 22:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		14800	198	13500	199	4540	49.9	14000	198	13900	200	14800	201
TPH by SW8015 Mod	***Extracted:***	12.15.2020 18:00		12.15.2020 18:00		12.15.2020 18:00		12.15.2020 18:00		12.15.2020 18:00		12.15.2020 18:00	
	Analyzed:	12.16.2020 04:25		12.16.2020 04:45		12.16.2020 05:05		12.16.2020 05:25		12.16.2020 05:44		12.16.2020 06:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	332	249	151	50.1
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	73.4	49.9	959	249	1170	50.1
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<249	249	96.6	50.1
Total TPH		<50.0	50.0	<49.9	49.9	<50.0	50.0	73.4	49.9	1290	249	1420	50.1

BRL - Below Reporting Limit

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

Jessica Kramer

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Certificate of Analysis Summary 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP

Project Id: 13553
Contact: PM
Project Location: Eddy County

Date Received in Lab: Tue 12.15.2020 15:00
Report Date: 12.16.2020 14:41
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	681163-007						
	Field Id:	SP7@8"						
	Depth:	8-in						
	Matrix:	SOIL						
	Sampled:	12.15.2020 00:00						
BTEX by EPA 8021B	***Extracted:***	12.15.2020 17:01						
	Analyzed:	12.16.2020 06:21						
	Units/RL:	mg/kg	RL					
Benzene		6.71	0.401					
Toluene		77.2	0.401					
Ethylbenzene		28.0	0.401					
m,p-Xylenes		75.0	0.802					
o-Xylene		26.4	0.401					
Total Xylenes		101	0.401					
Total BTEX		213	0.401					
Inorganic Anions by EPA 300	***Extracted:***	12.15.2020 17:56						
	Analyzed:	12.15.2020 22:41						
	Units/RL:	mg/kg	RL					
Chloride		11100	200					
TPH by SW8015 Mod	***Extracted:***	12.15.2020 18:00						
	Analyzed:	12.16.2020 06:24						
	Units/RL:	mg/kg	RL					
Gasoline Range Hydrocarbons (GRO)		3090	249					
Diesel Range Organics (DRO)		6680	249					
Motor Oil Range Hydrocarbons (MRO)		544	249					
Total TPH		10300	249					

BRL - Below Reporting Limit

Jessica Kramer

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

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Analytical Report 681163

for

Etech Environmental & Safety Solution, Inc

Project Manager: PM

Tanks RP

13553

12.16.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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12.16.2020

Project Manager: **PM**
Etech Environmental & Safety Solution, Inc
P.O. Box 62228
Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **681163**
Tanks RP
Project Address: Eddy County

PM :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 681163. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 681163 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP1@4"	S	12.15.2020 00:00	4 in	681163-001
SP2@6"	S	12.15.2020 00:00	6 in	681163-002
SP3@1'	S	12.15.2020 00:00	1 ft	681163-003
SP4@6"	S	12.15.2020 00:00	6 in	681163-004
SP5@6"	S	12.15.2020 00:00	6 in	681163-005
SP6@8"	S	12.15.2020 00:00	8 in	681163-006
SP7@8"	S	12.15.2020 00:00	8 in	681163-007

CASE NARRATIVE

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Client Name: Etech Environmental & Safety Solution, Inc

Project Name: Tanks RP

Project ID: *13553*
Work Order Number(s): *681163*

Report Date: *12.16.2020*
Date Received: *12.15.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP1@4"**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681163-001	Date Collected:	12.15.2020 00:00	Sample Depth:	4 in

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:56	% Moisture:	
Seq Number:	3145024			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14800**	198	mg/kg	12.15.2020 21:41		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.15.2020 18:00	% Moisture:	
Seq Number:	3145072			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.16.2020 04:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.16.2020 04:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.16.2020 04:25	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.16.2020 04:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.16.2020 04:25	
o-Terphenyl	84-15-1	110	%	70-135	12.16.2020 04:25	

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP1@4"**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681163-001	Date Collected:	12.15.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	12.16.2020 02:57	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	12.16.2020 02:57	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	12.16.2020 02:57	U	1
m,p-Xylenes	179601-23-1	<0.0392	0.0392	mg/kg	12.16.2020 02:57	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	12.16.2020 02:57	U	1
Total Xylenes	1330-20-7	<0.0196	0.0196	mg/kg	12.16.2020 02:57	U	1
Total BTEX		<0.0196	0.0196	mg/kg	12.16.2020 02:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.16.2020 02:57	
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.16.2020 02:57	

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP2@6"**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681163-002	Date Collected:	12.15.2020 00:00	Sample Depth:	6 in

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:56	% Moisture:	
Seq Number:	3145024			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13500**	199	mg/kg	12.15.2020 21:59		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.15.2020 18:00	% Moisture:	
Seq Number:	3145072			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.16.2020 04:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.16.2020 04:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.16.2020 04:45	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.16.2020 04:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	12.16.2020 04:45	
o-Terphenyl	84-15-1	98	%	70-135	12.16.2020 04:45	

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP2@6"**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681163-002	Date Collected:	12.15.2020 00:00	Sample Depth:	6 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	12.16.2020 03:19	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	12.16.2020 03:19	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	12.16.2020 03:19	U	1
m,p-Xylenes	179601-23-1	<0.0392	0.0392	mg/kg	12.16.2020 03:19	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	12.16.2020 03:19	U	1
Total Xylenes	1330-20-7	<0.0196	0.0196	mg/kg	12.16.2020 03:19	U	1
Total BTEX		<0.0196	0.0196	mg/kg	12.16.2020 03:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.16.2020 03:19	
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.16.2020 03:19	

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id: **SP3@1'** Matrix: Soil Date Received:12.15.2020 15:00
Lab Sample Id: 681163-003 Date Collected: 12.15.2020 00:00 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.15.2020 17:56 % Moisture:
Seq Number: 3145024 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4540**	49.9	mg/kg	12.15.2020 22:05		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: MAB
Analyst: CAC Date Prep: 12.15.2020 18:00 % Moisture:
Seq Number: 3145072 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.16.2020 05:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.16.2020 05:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.16.2020 05:05	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.16.2020 05:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.16.2020 05:05	
o-Terphenyl	84-15-1	107	%	70-135	12.16.2020 05:05	

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP3@1'**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681163-003	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	12.16.2020 04:16	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	12.16.2020 04:16	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	12.16.2020 04:16	U	1
m,p-Xylenes	179601-23-1	<0.0400	0.0400	mg/kg	12.16.2020 04:16	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	12.16.2020 04:16	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	12.16.2020 04:16	U	1
Total BTEX		<0.0200	0.0200	mg/kg	12.16.2020 04:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.16.2020 04:16	
1,4-Difluorobenzene	540-36-3	110	%	70-130	12.16.2020 04:16	

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP4@6"**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681163-004	Date Collected:	12.15.2020 00:00	Sample Depth:	6 in

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:56	% Moisture:	
Seq Number:	3145024			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14000**	198	mg/kg	12.15.2020 22:11		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.15.2020 18:00	% Moisture:	
Seq Number:	3145072			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.16.2020 05:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	**73.4**	49.9	mg/kg	12.16.2020 05:25		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.16.2020 05:25	U	1
Total TPH	PHC635	**73.4**	49.9	mg/kg	12.16.2020 05:25		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.16.2020 05:25	
o-Terphenyl	84-15-1	112	%	70-135	12.16.2020 05:25	

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP4@6"**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681163-004	Date Collected:	12.15.2020 00:00	Sample Depth:	6 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0204	0.0204	mg/kg	12.16.2020 05:29	U	1
Toluene	108-88-3	<0.0204	0.0204	mg/kg	12.16.2020 05:29	U	1
Ethylbenzene	100-41-4	<0.0204	0.0204	mg/kg	12.16.2020 05:29	U	1
m,p-Xylenes	179601-23-1	<0.0408	0.0408	mg/kg	12.16.2020 05:29	U	1
o-Xylene	95-47-6	**0.790**	0.0204	mg/kg	12.16.2020 05:29		1
Total Xylenes	1330-20-7	**0.790**	0.0204	mg/kg	12.16.2020 05:29		1
Total BTEX		**0.790**	0.0204	mg/kg	12.16.2020 05:29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	12.16.2020 05:29	
4-Bromofluorobenzene	460-00-4	115	%	70-130	12.16.2020 05:29	

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP5@6"**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681163-005	Date Collected:	12.15.2020 00:00	Sample Depth:	6 in

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:56	% Moisture:	
Seq Number:	3145024			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13900**	200	mg/kg	12.15.2020 22:17		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.15.2020 18:00	% Moisture:	
Seq Number:	3145072			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**332**	249	mg/kg	12.16.2020 05:44		5
Diesel Range Organics (DRO)	C10C28DRO	**959**	249	mg/kg	12.16.2020 05:44		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<249	249	mg/kg	12.16.2020 05:44	U	5
Total TPH	PHC635	**1290**	249	mg/kg	12.16.2020 05:44		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	12.16.2020 05:44	
o-Terphenyl	84-15-1	110	%	70-135	12.16.2020 05:44	

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP5@6"**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681163-005	Date Collected:	12.15.2020 00:00	Sample Depth:	6 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.399	0.399	mg/kg	12.16.2020 05:59	U	200
Toluene	108-88-3	**5.80**	0.399	mg/kg	12.16.2020 05:59		200
Ethylbenzene	100-41-4	**4.62**	0.399	mg/kg	12.16.2020 05:59		200
m,p-Xylenes	179601-23-1	**13.5**	0.798	mg/kg	12.16.2020 05:59		200
o-Xylene	95-47-6	**4.86**	0.399	mg/kg	12.16.2020 05:59		200
Total Xylenes	1330-20-7	**18.4**	0.399	mg/kg	12.16.2020 05:59		200
Total BTEX		**28.8**	0.399	mg/kg	12.16.2020 05:59		200

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	70-130	12.16.2020 05:59	
4-Bromofluorobenzene	460-00-4	101	%	70-130	12.16.2020 05:59	

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP6@8"**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681163-006	Date Collected:	12.15.2020 00:00	Sample Depth:	8 in

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:56	% Moisture:	
Seq Number:	3145024			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14800**	201	mg/kg	12.15.2020 22:35		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.15.2020 18:00	% Moisture:	
Seq Number:	3145072			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**151**	50.1	mg/kg	12.16.2020 06:04		1
Diesel Range Organics (DRO)	C10C28DRO	**1170**	50.1	mg/kg	12.16.2020 06:04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**96.6**	50.1	mg/kg	12.16.2020 06:04		1
Total TPH	PHC635	**1420**	50.1	mg/kg	12.16.2020 06:04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.16.2020 06:04	
o-Terphenyl	84-15-1	100	%	70-135	12.16.2020 06:04	

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP6@8"**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681163-006	Date Collected:	12.15.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0204	0.0204	mg/kg	12.16.2020 05:01	U	1
Toluene	108-88-3	**0.154**	0.0204	mg/kg	12.16.2020 05:01		1
Ethylbenzene	100-41-4	**0.382**	0.0204	mg/kg	12.16.2020 05:01		1
m,p-Xylenes	179601-23-1	**1.28**	0.0408	mg/kg	12.16.2020 05:01		1
o-Xylene	95-47-6	**0.603**	0.0204	mg/kg	12.16.2020 05:01		1
Total Xylenes	1330-20-7	**1.88**	0.0204	mg/kg	12.16.2020 05:01		1
Total BTEX		**2.42**	0.0204	mg/kg	12.16.2020 05:01		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	12.16.2020 05:01	
4-Bromofluorobenzene	460-00-4	115	%	70-130	12.16.2020 05:01	

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP7@8"**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681163-007	Date Collected:	12.15.2020 00:00	Sample Depth:	8 in

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:56	% Moisture:	
Seq Number:	3145024			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11100**	200	mg/kg	12.15.2020 22:41		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.15.2020 18:00	% Moisture:	
Seq Number:	3145072			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**3090**	249	mg/kg	12.16.2020 06:24		5
Diesel Range Organics (DRO)	C10C28DRO	**6680**	249	mg/kg	12.16.2020 06:24		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**544**	249	mg/kg	12.16.2020 06:24		5
Total TPH	PHC635	**10300**	249	mg/kg	12.16.2020 06:24		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.16.2020 06:24	
o-Terphenyl	84-15-1	102	%	70-135	12.16.2020 06:24	

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Certificate of Analytical Results 681163

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP7@8"**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681163-007	Date Collected:	12.15.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**6.71**	0.401	mg/kg	12.16.2020 06:21		200
Toluene	108-88-3	**77.2**	0.401	mg/kg	12.16.2020 06:21		200
Ethylbenzene	100-41-4	**28.0**	0.401	mg/kg	12.16.2020 06:21		200
m,p-Xylenes	179601-23-1	**75.0**	0.802	mg/kg	12.16.2020 06:21		200
o-Xylene	95-47-6	**26.4**	0.401	mg/kg	12.16.2020 06:21		200
Total Xylenes	1330-20-7	**101**	0.401	mg/kg	12.16.2020 06:21		200
Total BTEX		**213**	0.401	mg/kg	12.16.2020 06:21		200

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	89	%	70-130	12.16.2020 06:21	
4-Bromofluorobenzene	460-00-4	101	%	70-130	12.16.2020 06:21	

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 681163

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Etech Environmental & Safety Solution, Inc

Tanks RP

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3145024 — Matrix: Solid — Date Prep: 12.15.2020
MB Sample Id: 7717183-1-BLK — LCS Sample Id: 7717183-1-BKS — LCSD Sample Id: 7717183-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	262	105	265	106	90-110	1	20	mg/kg	12.15.2020 21:29	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3145024 — Matrix: Soil — Date Prep: 12.15.2020
Parent Sample Id: 681163-001 — MS Sample Id: 681163-001 S — MSD Sample Id: 681163-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	14800	199	15000	101	15000	100	90-110	0	20	mg/kg	12.15.2020 21:47	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3145024 — Matrix: Soil — Date Prep: 12.15.2020
Parent Sample Id: 681168-004 — MS Sample Id: 681168-004 S — MSD Sample Id: 681168-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	67.3	200	280	106	283	107	90-110	1	20	mg/kg	12.15.2020 23:11	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145072 — Matrix: Solid — Date Prep: 12.15.2020
MB Sample Id: 7717214-1-BLK — LCS Sample Id: 7717214-1-BKS — LCSD Sample Id: 7717214-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	922	92	1010	101	70-135	9	35	mg/kg	12.15.2020 22:24	
Diesel Range Organics (DRO)	<50.0	1000	956	96	1050	105	70-135	9	35	mg/kg	12.15.2020 22:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		93		100		70-135	%	12.15.2020 22:24
o-Terphenyl	119		79		105		70-135	%	12.15.2020 22:24

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145072 — Matrix: Solid — Date Prep: 12.15.2020
MB Sample Id: 7717214-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.15.2020 22:03	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

QC Summary 681163

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Etech Environmental & Safety Solution, Inc

Tanks RP

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145072 — Matrix: Soil — Date Prep: 12.15.2020
Parent Sample Id: 681168-001 — MS Sample Id: 681168-001 S — MSD Sample Id: 681168-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	1140	114	1010	101	70-135	12	35	mg/kg	12.15.2020 23:24	
Diesel Range Organics (DRO)	<50.1	1000	1030	103	1020	102	70-135	1	35	mg/kg	12.15.2020 23:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		108		70-135	%	12.15.2020 23:24
o-Terphenyl	108		104		70-135	%	12.15.2020 23:24

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145017 — Matrix: Solid — Date Prep: 12.15.2020
MB Sample Id: 7717185-1-BLK — LCS Sample Id: 7717185-1-BKS — LCSD Sample Id: 7717185-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.102	102	0.101	101	70-130	1	35	mg/kg	12.15.2020 19:26	
Toluene	<0.00200	0.100	0.0957	96	0.0951	95	70-130	1	35	mg/kg	12.15.2020 19:26	
Ethylbenzene	<0.00200	0.100	0.0999	100	0.100	100	71-129	0	35	mg/kg	12.15.2020 19:26	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.205	103	70-135	2	35	mg/kg	12.15.2020 19:26	
o-Xylene	<0.00200	0.100	0.103	103	0.102	102	71-133	1	35	mg/kg	12.15.2020 19:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		99		101		70-130	%	12.15.2020 19:26
4-Bromofluorobenzene	114		110		107		70-130	%	12.15.2020 19:26

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145017 — Matrix: Soil — Date Prep: 12.15.2020
Parent Sample Id: 681168-001 — MS Sample Id: 681168-001 S — MSD Sample Id: 681168-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0884	89	0.0912	91	70-130	3	35	mg/kg	12.15.2020 20:11	
Toluene	<0.00199	0.0996	0.0866	87	0.0877	88	70-130	1	35	mg/kg	12.15.2020 20:11	
Ethylbenzene	<0.00199	0.0996	0.0896	90	0.0884	89	71-129	1	35	mg/kg	12.15.2020 20:11	
m,p-Xylenes	<0.00398	0.199	0.184	92	0.191	96	70-135	4	35	mg/kg	12.15.2020 20:11	
o-Xylene	<0.00199	0.0996	0.0912	92	0.0927	93	71-133	2	35	mg/kg	12.15.2020 20:11	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		99		70-130	%	12.15.2020 20:11
4-Bromofluorobenzene	109		111		70-130	%	12.15.2020 20:11

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

Chain of Custody

XENCO

Work Order No: 661163

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440, El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
Atlanta, GA (770) 449-8800
www.xenco.com Page 1 of 1

Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	Etech Environmental & Safety	Company Name:	Goodnight
Address:	3100 Plains Highway	Address:	
City, State ZIP:	Lovington, NM, 88260	City, State ZIP:	
Phone:	575-396-2378	Email:	Email Results to PM@etechenv.com + Client

Work Order Comments

Program: UST/PST [ ] PRP [ ] Brownfields [ ] RRC [ ] Superfund [ ]
State of Project:
Reporting: Level II [ ] Level III [ ] PST/UST [ ] TRRP [ ] Level IV [ ]
Deliverables: EDD [ ] ADaPT [ ] Other:

Project Name:	Tanks RP	Turn Around	
Project Number:	13553	Routine:	✓
Project Location	Rural Eddy county, NM	Rush:	24hr
Sampler's Name:	Miguel Ramirez	Due Date:	
PO #:			

SAMPLE RECEIPT				
Temperature (°C):	4.8/4.6	Thermometer ID	TNH007	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes (No) N/A	Total Containers:	9	

Temp Blank: (Yes) No Wet Ice: (Yes) No

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	Chloride E300	BTEX 8021	TPH Modified Ext	TPH TX1005
SP1@4"	S	12.15.20		4"	1	X	X	X	
SP2@6"	S	12.15.20		6"	1	X	X	X	
SP3@1'	S	12.15.20		1'	1	X	X	X	
SP4@6"	S	12.15.20		6"	1	X	X	X	
SP5@6'	S	12.15.20		6"	1	X	X	X	
SP6@8"	S	12.15.20		8"	1	X	X	X	
SP7@8"	S	12.15.20		8"	1	X	X	X	

Preservative Codes

HNO3: HN
H2SO4: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:30pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		12/15/20 15:00	4		
3			6		
5					

Revised Date 10 14 19 Rev. 2019.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 12.15.2020 03.00.00 PM

Work Order #: 681163

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T NM 007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Martha Castro Date: 12.15.2020

Checklist reviewed by: Jessica Kramer Date: 12.16.2020

Jessica Kramer

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Certificate of Analysis Summary 681168

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks PP

Project Id: 13553
Contact: Ronny Matte
Project Location: Eddy County

Date Received in Lab: Tue 12.15.2020 15:00
Report Date: 12.16.2020 14:40
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	681168-001		681168-002		681168-003		681168-004		681168-005		681168-006	
	Field Id:	NW1		NW2		NW3		EW1		EW2		EW3	
	Depth:	1- ft		1- ft		1- ft		1- ft		1- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.15.2020 00:00		12.15.2020 00:00		12.15.2020 00:00		12.15.2020 00:00		12.15.2020 00:00		12.15.2020 00:00	
BTEX by EPA 8021B	***Extracted:***	12.15.2020 17:01		12.15.2020 17:01		12.15.2020 17:01		12.15.2020 17:01		12.15.2020 17:01		12.15.2020 17:01	
	Analyzed:	12.15.2020 21:01		12.15.2020 21:30		12.15.2020 22:15		12.15.2020 22:38		12.15.2020 23:00		12.15.2020 23:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00198	0.00198
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00198	0.00198
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00198	0.00198
m,p-Xylenes		<0.00398	0.00398	<0.00401	0.00401	<0.00401	0.00401	<0.00397	0.00397	<0.00403	0.00403	<0.00397	0.00397
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00198	0.00198
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00198	0.00198
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00198	0.00198
Inorganic Anions by EPA 300	***Extracted:***	12.15.2020 17:56		12.15.2020 17:56		12.15.2020 17:56		12.15.2020 17:56		12.15.2020 17:56		12.15.2020 17:56	
	Analyzed:	12.15.2020 22:47		12.15.2020 22:53		12.15.2020 22:59		12.15.2020 23:05		12.15.2020 23:23		12.15.2020 23:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		143	9.96	3300	49.9	409	9.92	67.3	9.96	254	9.92	214	9.94
TPH by SW8015 Mod	***Extracted:***	12.15.2020 18:00		12.15.2020 18:00		12.15.2020 18:00		12.15.2020 18:00		12.15.2020 18:00		12.15.2020 18:00	
	Analyzed:	12.15.2020 23:04		12.16.2020 00:04		12.16.2020 00:24		12.16.2020 00:45		12.16.2020 01:05		12.16.2020 01:25	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0
Diesel Range Organics (DRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0
Total TPH		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.0	50.0

BRL - Below Reporting Limit

Jessica Kramer

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Certificate of Analysis Summary 681168

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks PP

Project Id: 13553
Contact: Ronny Matte
Project Location: Eddy County

Date Received in Lab: Tue 12.15.2020 15:00
Report Date: 12.16.2020 14:40
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	681168-007		681168-008		681168-009		681168-010		681168-011		681168-012	
	Field Id:	SW1		SW2		SW3		WW1		WW2		WW3	
	Depth:	1- ft		1- ft		1- ft		1- ft		1- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.15.2020 00:00		12.15.2020 00:00		12.15.2020 00:00		12.15.2020 00:00		12.15.2020 00:00		12.15.2020 00:00	
BTEX by EPA 8021B	***Extracted:***	12.15.2020 17:01		12.15.2020 17:01		12.15.2020 17:01		12.15.2020 17:01		12.15.2020 17:01		12.15.2020 17:01	
	Analyzed:	12.15.2020 23:45		12.16.2020 00:07		12.16.2020 00:30		12.16.2020 00:52		12.16.2020 02:12		12.16.2020 02:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
m,p-Xylenes		<0.00399	0.00399	<0.00398	0.00398	<0.00399	0.00399	<0.00401	0.00401	<0.00404	0.00404	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	12.15.2020 17:56		12.15.2020 17:56		12.15.2020 17:56		12.15.2020 17:56		12.15.2020 17:56		12.15.2020 17:56	
	Analyzed:	12.15.2020 23:47		12.15.2020 23:53		12.15.2020 23:59		12.16.2020 00:05		12.16.2020 00:11		12.16.2020 00:17	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2030	49.9	723	9.96	418	9.98	32.3	9.96	43.5	9.98	78.0	10.0
TPH by SW8015 Mod	***Extracted:***	12.15.2020 18:00		12.15.2020 18:00		12.15.2020 18:00		12.15.2020 18:00		12.15.2020 18:00		12.15.2020 18:00	
	Analyzed:	12.16.2020 01:45		12.16.2020 02:05		12.16.2020 02:25		12.16.2020 02:45		12.16.2020 03:25		12.16.2020 03:45	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.0	50.0	<50.0	50.0	<49.8	49.8	<50.1	50.1	<49.9	49.9
Diesel Range Organics (DRO)		234	50.1	<50.0	50.0	81.6	50.0	<49.8	49.8	<50.1	50.1	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.0	50.0	<50.0	50.0	<49.8	49.8	<50.1	50.1	<49.9	49.9
Total TPH		234	50.1	<50.0	50.0	81.6	50.0	<49.8	49.8	<50.1	50.1	<49.9	49.9

BRL - Below Reporting Limit

Jessica Kramer

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Analytical Report 681168

for

Etech Environmental & Safety Solution, Inc

Project Manager: Ronny Matte

Tanks PP

13553

12.16.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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12.16.2020

Project Manager: **Ronny Matte**
Etech Environmental & Safety Solution, Inc
P.O. Box 62228
Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **681168**
Tanks PP
Project Address: Eddy County

Ronny Matte:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 681168. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 681168 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 681168

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks PP

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
NW1	S	12.15.2020 00:00	1 ft	681168-001
NW2	S	12.15.2020 00:00	1 ft	681168-002
NW3	S	12.15.2020 00:00	1 ft	681168-003
EW1	S	12.15.2020 00:00	1 ft	681168-004
EW2	S	12.15.2020 00:00	1 ft	681168-005
EW3	S	12.15.2020 00:00	1 ft	681168-006
SW1	S	12.15.2020 00:00	1 ft	681168-007
SW2	S	12.15.2020 00:00	1 ft	681168-008
SW3	S	12.15.2020 00:00	1 ft	681168-009
WW1	S	12.15.2020 00:00	1 ft	681168-010
WW2	S	12.15.2020 00:00	1 ft	681168-011
WW3	S	12.15.2020 00:00	1 ft	681168-012

CASE NARRATIVE

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Client Name: Etech Environmental & Safety Solution, Inc

Project Name: Tanks PP

Project ID: *13553*
Work Order Number(s): *681168*

Report Date: *12.16.2020*
Date Received: *12.15.2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 681168

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks PP

Sample Id: **NW1** Matrix: Soil Date Received:12.15.2020 15:00

Lab Sample Id: 681168-001 Date Collected: 12.15.2020 00:00 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: MAB

Analyst: MAB Date Prep: 12.15.2020 17:56 % Moisture:

Seq Number: 3145024 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**143**	9.96	mg/kg	12.15.2020 22:47		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: MAB

Analyst: CAC Date Prep: 12.15.2020 18:00 % Moisture:

Seq Number: 3145072 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.15.2020 23:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.15.2020 23:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.15.2020 23:04	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.15.2020 23:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.15.2020 23:04	
o-Terphenyl	84-15-1	107	%	70-135	12.15.2020 23:04	

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Certificate of Analytical Results 681168

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks PP

Sample Id:	**NW1**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-001	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.15.2020 21:01	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.15.2020 21:01	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.15.2020 21:01	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.15.2020 21:01	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.15.2020 21:01	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.15.2020 21:01	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.15.2020 21:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	12.15.2020 21:01	
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.15.2020 21:01	

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Certificate of Analytical Results 681168

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks PP

Sample Id:	**NW2**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-002	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:56	% Moisture:	
Seq Number:	3145024			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3300**	49.9	mg/kg	12.15.2020 22:53		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.15.2020 18:00	% Moisture:	
Seq Number:	3145072			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.16.2020 00:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.16.2020 00:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.16.2020 00:04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.16.2020 00:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	12.16.2020 00:04	
o-Terphenyl	84-15-1	112	%	70-135	12.16.2020 00:04	

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Certificate of Analytical Results 681168

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks PP

Sample Id:	**NW2**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-002	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.15.2020 21:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.15.2020 21:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.15.2020 21:30	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.15.2020 21:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.15.2020 21:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.15.2020 21:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.15.2020 21:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.15.2020 21:30	
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.15.2020 21:30	

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Certificate of Analytical Results 681168

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks PP

Sample Id:	**NW3**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-003	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:56	% Moisture:	
Seq Number:	3145024			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**409**	9.92	mg/kg	12.15.2020 22:59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.15.2020 18:00	% Moisture:	
Seq Number:	3145072			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.16.2020 00:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.16.2020 00:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.16.2020 00:24	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.16.2020 00:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	12.16.2020 00:24	
o-Terphenyl	84-15-1	102	%	70-135	12.16.2020 00:24	

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Certificate of Analytical Results 681168

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks PP

Sample Id:	**NW3**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-003	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.15.2020 22:15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.15.2020 22:15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.15.2020 22:15	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.15.2020 22:15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.15.2020 22:15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.15.2020 22:15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.15.2020 22:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.15.2020 22:15	
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.15.2020 22:15	

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Certificate of Analytical Results 681168

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks PP

Sample Id:	**EW1**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-004	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:56	% Moisture:	
Seq Number:	3145024			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**67.3**	9.96	mg/kg	12.15.2020 23:05		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.15.2020 18:00	% Moisture:	
Seq Number:	3145072			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.16.2020 00:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.16.2020 00:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.16.2020 00:45	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.16.2020 00:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.16.2020 00:45	
o-Terphenyl	84-15-1	112	%	70-135	12.16.2020 00:45	

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Certificate of Analytical Results 681168

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks PP

Sample Id:	**EW1**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-004	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.15.2020 22:38	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.15.2020 22:38	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.15.2020 22:38	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.15.2020 22:38	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.15.2020 22:38	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.15.2020 22:38	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.15.2020 22:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	128	%	70-130	12.15.2020 22:38	
1,4-Difluorobenzene	540-36-3	87	%	70-130	12.15.2020 22:38	

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Sample Id: **EW2** Matrix: Soil Date Received:12.15.2020 15:00

Lab Sample Id: 681168-005 Date Collected: 12.15.2020 00:00 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: MAB

Analyst: MAB Date Prep: 12.15.2020 17:56 % Moisture:

Seq Number: 3145024 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**254**	9.92	mg/kg	12.15.2020 23:23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: MAB

Analyst: CAC Date Prep: 12.15.2020 18:00 % Moisture:

Seq Number: 3145072 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.16.2020 01:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.16.2020 01:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.16.2020 01:05	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.16.2020 01:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.16.2020 01:05	
o-Terphenyl	84-15-1	110	%	70-135	12.16.2020 01:05	

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Sample Id:	**EW2**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-005	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.15.2020 23:00	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.15.2020 23:00	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.15.2020 23:00	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.15.2020 23:00	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.15.2020 23:00	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.15.2020 23:00	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.15.2020 23:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	128	%	70-130	12.15.2020 23:00	
1,4-Difluorobenzene	540-36-3	108	%	70-130	12.15.2020 23:00	

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Sample Id: **EW3** Matrix: Soil Date Received:12.15.2020 15:00

Lab Sample Id: 681168-006 Date Collected: 12.15.2020 00:00 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: MAB

Analyst: MAB Date Prep: 12.15.2020 17:56 % Moisture:

Seq Number: 3145024 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**214**	9.94	mg/kg	12.15.2020 23:29		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: MAB

Analyst: CAC Date Prep: 12.15.2020 18:00 % Moisture:

Seq Number: 3145072 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.16.2020 01:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.16.2020 01:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.16.2020 01:25	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.16.2020 01:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	12.16.2020 01:25	
o-Terphenyl	84-15-1	104	%	70-135	12.16.2020 01:25	

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Sample Id:	**EW3**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-006	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.15.2020 23:22	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.15.2020 23:22	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.15.2020 23:22	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.15.2020 23:22	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.15.2020 23:22	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.15.2020 23:22	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.15.2020 23:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.15.2020 23:22	
4-Bromofluorobenzene	460-00-4	126	%	70-130	12.15.2020 23:22	

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Sample Id:	**SW1**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-007	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:56	% Moisture:	
Seq Number:	3145024			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2030**	49.9	mg/kg	12.15.2020 23:47		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.15.2020 18:00	% Moisture:	
Seq Number:	3145072			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.16.2020 01:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	**234**	50.1	mg/kg	12.16.2020 01:45		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.16.2020 01:45	U	1
Total TPH	PHC635	**234**	50.1	mg/kg	12.16.2020 01:45		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	12.16.2020 01:45	
o-Terphenyl	84-15-1	98	%	70-135	12.16.2020 01:45	

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Sample Id:	**SW1**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-007	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.15.2020 23:45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.15.2020 23:45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.15.2020 23:45	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.15.2020 23:45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.15.2020 23:45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.15.2020 23:45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.15.2020 23:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	125	%	70-130	12.15.2020 23:45	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.15.2020 23:45	

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Sample Id:	**SW2**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-008	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:56	% Moisture:	
Seq Number:	3145024			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**723**	9.96	mg/kg	12.15.2020 23:53		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.15.2020 18:00	% Moisture:	
Seq Number:	3145072			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.16.2020 02:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.16.2020 02:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.16.2020 02:05	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.16.2020 02:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.16.2020 02:05	
o-Terphenyl	84-15-1	114	%	70-135	12.16.2020 02:05	

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Tanks PP

Sample Id:	**SW2**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-008	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.16.2020 00:07	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.16.2020 00:07	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.16.2020 00:07	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.16.2020 00:07	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.16.2020 00:07	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.16.2020 00:07	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.16.2020 00:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	129	%	70-130	12.16.2020 00:07	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.16.2020 00:07	

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Sample Id:	**SW3**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-009	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:56	% Moisture:	
Seq Number:	3145024			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**418**	9.98	mg/kg	12.15.2020 23:59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.15.2020 18:00	% Moisture:	
Seq Number:	3145072			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.16.2020 02:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	**81.6**	50.0	mg/kg	12.16.2020 02:25		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.16.2020 02:25	U	1
Total TPH	PHC635	**81.6**	50.0	mg/kg	12.16.2020 02:25		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	12.16.2020 02:25	
o-Terphenyl	84-15-1	108	%	70-135	12.16.2020 02:25	

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Sample Id:	**SW3**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-009	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.16.2020 00:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.16.2020 00:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.16.2020 00:30	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.16.2020 00:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.16.2020 00:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.16.2020 00:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.16.2020 00:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.16.2020 00:30	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.16.2020 00:30	

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Sample Id:	**WW1**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-010	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:56	% Moisture:	
Seq Number:	3145024			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**32.3**	9.96	mg/kg	12.16.2020 00:05		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.15.2020 18:00	% Moisture:	
Seq Number:	3145072			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.16.2020 02:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.16.2020 02:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.16.2020 02:45	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.16.2020 02:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	12.16.2020 02:45	
o-Terphenyl	84-15-1	104	%	70-135	12.16.2020 02:45	

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Sample Id:	**WW1**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-010	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.16.2020 00:52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.16.2020 00:52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.16.2020 00:52	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.16.2020 00:52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.16.2020 00:52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.16.2020 00:52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.16.2020 00:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.16.2020 00:52	
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.16.2020 00:52	

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Sample Id: **WW2** Matrix: Soil Date Received:12.15.2020 15:00

Lab Sample Id: 681168-011 Date Collected: 12.15.2020 00:00 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: MAB

Analyst: MAB Date Prep: 12.15.2020 17:56 % Moisture:

Seq Number: 3145024 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**43.5**	9.98	mg/kg	12.16.2020 00:11		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: MAB

Analyst: CAC Date Prep: 12.15.2020 18:00 % Moisture:

Seq Number: 3145072 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.16.2020 03:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.16.2020 03:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.16.2020 03:25	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.16.2020 03:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	12.16.2020 03:25	
o-Terphenyl	84-15-1	102	%	70-135	12.16.2020 03:25	

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Sample Id:	**WW2**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-011	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.16.2020 02:12	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.16.2020 02:12	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.16.2020 02:12	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.16.2020 02:12	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.16.2020 02:12	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.16.2020 02:12	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.16.2020 02:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.16.2020 02:12	
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.16.2020 02:12	

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Certificate of Analytical Results 681168

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks PP

Sample Id: **WW3** Matrix: Soil Date Received:12.15.2020 15:00

Lab Sample Id: 681168-012 Date Collected: 12.15.2020 00:00 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Tech: MAB

Analyst: MAB Date Prep: 12.15.2020 17:56 % Moisture:

Seq Number: 3145024 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**78.0**	10.0	mg/kg	12.16.2020 00:17		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: MAB

Analyst: CAC Date Prep: 12.15.2020 18:00 % Moisture:

Seq Number: 3145072 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.16.2020 03:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.16.2020 03:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.16.2020 03:45	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.16.2020 03:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	12.16.2020 03:45	
o-Terphenyl	84-15-1	106	%	70-135	12.16.2020 03:45	

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Certificate of Analytical Results 681168

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks PP

Sample Id:	**WW3**	Matrix:	Soil	Date Received:	12.15.2020 15:00
Lab Sample Id:	681168-012	Date Collected:	12.15.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.15.2020 17:01	% Moisture:	
Seq Number:	3145017			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.16.2020 02:34	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.16.2020 02:34	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.16.2020 02:34	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.16.2020 02:34	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.16.2020 02:34	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.16.2020 02:34	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.16.2020 02:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	12.16.2020 02:34	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.16.2020 02:34	

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 681168

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Etech Environmental & Safety Solution, Inc

Tanks PP

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3145024 — Matrix: Solid — Date Prep: 12.15.2020
MB Sample Id: 7717183-1-BLK — LCS Sample Id: 7717183-1-BKS — LCSD Sample Id: 7717183-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	262	105	265	106	90-110	1	20	mg/kg	12.15.2020 21:29	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3145024 — Matrix: Soil — Date Prep: 12.15.2020
Parent Sample Id: 681163-001 — MS Sample Id: 681163-001 S — MSD Sample Id: 681163-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	14800	199	15000	101	15000	100	90-110	0	20	mg/kg	12.15.2020 21:47	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3145024 — Matrix: Soil — Date Prep: 12.15.2020
Parent Sample Id: 681168-004 — MS Sample Id: 681168-004 S — MSD Sample Id: 681168-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	67.3	200	280	106	283	107	90-110	1	20	mg/kg	12.15.2020 23:11	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145072 — Matrix: Solid — Date Prep: 12.15.2020
MB Sample Id: 7717214-1-BLK — LCS Sample Id: 7717214-1-BKS — LCSD Sample Id: 7717214-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	922	92	1010	101	70-135	9	35	mg/kg	12.15.2020 22:24	
Diesel Range Organics (DRO)	<50.0	1000	956	96	1050	105	70-135	9	35	mg/kg	12.15.2020 22:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		93		100		70-135	%	12.15.2020 22:24
o-Terphenyl	119		79		105		70-135	%	12.15.2020 22:24

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145072 — Matrix: Solid — Date Prep: 12.15.2020
MB Sample Id: 7717214-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.15.2020 22:03	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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QC Summary 681168

Etech Environmental & Safety Solution, Inc

Tanks PP

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3145072 Matrix: Soil Date Prep: 12.15.2020
Parent Sample Id: 681168-001 MS Sample Id: 681168-001 S MSD Sample Id: 681168-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	1140	114	1010	101	70-135	12	35	mg/kg	12.15.2020 23:24	
Diesel Range Organics (DRO)	<50.1	1000	1030	103	1020	102	70-135	1	35	mg/kg	12.15.2020 23:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		108		70-135	%	12.15.2020 23:24
o-Terphenyl	108		104		70-135	%	12.15.2020 23:24

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3145017 Matrix: Solid Date Prep: 12.15.2020
MB Sample Id: 7717185-1-BLK LCS Sample Id: 7717185-1-BKS LCSD Sample Id: 7717185-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.102	102	0.101	101	70-130	1	35	mg/kg	12.15.2020 19:26	
Toluene	<0.00200	0.100	0.0957	96	0.0951	95	70-130	1	35	mg/kg	12.15.2020 19:26	
Ethylbenzene	<0.00200	0.100	0.0999	100	0.100	100	71-129	0	35	mg/kg	12.15.2020 19:26	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.205	103	70-135	2	35	mg/kg	12.15.2020 19:26	
o-Xylene	<0.00200	0.100	0.103	103	0.102	102	71-133	1	35	mg/kg	12.15.2020 19:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		99		101		70-130	%	12.15.2020 19:26
4-Bromofluorobenzene	114		110		107		70-130	%	12.15.2020 19:26

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3145017 Matrix: Soil Date Prep: 12.15.2020
Parent Sample Id: 681168-001 MS Sample Id: 681168-001 S MSD Sample Id: 681168-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0884	89	0.0912	91	70-130	3	35	mg/kg	12.15.2020 20:11	
Toluene	<0.00199	0.0996	0.0866	87	0.0877	88	70-130	1	35	mg/kg	12.15.2020 20:11	
Ethylbenzene	<0.00199	0.0996	0.0896	90	0.0884	89	71-129	1	35	mg/kg	12.15.2020 20:11	
m,p-Xylenes	<0.00398	0.199	0.184	92	0.191	96	70-135	4	35	mg/kg	12.15.2020 20:11	
o-Xylene	<0.00199	0.0996	0.0912	92	0.0927	93	71-133	2	35	mg/kg	12.15.2020 20:11	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		99		70-130	%	12.15.2020 20:11
4-Bromofluorobenzene	109		111		70-130	%	12.15.2020 20:11

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Chain of Custody

XENCO

Work Order No: 68168

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

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Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	Etech Environmental & Safety	Company Name:	Goodnight Midstream
Address:	3100 Plains Highway	Address:	
City, State ZIP:	Lovington, NM, 88260	City, State ZIP:	
Phone:	575-396-2378	Email:	Email Results to PM@elechenv.com + Client

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level I ☐ Level II ☐ PST/US ☐ TRR ☐ Level III ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Tanks RP	Turn Around	
Project Number:	13553	Routine:	☒
Project Location	Rural Eddy County, NM	Rush:	☐
Sampler's Name:	Miguel Ramirez	Due Date:	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	4.8 | 4.6	Thermometer ID	TNM007	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes (No) N/A	Total Containers:	12	

Preservative Codes

HNO3: HN
H2S04: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	Chloride E300	BTEX 8021	TPH Modified Ext	TPH TX1005	Sample Comments
NW1	S	12.15.20		-	1	X	X	X		
NW2	S	12.15.20		-	1	X	X	X		
NW3	S	12.15.20		-	1	X	X	X		
EW1	S	12.15.20		-	1	X	X	X		
EW2	S	12.15.20		-	1	X	X	X		
EW3	S	12.15.20		-	1	X	X	X		
SW1	S	12.15.20		-	1	X	X	X		
SW2	S	12.15.20		-	1	X	X	X		
SW3	S	12.15.20		-	1	X	X	X		
WW1	S	12.15.20		✓	1	X	X	X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		12/14/20 15:00	2		
3			4		
5			6		

Revised Date 08141 9 Rev. 2019.1

Chain of Custody

XENCO

Work Order No 681168

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

Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	Etech Environmental & Safety	Company Name:	Goodnight
Address:	3100 Plains Highway	Address:	
City, State ZIP:	Lovington, NM, 88260	City, State ZIP:	
Phone:	575-396-2378	Email:	Email Results to PM@etechenv.com + Client

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Tanks RP	Turn Around	
Project Number:	13553	Routine:	☒
Project Location	Rural Eddy county, NM	Rush:	☐
Sampler's Name:	Miguel Ramirez	Due Date:	
PO #:			

SAMPLE RECEIPT				
Temperature (°C):		Temp Blank:	Yes No	Wet Ice: Yes No
Received Intact:	Yes No	Thermometer ID		
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Total Containers:		

ANALYSIS REQUEST

Preservative Codes

HNO3: HN
H2SO4: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	Chloride E300	BTEX 8021	TPH ModHed Ext	TPH TX1005	Sample Comments
WW2	S	12.15.20		-	1	X	X	X		
WW3	S	12.15.20		-	1	X	X	X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			12/15/20 15:00	2		
3				4		
5				6		

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Certificate of Analysis Summary 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP

Project Id: 13553
Contact: PM
Project Location: Rural Eddy County, New Mexico

Date Received in Lab: Wed 12.16.2020 15:27
Report Date: 12.21.2020 08:40
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	681428-001		681428-002		681428-003		681428-004		681428-005		681428-006	
	Field Id:	SP7 @ 1'		SP8 @ 4"		SP9 @ 4"		SP10 @ 4"		SP11 @ 4"		SP12 @ 4"	
	Depth:	1- ft		4- in		4- in		4- in		4- in		4- in	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.16.2020 00:00		12.16.2020 00:00		12.16.2020 00:00		12.16.2020 00:00		12.16.2020 00:00		12.16.2020 00:00	
BTEX by EPA 8021B	***Extracted:***	12.17.2020 17:28		12.17.2020 17:28		12.17.2020 17:28		12.17.2020 17:28		12.17.2020 17:28		12.17.2020 17:28	
	Analyzed:	12.18.2020 11:23		12.18.2020 11:46		12.18.2020 13:48		12.18.2020 14:11		12.18.2020 14:33		12.18.2020 14:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0200	0.0200	<0.0192	0.0192	<0.0192	0.0192	<0.0192	0.0192	<0.0189	0.0189	<0.0196	0.0196
Toluene		<0.0200	0.0200	<0.0192	0.0192	<0.0192	0.0192	<0.0192	0.0192	<0.0189	0.0189	<0.0196	0.0196
Ethylbenzene		<0.0200	0.0200	<0.0192	0.0192	<0.0192	0.0192	<0.0192	0.0192	<0.0189	0.0189	<0.0196	0.0196
m,p-Xylenes		<0.0400	0.0400	<0.0385	0.0385	<0.0385	0.0385	<0.0385	0.0385	<0.0377	0.0377	<0.0392	0.0392
o-Xylene		<0.0200	0.0200	<0.0192	0.0192	<0.0192	0.0192	<0.0192	0.0192	<0.0189	0.0189	<0.0196	0.0196
Total Xylenes		<0.0200	0.0200	<0.0192	0.0192	<0.0192	0.0192	<0.0192	0.0192	<0.0189	0.0189	<0.0196	0.0196
Total BTEX		<0.0200	0.0200	<0.0192	0.0192	<0.0192	0.0192	<0.0192	0.0192	<0.0189	0.0189	<0.0196	0.0196
Chloride by EPA 300	***Extracted:***	12.17.2020 13:08		12.17.2020 13:08		12.17.2020 13:08		12.17.2020 13:08		12.17.2020 13:08		12.17.2020 13:08	
	Analyzed:	12.17.2020 16:04		12.17.2020 16:21		12.17.2020 16:26		12.17.2020 16:32		12.17.2020 16:38		12.17.2020 16:55	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		20200	202	16300	200	14700	200	13900	199	10900	198	8620	199
TPH By SW8015 Mod	***Extracted:***	12.17.2020 17:00		12.17.2020 17:00		12.17.2020 17:00		12.17.2020 17:00		12.17.2020 17:00		12.17.2020 17:00	
	Analyzed:	12.17.2020 20:19		12.17.2020 20:39		12.17.2020 21:00		12.17.2020 21:20		12.17.2020 21:40		12.17.2020 22:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.1	50.1	<50.1	50.1	<49.8	49.8	<49.9	49.9	<49.9	49.9
Diesel Range Organics (DRO)		<50.1	50.1	<50.1	50.1	<50.1	50.1	<49.8	49.8	<49.9	49.9	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.1	50.1	<50.1	50.1	<49.8	49.8	<49.9	49.9	<49.9	49.9
Total TPH		<50.1	50.1	<50.1	50.1	<50.1	50.1	<49.8	49.8	<49.9	49.9	<49.9	49.9

BRL - Below Reporting Limit

Jessica Kramer

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

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Certificate of Analysis Summary 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP

Project Id: 13553
Contact: PM
Project Location: Rural Eddy County, New Mexico

Date Received in Lab: Wed 12.16.2020 15:27
Report Date: 12.21.2020 08:40
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	681428-007		681428-008		681428-009		681428-010		681428-011		681428-012	
	Field Id:	SP13 @ 4"		SP14 @ 4"		SP15 @ 4"		SP16 @ 4"		SP17 @ 4"		SP18 @ 4"	
	Depth:	4- in		4- in		4- in		4- in		4- in		4- in	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.16.2020 00:00		12.16.2020 00:00		12.16.2020 00:00		12.16.2020 00:00		12.16.2020 00:00		12.16.2020 00:00	
BTEX by EPA 8021B	Extracted:	12.17.2020 17:28		12.17.2020 17:28		12.17.2020 17:28		12.17.2020 17:28		12.17.2020 17:28		12.17.2020 17:28	
	Analyzed:	12.18.2020 15:18		12.18.2020 16:16		12.18.2020 16:39		12.18.2020 18:02		12.18.2020 18:30		12.18.2020 18:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0204	0.0204	<0.0192	0.0192	<0.0182	0.0182	<0.0196	0.0196	<0.0192	0.0192	<0.0182	0.0182
Toluene		<0.0204	0.0204	<0.0192	0.0192	<0.0182	0.0182	<0.0196	0.0196	<0.0192	0.0192	<0.0182	0.0182
Ethylbenzene		<0.0204	0.0204	<0.0192	0.0192	<0.0182	0.0182	<0.0196	0.0196	<0.0192	0.0192	<0.0182	0.0182
m,p-Xylenes		<0.0408	0.0408	<0.0385	0.0385	<0.0364	0.0364	<0.0392	0.0392	<0.0385	0.0385	<0.0364	0.0364
o-Xylene		<0.0204	0.0204	<0.0192	0.0192	<0.0182	0.0182	<0.0196	0.0196	<0.0192	0.0192	<0.0182	0.0182
Total Xylenes		<0.0204	0.0204	<0.0192	0.0192	<0.0182	0.0182	<0.0196	0.0196	<0.0192	0.0192	<0.0182	0.0182
Total BTEX		<0.0204	0.0204	<0.0192	0.0192	<0.0182	0.0182	<0.0196	0.0196	<0.0192	0.0192	<0.0182	0.0182
Chloride by EPA 300	Extracted:	12.17.2020 13:08		12.17.2020 13:08		12.17.2020 13:08		12.17.2020 13:08		12.17.2020 13:08		12.17.2020 13:08	
	Analyzed:	12.17.2020 17:00		12.17.2020 17:06		12.17.2020 17:11		12.17.2020 17:17		12.17.2020 17:23		12.17.2020 17:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		8440	200	9990	200	12200	198	12200	198	14800	198	14700	199
TPH By SW8015 Mod	Extracted:	12.17.2020 17:00		12.17.2020 17:00		12.17.2020 17:00		12.17.2020 17:00		12.17.2020 17:00		12.17.2020 17:00	
	Analyzed:	12.17.2020 22:21		12.17.2020 22:41		12.17.2020 23:02		12.17.2020 23:43		12.18.2020 00:03		12.18.2020 00:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0	<50.1	50.1	<50.0	50.0	<49.9	49.9	<50.3	50.3
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	<50.1	50.1	<50.0	50.0	<49.9	49.9	<50.3	50.3
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<50.1	50.1	<50.0	50.0	<49.9	49.9	<50.3	50.3
Total TPH		<50.0	50.0	<50.0	50.0	<50.1	50.1	<50.0	50.0	<49.9	49.9	<50.3	50.3

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Jessica Kramer

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Certificate of Analysis Summary 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP

Project Id: 13553
Contact: PM
Project Location: Rural Eddy County, New Mexico

Date Received in Lab: Wed 12.16.2020 15:27
Report Date: 12.21.2020 08:40
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	681428-013		681428-014		681428-015		681428-016		681428-017		681428-018	
	Field Id:	SP19 @ 4"		SP20 @ 4"		SP21 @ 4"		SP22 @ 4"		SP23 @ 6"		SP24 @ 6"	
	Depth:	4- in		4- in		4- in		4- in		6- in		6- in	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.16.2020 00:00		12.16.2020 00:00		12.16.2020 00:00		12.16.2020 00:00		12.16.2020 00:00		12.16.2020 00:00	
BTEX by EPA 8021B	***Extracted:***	12.17.2020 17:28		12.17.2020 17:28		12.17.2020 17:28		12.17.2020 17:28		12.17.2020 17:28		12.17.2020 17:28	
	Analyzed:	12.18.2020 19:15		12.18.2020 19:37		12.18.2020 19:59		12.18.2020 20:22		12.18.2020 20:44		12.18.2020 21:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0189	0.0189	<0.0189	0.0189	<0.0185	0.0185	<0.0192	0.0192	<0.0204	0.0204	<0.0200	0.0200
Toluene		<0.0189	0.0189	<0.0189	0.0189	<0.0185	0.0185	<0.0192	0.0192	<0.0204	0.0204	<0.0200	0.0200
Ethylbenzene		<0.0189	0.0189	<0.0189	0.0189	<0.0185	0.0185	<0.0192	0.0192	<0.0204	0.0204	<0.0200	0.0200
m,p-Xylenes		<0.0377	0.0377	<0.0377	0.0377	<0.0370	0.0370	<0.0385	0.0385	<0.0408	0.0408	<0.0400	0.0400
o-Xylene		<0.0189	0.0189	<0.0189	0.0189	<0.0185	0.0185	<0.0192	0.0192	<0.0204	0.0204	<0.0200	0.0200
Total Xylenes		<0.0189	0.0189	<0.0189	0.0189	<0.0185	0.0185	<0.0192	0.0192	<0.0204	0.0204	<0.0200	0.0200
Total BTEX		<0.0189	0.0189	<0.0189	0.0189	<0.0185	0.0185	<0.0192	0.0192	<0.0204	0.0204	<0.0200	0.0200
Chloride by EPA 300	***Extracted:***	12.17.2020 13:08		12.17.2020 13:08		12.17.2020 13:08		12.17.2020 13:08		12.17.2020 13:08		12.17.2020 13:08	
	Analyzed:	12.17.2020 17:45		12.17.2020 18:02		12.17.2020 18:08		12.17.2020 18:13		12.17.2020 18:19		12.17.2020 18:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		14500	199	14600	198	15000	199	13900	199	14700	200	14400	200
TPH By SW8015 Mod	***Extracted:***	12.17.2020 17:00		12.17.2020 17:00		12.17.2020 17:00		12.17.2020 17:00		12.17.2020 17:00		12.17.2020 17:00	
	Analyzed:	12.18.2020 00:43		12.18.2020 01:03		12.18.2020 01:23		12.18.2020 01:44		12.18.2020 02:04		12.18.2020 02:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.1	50.1	<50.0	50.0	<50.2	50.2	<50.0	50.0	<49.9	49.9
Diesel Range Organics (DRO)		<49.8	49.8	<50.1	50.1	<50.0	50.0	<50.2	50.2	<50.0	50.0	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.1	50.1	<50.0	50.0	<50.2	50.2	<50.0	50.0	<49.9	49.9
Total TPH		<49.8	49.8	<50.1	50.1	<50.0	50.0	<50.2	50.2	<50.0	50.0	<49.9	49.9

BRL - Below Reporting Limit

Jessica Kramer

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Certificate of Analysis Summary 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP

Project Id: 13553
Contact: PM
Project Location: Rural Eddy County, New Mexico

Date Received in Lab: Wed 12.16.2020 15:27
Report Date: 12.21.2020 08:40
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	681428-019					
	Field Id:	SP25 @ 1'					
	Depth:	1- ft					
	Matrix:	SOIL					
	Sampled:	12.16.2020 00:00					
BTEX by EPA 8021B	***Extracted:***	12.17.2020 17:28					
	Analyzed:	12.18.2020 21:29					
	Units/RL:	mg/kg	RL				
Benzene		<0.0200	0.0200				
Toluene		<0.0200	0.0200				
Ethylbenzene		<0.0200	0.0200				
m,p-Xylenes		<0.0400	0.0400				
o-Xylene		<0.0200	0.0200				
Total Xylenes		<0.0200	0.0200				
Total BTEX		<0.0200	0.0200				
Chloride by EPA 300	***Extracted:***	12.17.2020 13:08					
	Analyzed:	12.17.2020 18:30					
	Units/RL:	mg/kg	RL				
Chloride		9380	199				
TPH By SW8015 Mod	***Extracted:***	12.17.2020 17:00					
	Analyzed:	12.18.2020 02:45					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9				
Diesel Range Organics (DRO)		<49.9	49.9				
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9				
Total TPH		<49.9	49.9				

BRL - Below Reporting Limit

Jessica Kramer

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Analytical Report 681428

for

Etech Environmental & Safety Solution, Inc

Project Manager: PM

Tanks RP

13553

12.21.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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12.21.2020

Project Manager: **PM**
Etech Environmental & Safety Solution, Inc
P.O. Box 62228
Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **681428**
Tanks RP
Project Address: Rural Eddy County, New Mexico

PM :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 681428. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 681428 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP7 @ 1'	S	12.16.2020 00:00	1 ft	681428-001
SP8 @ 4"	S	12.16.2020 00:00	4 in	681428-002
SP9 @ 4"	S	12.16.2020 00:00	4 in	681428-003
SP10 @ 4"	S	12.16.2020 00:00	4 in	681428-004
SP11 @ 4"	S	12.16.2020 00:00	4 in	681428-005
SP12 @ 4"	S	12.16.2020 00:00	4 in	681428-006
SP13 @ 4"	S	12.16.2020 00:00	4 in	681428-007
SP14 @ 4"	S	12.16.2020 00:00	4 in	681428-008
SP15 @ 4"	S	12.16.2020 00:00	4 in	681428-009
SP16 @ 4"	S	12.16.2020 00:00	4 in	681428-010
SP17 @ 4"	S	12.16.2020 00:00	4 in	681428-011
SP18 @ 4"	S	12.16.2020 00:00	4 in	681428-012
SP19 @ 4"	S	12.16.2020 00:00	4 in	681428-013
SP20 @ 4"	S	12.16.2020 00:00	4 in	681428-014
SP21 @ 4"	S	12.16.2020 00:00	4 in	681428-015
SP22 @ 4"	S	12.16.2020 00:00	4 in	681428-016
SP23 @ 6"	S	12.16.2020 00:00	6 in	681428-017
SP24 @ 6"	S	12.16.2020 00:00	6 in	681428-018
SP25 @ 1'	S	12.16.2020 00:00	1 ft	681428-019

CASE NARRATIVE

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Client Name: Etech Environmental & Safety Solution, Inc

Project Name: Tanks RP

Project ID: *13553*
Work Order Number(s): *681428*

Report Date: *12.21.2020*
Date Received: *12.16.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP7 @ 1'**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-001	Date Collected:	12.16.2020 00:00	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20200**	202	mg/kg	12.17.2020 16:04		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.17.2020 20:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.17.2020 20:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.17.2020 20:19	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.17.2020 20:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.17.2020 20:19	
o-Terphenyl	84-15-1	107	%	70-135	12.17.2020 20:19	

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Certificate of Analytical Results 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP7 @ 1'**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-001	Date Collected:	12.16.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	12.18.2020 11:23	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	12.18.2020 11:23	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	12.18.2020 11:23	U	1
m,p-Xylenes	179601-23-1	<0.0400	0.0400	mg/kg	12.18.2020 11:23	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	12.18.2020 11:23	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	12.18.2020 11:23	U	1
Total BTEX		<0.0200	0.0200	mg/kg	12.18.2020 11:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.18.2020 11:23	
4-Bromofluorobenzene	460-00-4	127	%	70-130	12.18.2020 11:23	

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Certificate of Analytical Results 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP8 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-002	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16300**	200	mg/kg	12.17.2020 16:21		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.17.2020 20:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.17.2020 20:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.17.2020 20:39	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.17.2020 20:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	132	%	70-135	12.17.2020 20:39	
o-Terphenyl	84-15-1	99	%	70-135	12.17.2020 20:39	

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Certificate of Analytical Results 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP8 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-002	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0192	0.0192	mg/kg	12.18.2020 11:46	U	1
Toluene	108-88-3	<0.0192	0.0192	mg/kg	12.18.2020 11:46	U	1
Ethylbenzene	100-41-4	<0.0192	0.0192	mg/kg	12.18.2020 11:46	U	1
m,p-Xylenes	179601-23-1	<0.0385	0.0385	mg/kg	12.18.2020 11:46	U	1
o-Xylene	95-47-6	<0.0192	0.0192	mg/kg	12.18.2020 11:46	U	1
Total Xylenes	1330-20-7	<0.0192	0.0192	mg/kg	12.18.2020 11:46	U	1
Total BTEX		<0.0192	0.0192	mg/kg	12.18.2020 11:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.18.2020 11:46	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.18.2020 11:46	

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Sample Id:	**SP9 @ 4''**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-003	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14700**	200	mg/kg	12.17.2020 16:26		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.17.2020 21:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.17.2020 21:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.17.2020 21:00	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.17.2020 21:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.17.2020 21:00	
o-Terphenyl	84-15-1	105	%	70-135	12.17.2020 21:00	

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Tanks RP

Sample Id:	**SP9 @ 4''**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-003	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0192	0.0192	mg/kg	12.18.2020 13:48	U	1
Toluene	108-88-3	<0.0192	0.0192	mg/kg	12.18.2020 13:48	U	1
Ethylbenzene	100-41-4	<0.0192	0.0192	mg/kg	12.18.2020 13:48	U	1
m,p-Xylenes	179601-23-1	<0.0385	0.0385	mg/kg	12.18.2020 13:48	U	1
o-Xylene	95-47-6	<0.0192	0.0192	mg/kg	12.18.2020 13:48	U	1
Total Xylenes	1330-20-7	<0.0192	0.0192	mg/kg	12.18.2020 13:48	U	1
Total BTEX		<0.0192	0.0192	mg/kg	12.18.2020 13:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	70-130	12.18.2020 13:48	
1,4-Difluorobenzene	540-36-3	92	%	70-130	12.18.2020 13:48	

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Tanks RP

Sample Id:	**SP10 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-004	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13900**	199	mg/kg	12.17.2020 16:32		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.17.2020 21:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.17.2020 21:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.17.2020 21:20	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.17.2020 21:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.17.2020 21:20	
o-Terphenyl	84-15-1	114	%	70-135	12.17.2020 21:20	

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Tanks RP

Sample Id:	**SP10 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-004	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0192	0.0192	mg/kg	12.18.2020 14:11	U	1
Toluene	108-88-3	<0.0192	0.0192	mg/kg	12.18.2020 14:11	U	1
Ethylbenzene	100-41-4	<0.0192	0.0192	mg/kg	12.18.2020 14:11	U	1
m,p-Xylenes	179601-23-1	<0.0385	0.0385	mg/kg	12.18.2020 14:11	U	1
o-Xylene	95-47-6	<0.0192	0.0192	mg/kg	12.18.2020 14:11	U	1
Total Xylenes	1330-20-7	<0.0192	0.0192	mg/kg	12.18.2020 14:11	U	1
Total BTEX		<0.0192	0.0192	mg/kg	12.18.2020 14:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	70-130	12.18.2020 14:11	
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.18.2020 14:11	

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Sample Id:	**SP11 @ 4''**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-005	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10900**	198	mg/kg	12.17.2020 16:38		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.17.2020 21:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.17.2020 21:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.17.2020 21:40	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.17.2020 21:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.17.2020 21:40	
o-Terphenyl	84-15-1	119	%	70-135	12.17.2020 21:40	

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Sample Id:	**SP11 @ 4''**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-005	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0189	0.0189	mg/kg	12.18.2020 14:33	U	1
Toluene	108-88-3	<0.0189	0.0189	mg/kg	12.18.2020 14:33	U	1
Ethylbenzene	100-41-4	<0.0189	0.0189	mg/kg	12.18.2020 14:33	U	1
m,p-Xylenes	179601-23-1	<0.0377	0.0377	mg/kg	12.18.2020 14:33	U	1
o-Xylene	95-47-6	<0.0189	0.0189	mg/kg	12.18.2020 14:33	U	1
Total Xylenes	1330-20-7	<0.0189	0.0189	mg/kg	12.18.2020 14:33	U	1
Total BTEX		<0.0189	0.0189	mg/kg	12.18.2020 14:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.18.2020 14:33	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.18.2020 14:33	

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Sample Id:	**SP12 @ 4''**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-006	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8620**	199	mg/kg	12.17.2020 16:55		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.17.2020 22:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.17.2020 22:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.17.2020 22:00	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.17.2020 22:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	12.17.2020 22:00	
o-Terphenyl	84-15-1	107	%	70-135	12.17.2020 22:00	

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Tanks RP

Sample Id:	**SP12 @ 4''**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-006	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	12.18.2020 14:56	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	12.18.2020 14:56	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	12.18.2020 14:56	U	1
m,p-Xylenes	179601-23-1	<0.0392	0.0392	mg/kg	12.18.2020 14:56	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	12.18.2020 14:56	U	1
Total Xylenes	1330-20-7	<0.0196	0.0196	mg/kg	12.18.2020 14:56	U	1
Total BTEX		<0.0196	0.0196	mg/kg	12.18.2020 14:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.18.2020 14:56	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.18.2020 14:56	

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Sample Id:	**SP13 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-007	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8440**	200	mg/kg	12.17.2020 17:00		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.17.2020 22:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.17.2020 22:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.17.2020 22:21	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.17.2020 22:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.17.2020 22:21	
o-Terphenyl	84-15-1	115	%	70-135	12.17.2020 22:21	

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Tanks RP

Sample Id:	**SP13 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-007	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0204	0.0204	mg/kg	12.18.2020 15:18	U	1
Toluene	108-88-3	<0.0204	0.0204	mg/kg	12.18.2020 15:18	U	1
Ethylbenzene	100-41-4	<0.0204	0.0204	mg/kg	12.18.2020 15:18	U	1
m,p-Xylenes	179601-23-1	<0.0408	0.0408	mg/kg	12.18.2020 15:18	U	1
o-Xylene	95-47-6	<0.0204	0.0204	mg/kg	12.18.2020 15:18	U	1
Total Xylenes	1330-20-7	<0.0204	0.0204	mg/kg	12.18.2020 15:18	U	1
Total BTEX		<0.0204	0.0204	mg/kg	12.18.2020 15:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.18.2020 15:18	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.18.2020 15:18	

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Tanks RP

Sample Id:	**SP14 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-008	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9990**	200	mg/kg	12.17.2020 17:06		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.17.2020 22:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.17.2020 22:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.17.2020 22:41	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.17.2020 22:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.17.2020 22:41	
o-Terphenyl	84-15-1	106	%	70-135	12.17.2020 22:41	

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Tanks RP

Sample Id:	**SP14 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-008	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0192	0.0192	mg/kg	12.18.2020 16:16	U	1
Toluene	108-88-3	<0.0192	0.0192	mg/kg	12.18.2020 16:16	U	1
Ethylbenzene	100-41-4	<0.0192	0.0192	mg/kg	12.18.2020 16:16	U	1
m,p-Xylenes	179601-23-1	<0.0385	0.0385	mg/kg	12.18.2020 16:16	U	1
o-Xylene	95-47-6	<0.0192	0.0192	mg/kg	12.18.2020 16:16	U	1
Total Xylenes	1330-20-7	<0.0192	0.0192	mg/kg	12.18.2020 16:16	U	1
Total BTEX		<0.0192	0.0192	mg/kg	12.18.2020 16:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.18.2020 16:16	
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.18.2020 16:16	

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Tanks RP

Sample Id:	**SP15 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-009	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12200**	198	mg/kg	12.17.2020 17:11		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.17.2020 23:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.17.2020 23:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.17.2020 23:02	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.17.2020 23:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.17.2020 23:02	
o-Terphenyl	84-15-1	90	%	70-135	12.17.2020 23:02	

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Tanks RP

Sample Id:	**SP15 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-009	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0182	0.0182	mg/kg	12.18.2020 16:39	U	1
Toluene	108-88-3	<0.0182	0.0182	mg/kg	12.18.2020 16:39	U	1
Ethylbenzene	100-41-4	<0.0182	0.0182	mg/kg	12.18.2020 16:39	U	1
m,p-Xylenes	179601-23-1	<0.0364	0.0364	mg/kg	12.18.2020 16:39	U	1
o-Xylene	95-47-6	<0.0182	0.0182	mg/kg	12.18.2020 16:39	U	1
Total Xylenes	1330-20-7	<0.0182	0.0182	mg/kg	12.18.2020 16:39	U	1
Total BTEX		<0.0182	0.0182	mg/kg	12.18.2020 16:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.18.2020 16:39	
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.18.2020 16:39	

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Tanks RP

Sample Id:	**SP16 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-010	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12200**	198	mg/kg	12.17.2020 17:17		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.17.2020 23:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.17.2020 23:43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.17.2020 23:43	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.17.2020 23:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	12.17.2020 23:43	
o-Terphenyl	84-15-1	107	%	70-135	12.17.2020 23:43	

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Tanks RP

Sample Id:	**SP16 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-010	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	12.18.2020 18:02	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	12.18.2020 18:02	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	12.18.2020 18:02	U	1
m,p-Xylenes	179601-23-1	<0.0392	0.0392	mg/kg	12.18.2020 18:02	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	12.18.2020 18:02	U	1
Total Xylenes	1330-20-7	<0.0196	0.0196	mg/kg	12.18.2020 18:02	U	1
Total BTEX		<0.0196	0.0196	mg/kg	12.18.2020 18:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	70-130	12.18.2020 18:02	
1,4-Difluorobenzene	540-36-3	94	%	70-130	12.18.2020 18:02	

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Tanks RP

Sample Id:	**SP17 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-011	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14800**	198	mg/kg	12.17.2020 17:23		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.18.2020 00:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.18.2020 00:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.18.2020 00:03	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.18.2020 00:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	12.18.2020 00:03	
o-Terphenyl	84-15-1	114	%	70-135	12.18.2020 00:03	

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Tanks RP

Sample Id:	**SP17 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-011	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0192	0.0192	mg/kg	12.18.2020 18:30	U	1
Toluene	108-88-3	<0.0192	0.0192	mg/kg	12.18.2020 18:30	U	1
Ethylbenzene	100-41-4	<0.0192	0.0192	mg/kg	12.18.2020 18:30	U	1
m,p-Xylenes	179601-23-1	<0.0385	0.0385	mg/kg	12.18.2020 18:30	U	1
o-Xylene	95-47-6	<0.0192	0.0192	mg/kg	12.18.2020 18:30	U	1
Total Xylenes	1330-20-7	<0.0192	0.0192	mg/kg	12.18.2020 18:30	U	1
Total BTEX		<0.0192	0.0192	mg/kg	12.18.2020 18:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.18.2020 18:30	
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.18.2020 18:30	

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Tanks RP

Sample Id:	**SP18 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-012	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14700**	199	mg/kg	12.17.2020 17:39		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.18.2020 00:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.18.2020 00:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.18.2020 00:23	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.18.2020 00:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	12.18.2020 00:23	
o-Terphenyl	84-15-1	104	%	70-135	12.18.2020 00:23	

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Tanks RP

Sample Id:	**SP18 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-012	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0182	0.0182	mg/kg	12.18.2020 18:52	U	1
Toluene	108-88-3	<0.0182	0.0182	mg/kg	12.18.2020 18:52	U	1
Ethylbenzene	100-41-4	<0.0182	0.0182	mg/kg	12.18.2020 18:52	U	1
m,p-Xylenes	179601-23-1	<0.0364	0.0364	mg/kg	12.18.2020 18:52	U	1
o-Xylene	95-47-6	<0.0182	0.0182	mg/kg	12.18.2020 18:52	U	1
Total Xylenes	1330-20-7	<0.0182	0.0182	mg/kg	12.18.2020 18:52	U	1
Total BTEX		<0.0182	0.0182	mg/kg	12.18.2020 18:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	70-130	12.18.2020 18:52	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.18.2020 18:52	

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Sample Id:	**SP19 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-013	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14500**	199	mg/kg	12.17.2020 17:45		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.18.2020 00:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.18.2020 00:43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.18.2020 00:43	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.18.2020 00:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.18.2020 00:43	
o-Terphenyl	84-15-1	111	%	70-135	12.18.2020 00:43	

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Tanks RP

Sample Id:	**SP19 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-013	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0189	0.0189	mg/kg	12.18.2020 19:15	U	1
Toluene	108-88-3	<0.0189	0.0189	mg/kg	12.18.2020 19:15	U	1
Ethylbenzene	100-41-4	<0.0189	0.0189	mg/kg	12.18.2020 19:15	U	1
m,p-Xylenes	179601-23-1	<0.0377	0.0377	mg/kg	12.18.2020 19:15	U	1
o-Xylene	95-47-6	<0.0189	0.0189	mg/kg	12.18.2020 19:15	U	1
Total Xylenes	1330-20-7	<0.0189	0.0189	mg/kg	12.18.2020 19:15	U	1
Total BTEX		<0.0189	0.0189	mg/kg	12.18.2020 19:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.18.2020 19:15	
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.18.2020 19:15	

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Tanks RP

Sample Id:	**SP20 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-014	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14600**	198	mg/kg	12.17.2020 18:02		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.18.2020 01:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.18.2020 01:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.18.2020 01:03	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.18.2020 01:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	128	%	70-135	12.18.2020 01:03	
o-Terphenyl	84-15-1	108	%	70-135	12.18.2020 01:03	

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Tanks RP

Sample Id:	**SP20 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-014	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0189	0.0189	mg/kg	12.18.2020 19:37	U	1
Toluene	108-88-3	<0.0189	0.0189	mg/kg	12.18.2020 19:37	U	1
Ethylbenzene	100-41-4	<0.0189	0.0189	mg/kg	12.18.2020 19:37	U	1
m,p-Xylenes	179601-23-1	<0.0377	0.0377	mg/kg	12.18.2020 19:37	U	1
o-Xylene	95-47-6	<0.0189	0.0189	mg/kg	12.18.2020 19:37	U	1
Total Xylenes	1330-20-7	<0.0189	0.0189	mg/kg	12.18.2020 19:37	U	1
Total BTEX		<0.0189	0.0189	mg/kg	12.18.2020 19:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.18.2020 19:37	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.18.2020 19:37	

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Tanks RP

Sample Id:	**SP21 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-015	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15000**	199	mg/kg	12.17.2020 18:08		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.18.2020 01:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.18.2020 01:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.18.2020 01:23	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.18.2020 01:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.18.2020 01:23	
o-Terphenyl	84-15-1	119	%	70-135	12.18.2020 01:23	

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Tanks RP

Sample Id:	**SP21 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-015	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0185	0.0185	mg/kg	12.18.2020 19:59	U	1
Toluene	108-88-3	<0.0185	0.0185	mg/kg	12.18.2020 19:59	U	1
Ethylbenzene	100-41-4	<0.0185	0.0185	mg/kg	12.18.2020 19:59	U	1
m,p-Xylenes	179601-23-1	<0.0370	0.0370	mg/kg	12.18.2020 19:59	U	1
o-Xylene	95-47-6	<0.0185	0.0185	mg/kg	12.18.2020 19:59	U	1
Total Xylenes	1330-20-7	<0.0185	0.0185	mg/kg	12.18.2020 19:59	U	1
Total BTEX		<0.0185	0.0185	mg/kg	12.18.2020 19:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.18.2020 19:59	
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.18.2020 19:59	

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Tanks RP

Sample Id:	**SP22 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-016	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13900**	199	mg/kg	12.17.2020 18:13		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.18.2020 01:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.18.2020 01:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.18.2020 01:44	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.18.2020 01:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	12.18.2020 01:44	
o-Terphenyl	84-15-1	106	%	70-135	12.18.2020 01:44	

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Tanks RP

Sample Id:	**SP22 @ 4"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-016	Date Collected:	12.16.2020 00:00	Sample Depth:	4 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0192	0.0192	mg/kg	12.18.2020 20:22	U	1
Toluene	108-88-3	<0.0192	0.0192	mg/kg	12.18.2020 20:22	U	1
Ethylbenzene	100-41-4	<0.0192	0.0192	mg/kg	12.18.2020 20:22	U	1
m,p-Xylenes	179601-23-1	<0.0385	0.0385	mg/kg	12.18.2020 20:22	U	1
o-Xylene	95-47-6	<0.0192	0.0192	mg/kg	12.18.2020 20:22	U	1
Total Xylenes	1330-20-7	<0.0192	0.0192	mg/kg	12.18.2020 20:22	U	1
Total BTEX		<0.0192	0.0192	mg/kg	12.18.2020 20:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.18.2020 20:22	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.18.2020 20:22	

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Certificate of Analytical Results 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP23 @ 6"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-017	Date Collected:	12.16.2020 00:00	Sample Depth:	6 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14700**	200	mg/kg	12.17.2020 18:19		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.18.2020 02:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.18.2020 02:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.18.2020 02:04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.18.2020 02:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	12.18.2020 02:04	
o-Terphenyl	84-15-1	96	%	70-135	12.18.2020 02:04	

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Certificate of Analytical Results 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP23 @ 6"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-017	Date Collected:	12.16.2020 00:00	Sample Depth:	6 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0204	0.0204	mg/kg	12.18.2020 20:44	U	1
Toluene	108-88-3	<0.0204	0.0204	mg/kg	12.18.2020 20:44	U	1
Ethylbenzene	100-41-4	<0.0204	0.0204	mg/kg	12.18.2020 20:44	U	1
m,p-Xylenes	179601-23-1	<0.0408	0.0408	mg/kg	12.18.2020 20:44	U	1
o-Xylene	95-47-6	<0.0204	0.0204	mg/kg	12.18.2020 20:44	U	1
Total Xylenes	1330-20-7	<0.0204	0.0204	mg/kg	12.18.2020 20:44	U	1
Total BTEX		<0.0204	0.0204	mg/kg	12.18.2020 20:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.18.2020 20:44	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.18.2020 20:44	

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Certificate of Analytical Results 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP24 @ 6"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-018	Date Collected:	12.16.2020 00:00	Sample Depth:	6 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14400**	200	mg/kg	12.17.2020 18:24		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.18.2020 02:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.18.2020 02:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.18.2020 02:24	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.18.2020 02:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.18.2020 02:24	
o-Terphenyl	84-15-1	113	%	70-135	12.18.2020 02:24	

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Certificate of Analytical Results 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP24 @ 6"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-018	Date Collected:	12.16.2020 00:00	Sample Depth:	6 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	12.18.2020 21:07	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	12.18.2020 21:07	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	12.18.2020 21:07	U	1
m,p-Xylenes	179601-23-1	<0.0400	0.0400	mg/kg	12.18.2020 21:07	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	12.18.2020 21:07	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	12.18.2020 21:07	U	1
Total BTEX		<0.0200	0.0200	mg/kg	12.18.2020 21:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.18.2020 21:07	
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.18.2020 21:07	

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Certificate of Analytical Results 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP25 @ 1"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-019	Date Collected:	12.16.2020 00:00	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 13:08	% Moisture:	
Seq Number:	3145336			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9380**	199	mg/kg	12.17.2020 18:30		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:00	% Moisture:	
Seq Number:	3145330			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.18.2020 02:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.18.2020 02:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.18.2020 02:45	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.18.2020 02:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	12.18.2020 02:45	
o-Terphenyl	84-15-1	108	%	70-135	12.18.2020 02:45	

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Certificate of Analytical Results 681428

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**SP25 @ 1"**	Matrix:	Soil	Date Received:	12.16.2020 15:27
Lab Sample Id:	681428-019	Date Collected:	12.16.2020 00:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:28	% Moisture:	
Seq Number:	3145456			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	12.18.2020 21:29	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	12.18.2020 21:29	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	12.18.2020 21:29	U	1
m,p-Xylenes	179601-23-1	<0.0400	0.0400	mg/kg	12.18.2020 21:29	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	12.18.2020 21:29	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	12.18.2020 21:29	U	1
Total BTEX		<0.0200	0.0200	mg/kg	12.18.2020 21:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.18.2020 21:29	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.18.2020 21:29	

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

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QC Summary 681428

Etech Environmental & Safety Solution, Inc

Tanks RP

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145336 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717424-1-BLK — LCS Sample Id: 7717424-1-BKS — LCSD Sample Id: 7717424-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	255	102	257	103	90-110	1	20	mg/kg	12.17.2020 15:52	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145336 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681428-001 — MS Sample Id: 681428-001 S — MSD Sample Id: 681428-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	20200	199	20400	101	20400	101	90-110	0	20	mg/kg	12.17.2020 16:09	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145336 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681428-011 — MS Sample Id: 681428-011 S — MSD Sample Id: 681428-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	14800	200	15000	100	15000	101	90-110	0	20	mg/kg	12.17.2020 17:28	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145330 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717421-1-BLK — LCS Sample Id: 7717421-1-BKS — LCSD Sample Id: 7717421-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1080	108	1190	119	70-135	10	35	mg/kg	12.17.2020 18:34	
Diesel Range Organics (DRO)	<50.0	1000	1020	102	1040	104	70-135	2	35	mg/kg	12.17.2020 18:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		108		114		70-135	%	12.17.2020 18:34
o-Terphenyl	115		106		105		70-135	%	12.17.2020 18:34

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145330 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717421-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.17.2020 18:14	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 681428

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Etech Environmental & Safety Solution, Inc

Tanks RP

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145330 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681592-010 — MS Sample Id: 681592-010 S — MSD Sample Id: 681592-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	50.0	998	1080	103	1180	112	70-135	9	35	mg/kg	12.17.2020 19:39	
Diesel Range Organics (DRO)	381	998	1550	117	1430	104	70-135	8	35	mg/kg	12.17.2020 19:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		113		70-135	%	12.17.2020 19:39
o-Terphenyl	110		101		70-135	%	12.17.2020 19:39

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145456 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717416-1-BLK — LCS Sample Id: 7717416-1-BKS — LCSD Sample Id: 7717416-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.105	105	0.107	107	70-130	2	35	mg/kg	12.18.2020 08:59	
Toluene	<0.00200	0.100	0.0999	100	0.101	101	70-130	1	35	mg/kg	12.18.2020 08:59	
Ethylbenzene	<0.00200	0.100	0.0922	92	0.0936	94	71-129	2	35	mg/kg	12.18.2020 08:59	
m,p-Xylenes	<0.00400	0.200	0.186	93	0.190	95	70-135	2	35	mg/kg	12.18.2020 08:59	
o-Xylene	<0.00200	0.100	0.0924	92	0.0944	94	71-133	2	35	mg/kg	12.18.2020 08:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		96		96		70-130	%	12.18.2020 08:59
4-Bromofluorobenzene	88		85		86		70-130	%	12.18.2020 08:59

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145456 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681592-010 — MS Sample Id: 681592-010 S — MSD Sample Id: 681592-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.137	136	0.139	139	70-130	1	35	mg/kg	12.18.2020 12:08	X
Toluene	0.00506	0.101	0.137	131	0.142	137	70-130	4	35	mg/kg	12.18.2020 12:08	X
Ethylbenzene	0.0192	0.101	0.127	107	0.138	119	71-129	8	35	mg/kg	12.18.2020 12:08	
m,p-Xylenes	0.0487	0.201	0.271	111	0.294	122	70-135	8	35	mg/kg	12.18.2020 12:08	
o-Xylene	0.0172	0.101	0.127	109	0.136	119	71-133	7	35	mg/kg	12.18.2020 12:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		91		70-130	%	12.18.2020 12:08
4-Bromofluorobenzene	84		90		70-130	%	12.18.2020 12:08

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

Chain of Custody

XENCO

Work Order No: 681428

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

Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	Etech Environmental & Safety	Company Name:	Goodnight
Address:	3100 Plains Highway	Address:	
City, State ZIP:	Lovington, NM, 88260	City, State ZIP:	
Phone:	575-396-2378	Email:	Email Results to PM@etechenv.com + Client

Work Order Comments

Program: UST/PST [ ] PRP [ ] Brownfields [ ] RRC [ ] Superfund [ ]
State of Project:
Reporting: Level II [ ] Level III [ ] PST/UST [ ] TRRP [ ] Level IV [ ]
Deliverables: EDD [ ] ADaPT [ ] Other:

Project Name:	Tanks RP	Turn Around	
Project Number:	13553	Routine:	☑
Project Location	Rural Eddy County, NM	Rush:	☐
Sampler's Name:	Miguel Ramirez	Due Date:	
PO #:			

SAMPLE RECEIPT			
Temperature (°C):	1.8/1.6	Thermometer ID	T-WM-007
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:	19

Temp Blank: Yes No Wet Ice: Yes No

Preservative Codes

HNO3: HN
H2S04: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:30pm

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	Chloride 4500	BTEX 8021	TPH Modified Ext	TPH TX1005	Sample Comments
SP7@1'	S	12.16.20		1'	1	X	X	X		
SP8@4"	S	12.16.20		4"	1	X	X	X		
SP9@4"	S	12.16.20		4"	1	X	X	X		
SP10@4"	S	12.16.20		4"	1	X	X	X		
SP11@4"	S	12.16.20		4"	1	X	X	X		
SP12@4"	S	12.16.20		4"	1	X	X	X		
SP13@4"	S	12.16.20		4"	1	X	X	X		
SP14@4"	S	12.16.20		4"	1	X	X	X		
SP15@4"	S	12.16.20		4"	1	X	X	X		
SP16@4"	S	12.16.20		4"	1	X	X	X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Clue Clifton	12.16.20 1527			
5				6		

Revised Date 101419 Rev 2019.1

XENCO

Chain of Custody

Work Order No: 681428

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

Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	Etech Environmental & Safety	Company Name:	Goodnight
Address:	3100 Plains Highway	Address:	
City, State ZIP:	Lovington, NM, 88260	City, State ZIP:	
Phone:	575-396-2378	Email:	Email Results to PM@etechenv.com + Client

Work Order Comments

Program: UST/PST [ ] PRP [ ] Brownfields [ ] RRC [ ] Superfund [ ]
State of Project:
Reporting: Level II [ ] Level III [ ] PST/UST [ ] TRRP [ ] Level IV [ ]
Deliverables: EDD [ ] ADaPT [ ] Other:

Project Name:	Tanks RP	Turn Around	
Project Number:	13553	Routine:	☑
Project Location	Rural Eddy County, NM	Rush:	[ ]
Sampler's Name:	Miguel Ramirez	Due Date:	
PO #:			

SAMPLE RECEIPT					
Temperature (°C):		Temp Blank:	Yes No	Wet Ice:	Yes No
Received Intact:	Yes No	Thermometer ID	See Page 1		
Cooler Custody Seals:	Yes No N/A	Correction Factor:			
Sample Custody Seals:	Yes No N/A	Total Containers:			

ANALYSIS REQUEST

Preservative Codes

HNO3: HN
H2SO4: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	Chloride 300	BTEX 8021	TPH Modified Ext	TPH TX1005	Sample Comments
SP1 @4"	S	12.16.20		4"	1	X	X	X		
SP 18 @4"	S	12-16-20		4"	1	X	X	X		
SP 19@4"	S	12.16.20		4"	1	X	X	X		
SP 20 @4"	S	12-16-20		4"	1	X	X	X		
SP 21@4"	S	12-16-20		4"	1	X	X	X		
SP 22 @4"	S	12-16-20		4"	1	X	X	X		
SP 23@6"	S	12-16-20		6"	1	X	X	X		
SP 24 @6"	S	12-16-20		6"	1	X	X	X		
SP 25@1'	S	12-16-20		1'	1	X	X	X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Cloe Cuffo	12.16.20 1527			
3						
5						

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 12.16.2020 03.27.00 PM

Work Order #: 681428

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T_NM_007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.6	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 Custody Seals intact on sample bottles?	**Yes**	
#6*Custody Seals Signed and dated?	**Yes**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	Samples received in bulk containers.
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**No**	
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 12.16.2020

Cloe Clifton

Checklist reviewed by: Jessica Kramer Date: 12.17.2020

Jessica Kramer

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Certificate of Analysis Summary 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP

Project Id: 13553
Contact: PM
Project Location: Rural Eddy County, New Mexico

Date Received in Lab: Thu 12.17.2020 10:38
Report Date: 12.21.2020 08:40
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	681582-001		681582-002		681582-003		681582-004		681582-005		681582-006	
	Field Id:	DEF 1 @ Surface		DEF 1 @ 4'		DEF 2 @ Surface		DEF 2 @ 3'		DEF 3 @ Surface		DEF 3 @ 3'	
	Depth:			4- ft				3- ft				3- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00	
BTEX by EPA 8021B	Extracted:	12.17.2020 11:07		12.17.2020 11:07		12.17.2020 11:07		12.17.2020 11:07		12.17.2020 11:07		12.17.2020 11:07	
	Analyzed:	12.18.2020 04:09		12.17.2020 21:40		12.18.2020 04:32		12.17.2020 22:03		12.17.2020 22:47		12.17.2020 22:25	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.401	0.401	<0.00198	0.00198	<0.399	0.399	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
Toluene		1.17	0.401	<0.00198	0.00198	1.23	0.399	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
Ethylbenzene		1.52	0.401	<0.00198	0.00198	2.68	0.399	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
m,p-Xylenes		4.99	0.802	<0.00397	0.00397	6.54	0.798	<0.00398	0.00398	<0.00399	0.00399	<0.00398	0.00398
o-Xylene		1.86	0.401	<0.00198	0.00198	1.95	0.399	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
Total Xylenes		6.85	0.401	<0.00198	0.00198	8.49	0.399	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
Total BTEX		9.54	0.401	<0.00198	0.00198	12.4	0.399	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
Chloride by EPA 300	Extracted:	12.17.2020 12:43		12.17.2020 12:43		12.17.2020 12:43		12.17.2020 12:43		12.17.2020 12:43		12.17.2020 12:43	
	Analyzed:	12.18.2020 13:28		12.18.2020 13:34		12.18.2020 14:22		12.18.2020 14:27		12.18.2020 14:33		12.18.2020 14:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5510	49.9	71.7	10.0	14200	200	96.1	10.0	13200	202	83.2	10.0
TPH By SW8015 Mod	Extracted:	12.17.2020 16:57		12.17.2020 16:57		12.17.2020 16:57		12.17.2020 16:57		12.17.2020 16:57		12.17.2020 16:57	
	Analyzed:	12.18.2020 05:26		12.18.2020 04:26		12.18.2020 05:46		12.18.2020 06:06		12.18.2020 06:26		12.18.2020 06:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		89.7	50.0	<49.9	49.9	158	50.2	<49.8	49.8	<49.9	49.9	<50.0	50.0
Diesel Range Organics (DRO)		766	50.0	<49.9	49.9	1070	50.2	<49.8	49.8	216	49.9	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		58.4	50.0	<49.9	49.9	88.7	50.2	<49.8	49.8	<49.9	49.9	<50.0	50.0
Total TPH		914	50.0	<49.9	49.9	1320	50.2	<49.8	49.8	216	49.9	<50.0	50.0

BRL - Below Reporting Limit

Jessica Kramer

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

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Analytical Report 681582

for

Etech Environmental & Safety Solution, Inc

Project Manager: PM

Tanks RP

13553

12.21.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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12.21.2020

Project Manager: **PM**
Etech Environmental & Safety Solution, Inc
P.O. Box 62228
Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **681582**
Tanks RP
Project Address: Rural Eddy County, New Mexico

PM :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 681582. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 681582 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
DEF 1 @ Surface	S	12.17.2020 00:00		681582-001
DEF 1 @ 4'	S	12.17.2020 00:00	4 ft	681582-002
DEF 2 @ Surface	S	12.17.2020 00:00		681582-003
DEF 2 @ 3'	S	12.17.2020 00:00	3 ft	681582-004
DEF 3 @ Surface	S	12.17.2020 00:00		681582-005
DEF 3 @ 3'	S	12.17.2020 00:00	3 ft	681582-006

CASE NARRATIVE

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Client Name: Etech Environmental & Safety Solution, Inc

Project Name: Tanks RP

Project ID: *13553*
Work Order Number(s): *681582*

Report Date: *12.21.2020*
Date Received: *12.17.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id: **DEF 1 @ Surface** Matrix: Soil Date Received:12.17.2020 10:38

Lab Sample Id: 681582-001 Date Collected: 12.17.2020 00:00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB

Analyst: MAB Date Prep: 12.17.2020 12:43 % Moisture:

Seq Number: 3145340 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5510**	49.9	mg/kg	12.18.2020 13:28		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: CAC

Analyst: CAC Date Prep: 12.17.2020 16:57 % Moisture:

Seq Number: 3145453 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**89.7**	50.0	mg/kg	12.18.2020 05:26		1
Diesel Range Organics (DRO)	C10C28DRO	**766**	50.0	mg/kg	12.18.2020 05:26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**58.4**	50.0	mg/kg	12.18.2020 05:26		1
Total TPH	PHC635	**914**	50.0	mg/kg	12.18.2020 05:26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.18.2020 05:26	
o-Terphenyl	84-15-1	112	%	70-135	12.18.2020 05:26	

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Certificate of Analytical Results 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id: **DEF 1 @ Surface**
Matrix: Soil
Date Received:12.17.2020 10:38
Lab Sample Id: 681582-001
Date Collected: 12.17.2020 00:00

Analytical Method: BTEX by EPA 8021B
Prep Method: SW5035A
Tech: MAB
Analyst: MAB
Seq Number: 3145319
Date Prep: 12.17.2020 11:07
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.401	0.401	mg/kg	12.18.2020 04:09	U	200
Toluene	108-88-3	**1.17**	0.401	mg/kg	12.18.2020 04:09		200
Ethylbenzene	100-41-4	**1.52**	0.401	mg/kg	12.18.2020 04:09		200
m,p-Xylenes	179601-23-1	**4.99**	0.802	mg/kg	12.18.2020 04:09		200
o-Xylene	95-47-6	**1.86**	0.401	mg/kg	12.18.2020 04:09		200
Total Xylenes	1330-20-7	**6.85**	0.401	mg/kg	12.18.2020 04:09		200
Total BTEX		**9.54**	0.401	mg/kg	12.18.2020 04:09		200

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	70-130	12.18.2020 04:09	
1,4-Difluorobenzene	540-36-3	92	%	70-130	12.18.2020 04:09	

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Certificate of Analytical Results 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**DEF 1 @ 4**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681582-002	Date Collected:	12.17.2020 00:00	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:43	% Moisture:	
Seq Number:	3145340			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**71.7**	10.0	mg/kg	12.18.2020 13:34		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.18.2020 04:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.18.2020 04:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.18.2020 04:26	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.18.2020 04:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	12.18.2020 04:26	
o-Terphenyl	84-15-1	106	%	70-135	12.18.2020 04:26	

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Certificate of Analytical Results 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**DEF 1 @ 4**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681582-002	Date Collected:	12.17.2020 00:00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.17.2020 21:40	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.17.2020 21:40	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.17.2020 21:40	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.17.2020 21:40	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.17.2020 21:40	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.17.2020 21:40	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.17.2020 21:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.17.2020 21:40	
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.17.2020 21:40	

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Certificate of Analytical Results 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id: **DEF 2 @ Surface** Matrix: Soil Date Received:12.17.2020 10:38

Lab Sample Id: 681582-003 Date Collected: 12.17.2020 00:00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB

Analyst: MAB Date Prep: 12.17.2020 12:43 % Moisture:

Seq Number: 3145340 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14200**	200	mg/kg	12.18.2020 14:22		20

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: CAC

Analyst: CAC Date Prep: 12.17.2020 16:57 % Moisture:

Seq Number: 3145453 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**158**	50.2	mg/kg	12.18.2020 05:46		1
Diesel Range Organics (DRO)	C10C28DRO	**1070**	50.2	mg/kg	12.18.2020 05:46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**88.7**	50.2	mg/kg	12.18.2020 05:46		1
Total TPH	PHC635	**1320**	50.2	mg/kg	12.18.2020 05:46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.18.2020 05:46	
o-Terphenyl	84-15-1	97	%	70-135	12.18.2020 05:46	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**DEF 2 @ Surface**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681582-003	Date Collected:	12.17.2020 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.399	0.399	mg/kg	12.18.2020 04:32	U	200
Toluene	108-88-3	**1.23**	0.399	mg/kg	12.18.2020 04:32		200
Ethylbenzene	100-41-4	**2.68**	0.399	mg/kg	12.18.2020 04:32		200
m,p-Xylenes	179601-23-1	**6.54**	0.798	mg/kg	12.18.2020 04:32		200
o-Xylene	95-47-6	**1.95**	0.399	mg/kg	12.18.2020 04:32		200
Total Xylenes	1330-20-7	**8.49**	0.399	mg/kg	12.18.2020 04:32		200
Total BTEX		**12.4**	0.399	mg/kg	12.18.2020 04:32		200

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.18.2020 04:32	
1,4-Difluorobenzene	540-36-3	93	%	70-130	12.18.2020 04:32	

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Certificate of Analytical Results 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id: **DEF 2 @ 3** Matrix: Soil Date Received:12.17.2020 10:38

Lab Sample Id: 681582-004 Date Collected: 12.17.2020 00:00 Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB

Analyst: MAB Date Prep: 12.17.2020 12:43 % Moisture:

Seq Number: 3145340 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**96.1**	10.0	mg/kg	12.18.2020 14:27		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: CAC

Analyst: CAC Date Prep: 12.17.2020 16:57 % Moisture:

Seq Number: 3145453 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.18.2020 06:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.18.2020 06:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.18.2020 06:06	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.18.2020 06:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.18.2020 06:06	
o-Terphenyl	84-15-1	99	%	70-135	12.18.2020 06:06	

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Certificate of Analytical Results 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**DEF 2 @ 3**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681582-004	Date Collected:	12.17.2020 00:00	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.17.2020 22:03	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.17.2020 22:03	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.17.2020 22:03	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.17.2020 22:03	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.17.2020 22:03	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.17.2020 22:03	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.17.2020 22:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.17.2020 22:03	
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.17.2020 22:03	

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Certificate of Analytical Results 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id: **DEF 3 @ Surface** Matrix: Soil Date Received:12.17.2020 10:38

Lab Sample Id: 681582-005 Date Collected: 12.17.2020 00:00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB

Analyst: MAB Date Prep: 12.17.2020 12:43 % Moisture:

Seq Number: 3145340 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13200**	202	mg/kg	12.18.2020 14:33		20

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: CAC

Analyst: CAC Date Prep: 12.17.2020 16:57 % Moisture:

Seq Number: 3145453 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.18.2020 06:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	**216**	49.9	mg/kg	12.18.2020 06:26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.18.2020 06:26	U	1
Total TPH	PHC635	**216**	49.9	mg/kg	12.18.2020 06:26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	12.18.2020 06:26	
o-Terphenyl	84-15-1	119	%	70-135	12.18.2020 06:26	

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Certificate of Analytical Results 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**DEF 3 @ Surface**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681582-005	Date Collected:	12.17.2020 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.17.2020 22:47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.17.2020 22:47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.17.2020 22:47	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.17.2020 22:47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.17.2020 22:47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.17.2020 22:47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.17.2020 22:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.17.2020 22:47	
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.17.2020 22:47	

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Certificate of Analytical Results 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**DEF 3 @ 3**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681582-006	Date Collected:	12.17.2020 00:00	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:43	% Moisture:	
Seq Number:	3145340			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**83.2**	10.0	mg/kg	12.18.2020 14:39		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.18.2020 06:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.18.2020 06:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.18.2020 06:47	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.18.2020 06:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	12.18.2020 06:47	
o-Terphenyl	84-15-1	109	%	70-135	12.18.2020 06:47	

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Certificate of Analytical Results 681582

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**DEF 3 @ 3**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681582-006	Date Collected:	12.17.2020 00:00	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.17.2020 22:25	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.17.2020 22:25	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.17.2020 22:25	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.17.2020 22:25	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.17.2020 22:25	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.17.2020 22:25	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.17.2020 22:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.17.2020 22:25	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.17.2020 22:25	

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 681582

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Etech Environmental & Safety Solution, Inc

Tanks RP

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145340 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717428-1-BLK — LCS Sample Id: 7717428-1-BKS — LCSD Sample Id: 7717428-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	244	98	247	99	90-110	1	20	mg/kg	12.18.2020 12:46	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145340 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681577-001 — MS Sample Id: 681577-001 S — MSD Sample Id: 681577-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	22.6	200	213	95	215	96	90-110	1	20	mg/kg	12.18.2020 13:04	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145340 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681584-002 — MS Sample Id: 681584-002 S — MSD Sample Id: 681584-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11600	201	11800	100	11800	100	90-110	0	20	mg/kg	12.18.2020 14:58	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145453 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717422-1-BLK — LCS Sample Id: 7717422-1-BKS — LCSD Sample Id: 7717422-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1060	106	1090	109	70-135	3	35	mg/kg	12.18.2020 03:45	
Diesel Range Organics (DRO)	<50.0	1000	1070	107	1050	105	70-135	2	35	mg/kg	12.18.2020 03:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		104		110		70-135	%	12.18.2020 03:45
o-Terphenyl	110		101		103		70-135	%	12.18.2020 03:45

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145453 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717422-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.18.2020 03:25	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 681582

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Etech Environmental & Safety Solution, Inc

Tanks RP

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145453 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681582-002 — MS Sample Id: 681582-002 S — MSD Sample Id: 681582-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	1120	112	1020	102	70-135	9	35	mg/kg	12.18.2020 04:46	
Diesel Range Organics (DRO)	<49.9	998	1050	105	1120	112	70-135	6	35	mg/kg	12.18.2020 04:46	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		100		70-135	%	12.18.2020 04:46
o-Terphenyl	113		117		70-135	%	12.18.2020 04:46

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145319 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717413-1-BLK — LCS Sample Id: 7717413-1-BKS — LCSD Sample Id: 7717413-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.104	104	0.109	109	70-130	5	35	mg/kg	12.17.2020 19:38	
Toluene	<0.00200	0.100	0.0995	100	0.109	109	70-130	9	35	mg/kg	12.17.2020 19:38	
Ethylbenzene	<0.00200	0.100	0.0929	93	0.0974	97	71-129	5	35	mg/kg	12.17.2020 19:38	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.198	99	70-135	5	35	mg/kg	12.17.2020 19:38	
o-Xylene	<0.00200	0.100	0.0925	93	0.0977	98	71-133	5	35	mg/kg	12.17.2020 19:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		95		97		70-130	%	12.17.2020 19:38
4-Bromofluorobenzene	88		86		87		70-130	%	12.17.2020 19:38

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145319 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681582-002 — MS Sample Id: 681582-002 S — MSD Sample Id: 681582-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.109	109	0.106	106	70-130	3	35	mg/kg	12.17.2020 20:23	
Toluene	<0.00199	0.0996	0.106	106	0.103	103	70-130	3	35	mg/kg	12.17.2020 20:23	
Ethylbenzene	<0.00199	0.0996	0.0998	100	0.0965	97	71-129	3	35	mg/kg	12.17.2020 20:23	
m,p-Xylenes	<0.00398	0.199	0.204	103	0.198	99	70-135	3	35	mg/kg	12.17.2020 20:23	
o-Xylene	<0.00199	0.0996	0.101	101	0.0973	97	71-133	4	35	mg/kg	12.17.2020 20:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		94		70-130	%	12.17.2020 20:23
4-Bromofluorobenzene	90		88		70-130	%	12.17.2020 20:23

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

Final 1.000

Chain of Custody

XENCO

Work Order No: 681582

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440, El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
Atlanta, GA (770) 449-8800
www.xenco.com Page 1 of 1

Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	Etech Environmental & Safety	Company Name:	Goodnight
Address:	3100 Plains Highway	Address:	
City, State ZIP:	Lovington, NM, 88260	City, State ZIP:	
Phone:	575-396-2378	Email:	Email Results to PM@etechenv.com + Client

Work Order Comments

Program: UST/PST [ ] PRP [ ] Brownfields [ ] RRC [ ] Superfund [ ]
State of Project:
Reporting: Level II [ ] Level III [ ] PST/UST [ ] TRRP [ ] Level IV [ ]
Deliverables: EDD [ ] ADaPT [ ] Other:

Project Name:	Tanks RP	Turn Around	
Project Number:	13553	Routine:	☑
Project Location	Rural Eddy county, NM	Rush:	[ ]
Sampler's Name:	Miguel Ramirez	Due Date:	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	1.0/0.8	Thermometer ID	
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:	6

ANALYSIS REQUEST

Preservative Codes

HNO3: HN
H2S04: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	Chloride E300	BTEX 8021	TPH Modified Ext	TPH TX1005	Sample Comments
DEF 1@ surface	S	12.17.20		-	1	X	X	X		
DEF 1@ 4'	S	12.17.20		4'	1	X	X	X		
DEF 2@ surface	S	12.17.20		-	1	X	X	X		
DEF 2@ 3'	S	12.17.20		3'	1	X	X	X		
DEF 3@ surface	S	12.17.20		-	1	X	X	X		
DEF 3@ 3'	S	12.17.20		3'	1	X	X	X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			12.17.20 1038			
3						
5						

Revised Date 10.14.19 Rev. 2019.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 12.17.2020 10.38.00 AM

Work Order #: 681582

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T_NM_007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 12.17.2020

Cloe Clifton

Checklist reviewed by: Jessica Kramer Date: 12.17.2020

Jessica Kramer

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Certificate of Analysis Summary 681584

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP

Project Id: 13553
Contact: PM
Project Location: Rural Eddy County, New Mexico

Date Received in Lab: Thu 12.17.2020 10:38
Report Date: 12.21.2020 08:38
Project Manager: Jessica Kramer

Analysis Requested		681584-001		681584-002		681584-003		681584-004		681584-005		681584-006	
	Field Id:	FL 5 @ 8"		FL 6 @ 10"		FL 26 @ 8"		FL 27 @ 8"		FL 28 @ 8"		FL 29 @ 8"	
	Depth:	8- in		10- in		8- in		8- in		8- in		8- in	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00	
BTEX by EPA 8021B	Extracted:	12.17.2020 11:07		12.17.2020 11:07		12.17.2020 11:07		12.17.2020 11:07		12.17.2020 11:07		12.17.2020 11:07	
	Analyzed:	12.17.2020 23:10		12.17.2020 23:32		12.17.2020 23:55		12.18.2020 00:17		12.18.2020 00:39		12.18.2020 22:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0204	0.0204	<0.0217	0.0217	<0.196	0.196	<0.00200	0.00200	<0.0204	0.0204	<0.100	0.100
Toluene		<0.0204	0.0204	<0.0217	0.0217	<0.196	0.196	<0.00200	0.00200	<0.0204	0.0204	0.307	0.100
Ethylbenzene		<0.0204	0.0204	<0.0217	0.0217	<0.196	0.196	<0.00200	0.00200	<0.0204	0.0204	0.370	0.100
m,p-Xylenes		<0.0408	0.0408	<0.0435	0.0435	<0.392	0.392	<0.00399	0.00399	<0.0408	0.0408	1.48	0.200
o-Xylene		<0.0204	0.0204	<0.0217	0.0217	<0.196	0.196	<0.00200	0.00200	<0.0204	0.0204	0.387	0.100
Total Xylenes		<0.0204	0.0204	<0.0217	0.0217	<0.196	0.196	<0.00200	0.00200	<0.0204	0.0204	1.87	0.100
Total BTEX		<0.0204	0.0204	<0.0217	0.0217	<0.196	0.196	<0.00200	0.00200	<0.0204	0.0204	2.54	0.100
Chloride by EPA 300	Extracted:	12.17.2020 12:43		12.17.2020 12:43		12.17.2020 12:43		12.17.2020 12:43		12.17.2020 12:43		12.17.2020 12:43	
	Analyzed:	12.18.2020 14:45		12.18.2020 14:51		12.18.2020 15:09		12.18.2020 15:15		12.18.2020 15:33		12.18.2020 15:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		11500	199	11600	198	12600	198	14800	200	15100	200	7630	202
TPH By SW8015 Mod	Extracted:	12.17.2020 16:57		12.17.2020 16:57		12.17.2020 16:57		12.17.2020 16:57		12.17.2020 16:57		12.17.2020 16:57	
	Analyzed:	12.18.2020 07:07		12.18.2020 07:27		12.18.2020 07:47		12.18.2020 08:08		12.18.2020 08:49		12.18.2020 09:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.3	50.3	<50.0	50.0	<49.9	49.9	<50.1	50.1	64.8	50.3
Diesel Range Organics (DRO)		<49.8	49.8	<50.3	50.3	<50.0	50.0	<49.9	49.9	<50.1	50.1	281	50.3
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.3	50.3	<50.0	50.0	<49.9	49.9	<50.1	50.1	<50.3	50.3
Total TPH		<49.8	49.8	<50.3	50.3	<50.0	50.0	<49.9	49.9	<50.1	50.1	346	50.3

BRL - Below Reporting Limit

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Certificate of Analysis Summary 681584

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP

Project Id: 13553
Contact: PM
Project Location: Rural Eddy County, New Mexico

Date Received in Lab: Thu 12.17.2020 10:38
Report Date: 12.21.2020 08:38
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	681584-007		681584-008		681584-009		681584-010		681584-011		681584-012	
	Field Id:	FL 30 @ 8"		FL 31 @ 8"		FL 32 @ 8"		FL 33 @ 8"		FL 34 @ 8"		FL 35 @ 8"	
	Depth:	8- in		8- in		8- in		8- in		8- in		8- in	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00	
BTEX by EPA 8021B	***Extracted:***	12.17.2020 11:07		12.17.2020 11:07		12.17.2020 11:07		12.17.2020 11:07		12.17.2020 11:07		12.17.2020 11:07	
	Analyzed:	12.18.2020 23:09		12.18.2020 01:02		12.18.2020 23:31		12.18.2020 23:54		12.19.2020 00:16		12.19.2020 00:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0992	0.0992	<0.0189	0.0189	<0.0996	0.0996	<0.0998	0.0998	<0.0992	0.0992	<0.0998	0.0998
Toluene		0.307	0.0992	0.482	0.0189	0.187	0.0996	0.347	0.0998	0.279	0.0992	0.613	0.0998
Ethylbenzene		0.734	0.0992	0.486	0.0189	0.399	0.0996	1.19	0.0998	0.960	0.0992	1.84	0.0998
m,p-Xylenes		2.18	0.198	1.60	0.0377	1.43	0.199	3.31	0.200	2.49	0.198	5.20	0.200
o-Xylene		0.690	0.0992	0.512	0.0189	0.516	0.0996	1.14	0.0998	1.01	0.0992	1.75	0.0998
Total Xylenes		2.87	0.0992	2.11	0.0189	1.95	0.0996	4.45	0.0998	3.50	0.0992	6.95	0.0998
Total BTEX		3.91	0.0992	3.08	0.0189	2.53	0.0996	5.99	0.0998	4.74	0.0992	9.40	0.0998
Chloride by EPA 300	***Extracted:***	12.17.2020 12:43		12.17.2020 12:43		12.17.2020 12:43		12.17.2020 12:43		12.17.2020 12:43		12.17.2020 12:45	
	Analyzed:	12.18.2020 15:45		12.18.2020 15:52		12.18.2020 15:57		12.18.2020 16:03		12.18.2020 16:09		12.18.2020 16:45	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		9500	200	7980	199	9670	199	9170	200	11500	200	10600	200
TPH By SW8015 Mod	***Extracted:***	12.17.2020 16:57		12.17.2020 16:57		12.17.2020 16:57		12.17.2020 16:57		12.17.2020 16:57		12.17.2020 16:57	
	Analyzed:	12.18.2020 09:33		12.18.2020 09:53		12.18.2020 10:13		12.18.2020 10:34		12.18.2020 10:54		12.18.2020 11:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		112	50.0	138	50.3	104	50.0	117	49.8	102	49.8	153	49.9
Diesel Range Organics (DRO)		633	50.0	827	50.3	753	50.0	794	49.8	630	49.8	922	49.9
Motor Oil Range Hydrocarbons (MRO)		52.0	50.0	69.4	50.3	65.7	50.0	66.9	49.8	61.0	49.8	78.1	49.9
Total TPH		797	50.0	1030	50.3	923	50.0	978	49.8	793	49.8	1150	49.9

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Certificate of Analysis Summary 681584

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP

Project Id: 13553
Contact: PM
Project Location: Rural Eddy County, New Mexico

Date Received in Lab: Thu 12.17.2020 10:38
Report Date: 12.21.2020 08:38
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	681584-013		681584-014		681584-015		681584-016		681584-017		681584-018	
	Field Id:	FL 36 @ 8"		FL 37 @ 8"		FL 38 @ 8"		FL 39 @ 8"		FL 40 @ 8"		FL 41 @ 8"	
	Depth:	8- in		8- in		8- in		8- in		8- in		8- in	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00	
BTEX by EPA 8021B	***Extracted:***	12.17.2020 11:07		12.17.2020 11:07		12.17.2020 17:11		12.17.2020 17:11		12.17.2020 17:11		12.17.2020 17:11	
	Analyzed:	12.18.2020 02:52		12.18.2020 03:14		12.18.2020 08:43		12.18.2020 09:05		12.18.2020 09:28		12.18.2020 09:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0196	0.0196	<0.0204	0.0204	<0.0196	0.0196	<0.0192	0.0192	<0.0204	0.0204	<0.0185	0.0185
Toluene		<0.0196	0.0196	0.0435	0.0204	<0.0196	0.0196	<0.0192	0.0192	<0.0204	0.0204	<0.0185	0.0185
Ethylbenzene		<0.0196	0.0196	0.116	0.0204	0.246	0.0196	<0.0192	0.0192	<0.0204	0.0204	<0.0185	0.0185
m,p-Xylenes		<0.0392	0.0392	0.391	0.0408	0.851	0.0392	<0.0385	0.0385	<0.0408	0.0408	<0.0370	0.0370
o-Xylene		<0.0196	0.0196	0.163	0.0204	0.423	0.0196	<0.0192	0.0192	<0.0204	0.0204	<0.0185	0.0185
Total Xylenes		<0.0196	0.0196	0.554	0.0204	1.27	0.0196	<0.0192	0.0192	<0.0204	0.0204	<0.0185	0.0185
Total BTEX		<0.0196	0.0196	0.714	0.0204	1.52	0.0196	<0.0192	0.0192	<0.0204	0.0204	<0.0185	0.0185
Chloride by EPA 300	***Extracted:***	12.17.2020 12:45		12.17.2020 12:45		12.17.2020 12:45		12.17.2020 12:45		12.17.2020 12:45		12.17.2020 12:45	
	Analyzed:	12.18.2020 17:03		12.18.2020 17:09		12.18.2020 17:15		12.18.2020 17:21		12.18.2020 17:39		12.18.2020 17:45	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		13400	49.9	12400	200	13800	198	8350	199	10800	199	11800	199
TPH By SW8015 Mod	***Extracted:***	12.17.2020 17:01		12.17.2020 17:01		12.17.2020 17:01		12.17.2020 17:01		12.17.2020 17:01		12.17.2020 17:01	
	Analyzed:	12.18.2020 05:26		12.18.2020 05:46		12.18.2020 06:06		12.18.2020 06:26		12.18.2020 06:47		12.18.2020 07:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9	<50.1	50.1	<50.3	50.3	<49.8	49.8	<49.9	49.9
Diesel Range Organics (DRO)		<50.0	50.0	104	49.9	53.4	50.1	<50.3	50.3	<49.8	49.8	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<50.1	50.1	<50.3	50.3	<49.8	49.8	<49.9	49.9
Total TPH		<50.0	50.0	104	49.9	53.4	50.1	<50.3	50.3	<49.8	49.8	<49.9	49.9

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Certificate of Analysis Summary 681584

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP

Project Id: 13553
Contact: PM
Project Location: Rural Eddy County, New Mexico

Date Received in Lab: Thu 12.17.2020 10:38
Report Date: 12.21.2020 08:38
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	681584-019		681584-020		681584-021		681584-022		681584-023		681584-024	
	Field Id:	FL 42 @ 8"		FL 43 @ 8"		FL 44 @ 8"		FL 45 @ 3"		FL 46 @ 3"		FL 47 @ 3"	
	Depth:	8- in		8- in		8- in		3- in		3- in		3- in	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00	
BTEX by EPA 8021B	***Extracted:***	12.17.2020 17:11		12.17.2020 17:11		12.17.2020 17:11		12.17.2020 17:11		12.17.2020 17:11		12.17.2020 17:11	
	Analyzed:	12.18.2020 10:13		12.18.2020 10:35		12.18.2020 10:58		12.18.2020 12:18		12.18.2020 14:06		12.18.2020 14:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0189	0.0189	<0.0196	0.0196	<0.0204	0.0204	<0.00200	0.00200	<0.00198	0.00198	<0.101	0.101
Toluene		<0.0189	0.0189	<0.0196	0.0196	<0.0204	0.0204	0.0194	0.00200	<0.00198	0.00198	2.93	0.403
Ethylbenzene		<0.0189	0.0189	<0.0196	0.0196	<0.0204	0.0204	0.0159	0.00200	<0.00198	0.00198	2.77	0.403
m,p-Xylenes		<0.0377	0.0377	<0.0392	0.0392	<0.0408	0.0408	0.0465	0.00399	<0.00397	0.00397	5.66	0.806
o-Xylene		<0.0189	0.0189	<0.0196	0.0196	<0.0204	0.0204	0.0168	0.00200	<0.00198	0.00198	2.51	0.403
Total Xylenes		<0.0189	0.0189	<0.0196	0.0196	<0.0204	0.0204	0.0633	0.00200	<0.00198	0.00198	8.17	0.403
Total BTEX		<0.0189	0.0189	<0.0196	0.0196	<0.0204	0.0204	0.0986	0.00200	<0.00198	0.00198	13.9	0.101
Chloride by EPA 300	***Extracted:***	12.17.2020 12:45		12.17.2020 12:45		12.17.2020 12:45		12.17.2020 12:45		12.17.2020 12:45		12.17.2020 12:45	
	Analyzed:	12.18.2020 17:51		12.18.2020 17:57		12.18.2020 18:03		12.18.2020 18:09		12.18.2020 18:27		12.18.2020 18:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		10100	200	10800	200	10300	198	18100	202	16100	202	14400	201
TPH By SW8015 Mod	***Extracted:***	12.17.2020 17:01		12.17.2020 17:01		12.17.2020 17:01		12.17.2020 17:01		12.17.2020 17:01		12.17.2020 17:01	
	Analyzed:	12.18.2020 07:27		12.18.2020 07:47		12.18.2020 08:08		12.18.2020 08:49		12.18.2020 09:09		12.18.2020 09:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.1	50.1	<50.1	50.1	<50.1	50.1	347	50.1	241	50.1
Diesel Range Organics (DRO)		<49.9	49.9	<50.1	50.1	<50.1	50.1	<50.1	50.1	1410	50.1	810	50.1
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.1	50.1	<50.1	50.1	<50.1	50.1	111	50.1	70.9	50.1
Total TPH		<49.9	49.9	<50.1	50.1	<50.1	50.1	<50.1	50.1	1870	50.1	1120	50.1

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Certificate of Analysis Summary 681584

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP

Project Id: 13553
Contact: PM
Project Location: Rural Eddy County, New Mexico

Date Received in Lab: Thu 12.17.2020 10:38
Report Date: 12.21.2020 08:38
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	681584-025		681584-026		681584-027					
	Field Id:	FL 48 @ 3"		FL 49 @ 3"		FL 50 @ 3"					
	Depth:	3- in		3- in		3- in					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	12.17.2020 00:00		12.17.2020 00:00		12.17.2020 00:00					
BTEX by EPA 8021B	***Extracted:***	12.17.2020 17:11		12.17.2020 17:11		12.17.2020 17:11					
	Analyzed:	12.18.2020 14:58		12.19.2020 07:46		12.18.2020 11:20					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.100	0.100	<0.00199	0.00199	<0.0213	0.0213				
Toluene		3.67	0.402	<0.00199	0.00199	<0.0213	0.0213				
Ethylbenzene		3.15	0.402	<0.00199	0.00199	<0.0213	0.0213				
m,p-Xylenes		5.73	0.803	<0.00398	0.00398	<0.0426	0.0426				
o-Xylene		2.32	0.402	<0.00199	0.00199	<0.0213	0.0213				
Total Xylenes		8.05	0.402	<0.00199	0.00199	<0.0213	0.0213				
Total BTEX		14.9	0.100	<0.00199	0.00199	<0.0213	0.0213				
Chloride by EPA 300	***Extracted:***	12.17.2020 12:45		12.17.2020 12:45		12.17.2020 12:45					
	Analyzed:	12.18.2020 18:39		12.18.2020 18:57		12.18.2020 19:03					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		14700	200	14600	200	14100	200				
TPH By SW8015 Mod	***Extracted:***	12.17.2020 17:01		12.17.2020 17:01		12.17.2020 17:01					
	Analyzed:	12.18.2020 09:53		12.18.2020 10:13		12.18.2020 10:34					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		476	50.1	<50.1	50.1	<50.0	50.0				
Diesel Range Organics (DRO)		2000	50.1	81.3	50.1	<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		161	50.1	<50.1	50.1	<50.0	50.0				
Total TPH		2640	50.1	81.3	50.1	<50.0	50.0				

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Jessica Kramer

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Analytical Report 681584

for

Etech Environmental & Safety Solution, Inc

Project Manager: PM

Tanks RP

13553

12.21.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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12.21.2020

Project Manager: **PM**
Etech Environmental & Safety Solution, Inc
P.O. Box 62228
Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **681584**
Tanks RP
Project Address: Rural Eddy County, New Mexico

PM :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 681584. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 681584 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 681584

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FL 5 @ 8"	S	12.17.2020 00:00	8 in	681584-001
FL 6 @ 10"	S	12.17.2020 00:00	10 in	681584-002
FL 26 @ 8"	S	12.17.2020 00:00	8 in	681584-003
FL 27 @ 8"	S	12.17.2020 00:00	8 in	681584-004
FL 28 @ 8"	S	12.17.2020 00:00	8 in	681584-005
FL 29 @ 8"	S	12.17.2020 00:00	8 in	681584-006
FL 30 @ 8"	S	12.17.2020 00:00	8 in	681584-007
FL 31 @ 8"	S	12.17.2020 00:00	8 in	681584-008
FL 32 @ 8"	S	12.17.2020 00:00	8 in	681584-009
FL 33 @ 8"	S	12.17.2020 00:00	8 in	681584-010
FL 34 @ 8"	S	12.17.2020 00:00	8 in	681584-011
FL 35 @ 8"	S	12.17.2020 00:00	8 in	681584-012
FL 36 @ 8"	S	12.17.2020 00:00	8 in	681584-013
FL 37 @ 8"	S	12.17.2020 00:00	8 in	681584-014
FL 38 @ 8"	S	12.17.2020 00:00	8 in	681584-015
FL 39 @ 8"	S	12.17.2020 00:00	8 in	681584-016
FL 40 @ 8"	S	12.17.2020 00:00	8 in	681584-017
FL 41 @ 8"	S	12.17.2020 00:00	8 ft	681584-018
FL 42 @ 8"	S	12.17.2020 00:00	8 in	681584-019
FL 43 @ 8"	S	12.17.2020 00:00	8 in	681584-020
FL 44 @ 8"	S	12.17.2020 00:00	8 in	681584-021
FL 45 @ 3"	S	12.17.2020 00:00	3 in	681584-022
FL 46 @ 3"	S	12.17.2020 00:00	3 in	681584-023
FL 47 @ 3"	S	12.17.2020 00:00	3 in	681584-024
FL 48 @ 3"	S	12.17.2020 00:00	3 in	681584-025
FL 49 @ 3"	S	12.17.2020 00:00	3 in	681584-026
FL 50 @ 3"	S	12.17.2020 00:00	3 in	681584-027

CASE NARRATIVE

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Client Name: Etech Environmental & Safety Solution, Inc

Project Name: Tanks RP

Project ID: *13553*
Work Order Number(s): *681584*

Report Date: *12.21.2020*
Date Received: *12.17.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 681584

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**FL 5 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-001	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:43	% Moisture:	
Seq Number:	3145340			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11500**	199	mg/kg	12.18.2020 14:45		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.18.2020 07:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.18.2020 07:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.18.2020 07:07	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.18.2020 07:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	12.18.2020 07:07	
o-Terphenyl	84-15-1	105	%	70-135	12.18.2020 07:07	

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Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**FL 5 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-001	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0204	0.0204	mg/kg	12.17.2020 23:10	U	1
Toluene	108-88-3	<0.0204	0.0204	mg/kg	12.17.2020 23:10	U	1
Ethylbenzene	100-41-4	<0.0204	0.0204	mg/kg	12.17.2020 23:10	U	1
m,p-Xylenes	179601-23-1	<0.0408	0.0408	mg/kg	12.17.2020 23:10	U	1
o-Xylene	95-47-6	<0.0204	0.0204	mg/kg	12.17.2020 23:10	U	1
Total Xylenes	1330-20-7	<0.0204	0.0204	mg/kg	12.17.2020 23:10	U	1
Total BTEX		<0.0204	0.0204	mg/kg	12.17.2020 23:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.17.2020 23:10	
4-Bromofluorobenzene	460-00-4	108	%	70-130	12.17.2020 23:10	

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Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**FL 6 @ 10"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-002	Date Collected:	12.17.2020 00:00	Sample Depth:	10 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:43	% Moisture:	
Seq Number:	3145340			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11600**	198	mg/kg	12.18.2020 14:51		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.18.2020 07:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.18.2020 07:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.18.2020 07:27	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.18.2020 07:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	12.18.2020 07:27	
o-Terphenyl	84-15-1	102	%	70-135	12.18.2020 07:27	

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Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**FL 6 @ 10"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-002	Date Collected:	12.17.2020 00:00	Sample Depth:	10 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0217	0.0217	mg/kg	12.17.2020 23:32	U	1
Toluene	108-88-3	<0.0217	0.0217	mg/kg	12.17.2020 23:32	U	1
Ethylbenzene	100-41-4	<0.0217	0.0217	mg/kg	12.17.2020 23:32	U	1
m,p-Xylenes	179601-23-1	<0.0435	0.0435	mg/kg	12.17.2020 23:32	U	1
o-Xylene	95-47-6	<0.0217	0.0217	mg/kg	12.17.2020 23:32	U	1
Total Xylenes	1330-20-7	<0.0217	0.0217	mg/kg	12.17.2020 23:32	U	1
Total BTEX		<0.0217	0.0217	mg/kg	12.17.2020 23:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.17.2020 23:32	
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.17.2020 23:32	

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Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**FL 26 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-003	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:43	% Moisture:	
Seq Number:	3145340			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12600**	198	mg/kg	12.18.2020 15:09		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.18.2020 07:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.18.2020 07:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.18.2020 07:47	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.18.2020 07:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	12.18.2020 07:47	
o-Terphenyl	84-15-1	112	%	70-135	12.18.2020 07:47	

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Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**FL 26 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-003	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.196	0.196	mg/kg	12.17.2020 23:55	U	1
Toluene	108-88-3	<0.196	0.196	mg/kg	12.17.2020 23:55	U	1
Ethylbenzene	100-41-4	<0.196	0.196	mg/kg	12.17.2020 23:55	U	1
m,p-Xylenes	179601-23-1	<0.392	0.392	mg/kg	12.17.2020 23:55	U	1
o-Xylene	95-47-6	<0.196	0.196	mg/kg	12.17.2020 23:55	U	1
Total Xylenes	1330-20-7	<0.196	0.196	mg/kg	12.17.2020 23:55	U	1
Total BTEX		<0.196	0.196	mg/kg	12.17.2020 23:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.17.2020 23:55	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.17.2020 23:55	

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Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**FL 27 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-004	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:43	% Moisture:	
Seq Number:	3145340			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14800**	200	mg/kg	12.18.2020 15:15		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.18.2020 08:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.18.2020 08:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.18.2020 08:08	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.18.2020 08:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.18.2020 08:08	
o-Terphenyl	84-15-1	106	%	70-135	12.18.2020 08:08	

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Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**FL 27 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-004	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.18.2020 00:17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.18.2020 00:17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.18.2020 00:17	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.18.2020 00:17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.18.2020 00:17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.18.2020 00:17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.18.2020 00:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.18.2020 00:17	
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.18.2020 00:17	

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Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**FL 28 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-005	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:43	% Moisture:	
Seq Number:	3145340			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15100**	200	mg/kg	12.18.2020 15:33		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.18.2020 08:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.18.2020 08:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.18.2020 08:49	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.18.2020 08:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	12.18.2020 08:49	
o-Terphenyl	84-15-1	118	%	70-135	12.18.2020 08:49	

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Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**FL 28 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-005	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0204	0.0204	mg/kg	12.18.2020 00:39	U	1
Toluene	108-88-3	<0.0204	0.0204	mg/kg	12.18.2020 00:39	U	1
Ethylbenzene	100-41-4	<0.0204	0.0204	mg/kg	12.18.2020 00:39	U	1
m,p-Xylenes	179601-23-1	<0.0408	0.0408	mg/kg	12.18.2020 00:39	U	1
o-Xylene	95-47-6	<0.0204	0.0204	mg/kg	12.18.2020 00:39	U	1
Total Xylenes	1330-20-7	<0.0204	0.0204	mg/kg	12.18.2020 00:39	U	1
Total BTEX		<0.0204	0.0204	mg/kg	12.18.2020 00:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.18.2020 00:39	
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.18.2020 00:39	

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Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**FL 29 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-006	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:43	% Moisture:	
Seq Number:	3145340			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7630**	202	mg/kg	12.18.2020 15:39		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**64.8**	50.3	mg/kg	12.18.2020 09:09		1
Diesel Range Organics (DRO)	C10C28DRO	**281**	50.3	mg/kg	12.18.2020 09:09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.18.2020 09:09	U	1
Total TPH	PHC635	**346**	50.3	mg/kg	12.18.2020 09:09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	12.18.2020 09:09	
o-Terphenyl	84-15-1	109	%	70-135	12.18.2020 09:09	

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Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**FL 29 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-006	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.100	0.100	mg/kg	12.18.2020 22:47	U	50
Toluene	108-88-3	**0.307**	0.100	mg/kg	12.18.2020 22:47		50
Ethylbenzene	100-41-4	**0.370**	0.100	mg/kg	12.18.2020 22:47		50
m,p-Xylenes	179601-23-1	**1.48**	0.200	mg/kg	12.18.2020 22:47		50
o-Xylene	95-47-6	**0.387**	0.100	mg/kg	12.18.2020 22:47		50
Total Xylenes	1330-20-7	**1.87**	0.100	mg/kg	12.18.2020 22:47		50
Total BTEX		**2.54**	0.100	mg/kg	12.18.2020 22:47		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	90	%	70-130	12.18.2020 22:47	
4-Bromofluorobenzene	460-00-4	84	%	70-130	12.18.2020 22:47	

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Tanks RP

Sample Id:	**FL 30 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-007	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:43	% Moisture:	
Seq Number:	3145340			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9500**	200	mg/kg	12.18.2020 15:45		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**112**	50.0	mg/kg	12.18.2020 09:33		1
Diesel Range Organics (DRO)	C10C28DRO	**633**	50.0	mg/kg	12.18.2020 09:33		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**52.0**	50.0	mg/kg	12.18.2020 09:33		1
Total TPH	PHC635	**797**	50.0	mg/kg	12.18.2020 09:33		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	12.18.2020 09:33	
o-Terphenyl	84-15-1	111	%	70-135	12.18.2020 09:33	

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Tanks RP

Sample Id:	**FL 30 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-007	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0992	0.0992	mg/kg	12.18.2020 23:09	U	50
Toluene	108-88-3	**0.307**	0.0992	mg/kg	12.18.2020 23:09		50
Ethylbenzene	100-41-4	**0.734**	0.0992	mg/kg	12.18.2020 23:09		50
m,p-Xylenes	179601-23-1	**2.18**	0.198	mg/kg	12.18.2020 23:09		50
o-Xylene	95-47-6	**0.690**	0.0992	mg/kg	12.18.2020 23:09		50
Total Xylenes	1330-20-7	**2.87**	0.0992	mg/kg	12.18.2020 23:09		50
Total BTEX		**3.91**	0.0992	mg/kg	12.18.2020 23:09		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.18.2020 23:09	
1,4-Difluorobenzene	540-36-3	88	%	70-130	12.18.2020 23:09	

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Tanks RP

Sample Id:	**FL 31 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-008	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:43	% Moisture:	
Seq Number:	3145340			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7980**	199	mg/kg	12.18.2020 15:52		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**138**	50.3	mg/kg	12.18.2020 09:53		1
Diesel Range Organics (DRO)	C10C28DRO	**827**	50.3	mg/kg	12.18.2020 09:53		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**69.4**	50.3	mg/kg	12.18.2020 09:53		1
Total TPH	PHC635	**1030**	50.3	mg/kg	12.18.2020 09:53		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	12.18.2020 09:53	
o-Terphenyl	84-15-1	105	%	70-135	12.18.2020 09:53	

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Tanks RP

Sample Id:	**FL 31 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-008	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0189	0.0189	mg/kg	12.18.2020 01:02	U	1
Toluene	108-88-3	**0.482**	0.0189	mg/kg	12.18.2020 01:02		1
Ethylbenzene	100-41-4	**0.486**	0.0189	mg/kg	12.18.2020 01:02		1
m,p-Xylenes	179601-23-1	**1.60**	0.0377	mg/kg	12.18.2020 01:02		1
o-Xylene	95-47-6	**0.512**	0.0189	mg/kg	12.18.2020 01:02		1
Total Xylenes	1330-20-7	**2.11**	0.0189	mg/kg	12.18.2020 01:02		1
Total BTEX		**3.08**	0.0189	mg/kg	12.18.2020 01:02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	90	%	70-130	12.18.2020 01:02	
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.18.2020 01:02	

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Tanks RP

Sample Id:	**FL 32 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-009	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:43	% Moisture:	
Seq Number:	3145340			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9670**	199	mg/kg	12.18.2020 15:57		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**104**	50.0	mg/kg	12.18.2020 10:13		1
Diesel Range Organics (DRO)	C10C28DRO	**753**	50.0	mg/kg	12.18.2020 10:13		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**65.7**	50.0	mg/kg	12.18.2020 10:13		1
Total TPH	PHC635	**923**	50.0	mg/kg	12.18.2020 10:13		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	12.18.2020 10:13	
o-Terphenyl	84-15-1	111	%	70-135	12.18.2020 10:13	

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Tanks RP

Sample Id:	**FL 32 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-009	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0996	0.0996	mg/kg	12.18.2020 23:31	U	50
Toluene	108-88-3	**0.187**	0.0996	mg/kg	12.18.2020 23:31		50
Ethylbenzene	100-41-4	**0.399**	0.0996	mg/kg	12.18.2020 23:31		50
m,p-Xylenes	179601-23-1	**1.43**	0.199	mg/kg	12.18.2020 23:31		50
o-Xylene	95-47-6	**0.516**	0.0996	mg/kg	12.18.2020 23:31		50
Total Xylenes	1330-20-7	**1.95**	0.0996	mg/kg	12.18.2020 23:31		50
Total BTEX		**2.53**	0.0996	mg/kg	12.18.2020 23:31		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.18.2020 23:31	
1,4-Difluorobenzene	540-36-3	93	%	70-130	12.18.2020 23:31	

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Tanks RP

Sample Id: **FL 33 @ 8"**
Lab Sample Id: 681584-010
Matrix: Soil
Date Collected: 12.17.2020 00:00
Date Received: 12.17.2020 10:38
Sample Depth: 8 in

Analytical Method: Chloride by EPA 300
Tech: MAB
Analyst: MAB
Seq Number: 3145340
Date Prep: 12.17.2020 12:43
Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9170**	200	mg/kg	12.18.2020 16:03		20

Analytical Method: TPH By SW8015 Mod
Tech: CAC
Analyst: CAC
Seq Number: 3145453
Date Prep: 12.17.2020 16:57
Prep Method: SW8015P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**117**	49.8	mg/kg	12.18.2020 10:34		1
Diesel Range Organics (DRO)	C10C28DRO	**794**	49.8	mg/kg	12.18.2020 10:34		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**66.9**	49.8	mg/kg	12.18.2020 10:34		1
Total TPH	PHC635	**978**	49.8	mg/kg	12.18.2020 10:34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	130	%	70-135	12.18.2020 10:34	
o-Terphenyl	84-15-1	114	%	70-135	12.18.2020 10:34	

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Tanks RP

Sample Id:	**FL 33 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-010	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0998	0.0998	mg/kg	12.18.2020 23:54	U	50
Toluene	108-88-3	**0.347**	0.0998	mg/kg	12.18.2020 23:54		50
Ethylbenzene	100-41-4	**1.19**	0.0998	mg/kg	12.18.2020 23:54		50
m,p-Xylenes	179601-23-1	**3.31**	0.200	mg/kg	12.18.2020 23:54		50
o-Xylene	95-47-6	**1.14**	0.0998	mg/kg	12.18.2020 23:54		50
Total Xylenes	1330-20-7	**4.45**	0.0998	mg/kg	12.18.2020 23:54		50
Total BTEX		**5.99**	0.0998	mg/kg	12.18.2020 23:54		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	91	%	70-130	12.18.2020 23:54	
4-Bromofluorobenzene	460-00-4	95	%	70-130	12.18.2020 23:54	

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Tanks RP

Sample Id:	**FL 34 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-011	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:43	% Moisture:	
Seq Number:	3145340			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11500**	200	mg/kg	12.18.2020 16:09		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**102**	49.8	mg/kg	12.18.2020 10:54		1
Diesel Range Organics (DRO)	C10C28DRO	**630**	49.8	mg/kg	12.18.2020 10:54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**61.0**	49.8	mg/kg	12.18.2020 10:54		1
Total TPH	PHC635	**793**	49.8	mg/kg	12.18.2020 10:54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.18.2020 10:54	
o-Terphenyl	84-15-1	116	%	70-135	12.18.2020 10:54	

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Tanks RP

Sample Id:	**FL 34 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-011	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0992	0.0992	mg/kg	12.19.2020 00:16	U	50
Toluene	108-88-3	**0.279**	0.0992	mg/kg	12.19.2020 00:16		50
Ethylbenzene	100-41-4	**0.960**	0.0992	mg/kg	12.19.2020 00:16		50
m,p-Xylenes	179601-23-1	**2.49**	0.198	mg/kg	12.19.2020 00:16		50
o-Xylene	95-47-6	**1.01**	0.0992	mg/kg	12.19.2020 00:16		50
Total Xylenes	1330-20-7	**3.50**	0.0992	mg/kg	12.19.2020 00:16		50
Total BTEX		**4.74**	0.0992	mg/kg	12.19.2020 00:16		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	91	%	70-130	12.19.2020 00:16	
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.19.2020 00:16	

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Tanks RP

Sample Id:	**FL 35 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-012	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10600**	200	mg/kg	12.18.2020 16:45		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**153**	49.9	mg/kg	12.18.2020 11:14		1
Diesel Range Organics (DRO)	C10C28DRO	**922**	49.9	mg/kg	12.18.2020 11:14		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**78.1**	49.9	mg/kg	12.18.2020 11:14		1
Total TPH	PHC635	**1150**	49.9	mg/kg	12.18.2020 11:14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	12.18.2020 11:14	
o-Terphenyl	84-15-1	114	%	70-135	12.18.2020 11:14	

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Tanks RP

Sample Id:	**FL 35 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-012	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0998	0.0998	mg/kg	12.19.2020 00:39	U	50
Toluene	108-88-3	**0.613**	0.0998	mg/kg	12.19.2020 00:39		50
Ethylbenzene	100-41-4	**1.84**	0.0998	mg/kg	12.19.2020 00:39		50
m,p-Xylenes	179601-23-1	**5.20**	0.200	mg/kg	12.19.2020 00:39		50
o-Xylene	95-47-6	**1.75**	0.0998	mg/kg	12.19.2020 00:39		50
Total Xylenes	1330-20-7	**6.95**	0.0998	mg/kg	12.19.2020 00:39		50
Total BTEX		**9.40**	0.0998	mg/kg	12.19.2020 00:39		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	12.19.2020 00:39	
4-Bromofluorobenzene	460-00-4	95	%	70-130	12.19.2020 00:39	

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Tanks RP

Sample Id:	**FL 36 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-013	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13400**	49.9	mg/kg	12.18.2020 17:03		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.18.2020 05:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.18.2020 05:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.18.2020 05:26	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.18.2020 05:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.18.2020 05:26	
o-Terphenyl	84-15-1	103	%	70-135	12.18.2020 05:26	

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Tanks RP

Sample Id:	**FL 36 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-013	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	12.18.2020 02:52	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	12.18.2020 02:52	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	12.18.2020 02:52	U	1
m,p-Xylenes	179601-23-1	<0.0392	0.0392	mg/kg	12.18.2020 02:52	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	12.18.2020 02:52	U	1
Total Xylenes	1330-20-7	<0.0196	0.0196	mg/kg	12.18.2020 02:52	U	1
Total BTEX		<0.0196	0.0196	mg/kg	12.18.2020 02:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	70-130	12.18.2020 02:52	
1,4-Difluorobenzene	540-36-3	94	%	70-130	12.18.2020 02:52	

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Tanks RP

Sample Id:	**FL 37 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-014	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12400**	200	mg/kg	12.18.2020 17:09		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.18.2020 05:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	**104**	49.9	mg/kg	12.18.2020 05:46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.18.2020 05:46	U	1
Total TPH	PHC635	**104**	49.9	mg/kg	12.18.2020 05:46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.18.2020 05:46	
o-Terphenyl	84-15-1	106	%	70-135	12.18.2020 05:46	

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Tanks RP

Sample Id:	**FL 37 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-014	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 11:07	% Moisture:	
Seq Number:	3145319			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0204	0.0204	mg/kg	12.18.2020 03:14	U	1
Toluene	108-88-3	**0.0435**	0.0204	mg/kg	12.18.2020 03:14		1
Ethylbenzene	100-41-4	**0.116**	0.0204	mg/kg	12.18.2020 03:14		1
m,p-Xylenes	179601-23-1	**0.391**	0.0408	mg/kg	12.18.2020 03:14		1
o-Xylene	95-47-6	**0.163**	0.0204	mg/kg	12.18.2020 03:14		1
Total Xylenes	1330-20-7	**0.554**	0.0204	mg/kg	12.18.2020 03:14		1
Total BTEX		**0.714**	0.0204	mg/kg	12.18.2020 03:14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	91	%	70-130	12.18.2020 03:14	
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.18.2020 03:14	

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Tanks RP

Sample Id:	**FL 38 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-015	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13800**	198	mg/kg	12.18.2020 17:15		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.18.2020 06:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	**53.4**	50.1	mg/kg	12.18.2020 06:06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.18.2020 06:06	U	1
Total TPH	PHC635	**53.4**	50.1	mg/kg	12.18.2020 06:06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	12.18.2020 06:06	
o-Terphenyl	84-15-1	113	%	70-135	12.18.2020 06:06	

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Tanks RP

Sample Id:	**FL 38 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-015	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	12.18.2020 08:43	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	12.18.2020 08:43	U	1
Ethylbenzene	100-41-4	**0.246**	0.0196	mg/kg	12.18.2020 08:43		1
m,p-Xylenes	179601-23-1	**0.851**	0.0392	mg/kg	12.18.2020 08:43		1
o-Xylene	95-47-6	**0.423**	0.0196	mg/kg	12.18.2020 08:43		1
Total Xylenes	1330-20-7	**1.27**	0.0196	mg/kg	12.18.2020 08:43		1
Total BTEX		**1.52**	0.0196	mg/kg	12.18.2020 08:43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	12.18.2020 08:43	
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.18.2020 08:43	

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Sample Id:	**FL 39 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-016	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8350**	199	mg/kg	12.18.2020 17:21		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.18.2020 06:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.18.2020 06:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.18.2020 06:26	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.18.2020 06:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	12.18.2020 06:26	
o-Terphenyl	84-15-1	97	%	70-135	12.18.2020 06:26	

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Tanks RP

Sample Id:	**FL 39 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-016	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0192	0.0192	mg/kg	12.18.2020 09:05	U	1
Toluene	108-88-3	<0.0192	0.0192	mg/kg	12.18.2020 09:05	U	1
Ethylbenzene	100-41-4	<0.0192	0.0192	mg/kg	12.18.2020 09:05	U	1
m,p-Xylenes	179601-23-1	<0.0385	0.0385	mg/kg	12.18.2020 09:05	U	1
o-Xylene	95-47-6	<0.0192	0.0192	mg/kg	12.18.2020 09:05	U	1
Total Xylenes	1330-20-7	<0.0192	0.0192	mg/kg	12.18.2020 09:05	U	1
Total BTEX		<0.0192	0.0192	mg/kg	12.18.2020 09:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.18.2020 09:05	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.18.2020 09:05	

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Tanks RP

Sample Id:	**FL 40 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-017	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10800**	199	mg/kg	12.18.2020 17:39		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.18.2020 06:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.18.2020 06:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.18.2020 06:47	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.18.2020 06:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.18.2020 06:47	
o-Terphenyl	84-15-1	110	%	70-135	12.18.2020 06:47	

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Tanks RP

Sample Id:	**FL 40 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-017	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0204	0.0204	mg/kg	12.18.2020 09:28	U	1
Toluene	108-88-3	<0.0204	0.0204	mg/kg	12.18.2020 09:28	U	1
Ethylbenzene	100-41-4	<0.0204	0.0204	mg/kg	12.18.2020 09:28	U	1
m,p-Xylenes	179601-23-1	<0.0408	0.0408	mg/kg	12.18.2020 09:28	U	1
o-Xylene	95-47-6	<0.0204	0.0204	mg/kg	12.18.2020 09:28	U	1
Total Xylenes	1330-20-7	<0.0204	0.0204	mg/kg	12.18.2020 09:28	U	1
Total BTEX		<0.0204	0.0204	mg/kg	12.18.2020 09:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.18.2020 09:28	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.18.2020 09:28	

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Tanks RP

Sample Id:	**FL 41 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-018	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11800**	199	mg/kg	12.18.2020 17:45		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.18.2020 07:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.18.2020 07:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.18.2020 07:07	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.18.2020 07:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.18.2020 07:07	
o-Terphenyl	84-15-1	96	%	70-135	12.18.2020 07:07	

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Tanks RP

Sample Id:	**FL 41 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-018	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0185	0.0185	mg/kg	12.18.2020 09:50	U	1
Toluene	108-88-3	<0.0185	0.0185	mg/kg	12.18.2020 09:50	U	1
Ethylbenzene	100-41-4	<0.0185	0.0185	mg/kg	12.18.2020 09:50	U	1
m,p-Xylenes	179601-23-1	<0.0370	0.0370	mg/kg	12.18.2020 09:50	U	1
o-Xylene	95-47-6	<0.0185	0.0185	mg/kg	12.18.2020 09:50	U	1
Total Xylenes	1330-20-7	<0.0185	0.0185	mg/kg	12.18.2020 09:50	U	1
Total BTEX		<0.0185	0.0185	mg/kg	12.18.2020 09:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.18.2020 09:50	
4-Bromofluorobenzene	460-00-4	125	%	70-130	12.18.2020 09:50	

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Tanks RP

Sample Id:	**FL 42 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-019	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10100**	200	mg/kg	12.18.2020 17:51		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.18.2020 07:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.18.2020 07:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.18.2020 07:27	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.18.2020 07:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	12.18.2020 07:27	
o-Terphenyl	84-15-1	118	%	70-135	12.18.2020 07:27	

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Tanks RP

Sample Id:	**FL 42 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-019	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0189	0.0189	mg/kg	12.18.2020 10:13	U	1
Toluene	108-88-3	<0.0189	0.0189	mg/kg	12.18.2020 10:13	U	1
Ethylbenzene	100-41-4	<0.0189	0.0189	mg/kg	12.18.2020 10:13	U	1
m,p-Xylenes	179601-23-1	<0.0377	0.0377	mg/kg	12.18.2020 10:13	U	1
o-Xylene	95-47-6	<0.0189	0.0189	mg/kg	12.18.2020 10:13	U	1
Total Xylenes	1330-20-7	<0.0189	0.0189	mg/kg	12.18.2020 10:13	U	1
Total BTEX		<0.0189	0.0189	mg/kg	12.18.2020 10:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	125	%	70-130	12.18.2020 10:13	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.18.2020 10:13	

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Tanks RP

Sample Id:	**FL 43 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-020	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10800**	200	mg/kg	12.18.2020 17:57		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.18.2020 07:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.18.2020 07:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.18.2020 07:47	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.18.2020 07:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	12.18.2020 07:47	
o-Terphenyl	84-15-1	107	%	70-135	12.18.2020 07:47	

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Tanks RP

Sample Id:	**FL 43 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-020	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	12.18.2020 10:35	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	12.18.2020 10:35	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	12.18.2020 10:35	U	1
m,p-Xylenes	179601-23-1	<0.0392	0.0392	mg/kg	12.18.2020 10:35	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	12.18.2020 10:35	U	1
Total Xylenes	1330-20-7	<0.0196	0.0196	mg/kg	12.18.2020 10:35	U	1
Total BTEX		<0.0196	0.0196	mg/kg	12.18.2020 10:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	12.18.2020 10:35	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.18.2020 10:35	

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Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP

Sample Id:	**FL 44 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-021	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10300**	198	mg/kg	12.18.2020 18:03		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.18.2020 08:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.18.2020 08:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.18.2020 08:08	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.18.2020 08:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	12.18.2020 08:08	
o-Terphenyl	84-15-1	104	%	70-135	12.18.2020 08:08	

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Tanks RP

Sample Id:	**FL 44 @ 8"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-021	Date Collected:	12.17.2020 00:00	Sample Depth:	8 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0204	0.0204	mg/kg	12.18.2020 10:58	U	1
Toluene	108-88-3	<0.0204	0.0204	mg/kg	12.18.2020 10:58	U	1
Ethylbenzene	100-41-4	<0.0204	0.0204	mg/kg	12.18.2020 10:58	U	1
m,p-Xylenes	179601-23-1	<0.0408	0.0408	mg/kg	12.18.2020 10:58	U	1
o-Xylene	95-47-6	<0.0204	0.0204	mg/kg	12.18.2020 10:58	U	1
Total Xylenes	1330-20-7	<0.0204	0.0204	mg/kg	12.18.2020 10:58	U	1
Total BTEX		<0.0204	0.0204	mg/kg	12.18.2020 10:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.18.2020 10:58	
1,4-Difluorobenzene	540-36-3	111	%	70-130	12.18.2020 10:58	

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Tanks RP

Sample Id:	**FL 45 @ 3"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-022	Date Collected:	12.17.2020 00:00	Sample Depth:	3 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18100**	202	mg/kg	12.18.2020 18:09		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.18.2020 08:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.18.2020 08:49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.18.2020 08:49	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.18.2020 08:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.18.2020 08:49	
o-Terphenyl	84-15-1	118	%	70-135	12.18.2020 08:49	

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Tanks RP

Sample Id:	**FL 45 @ 3"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-022	Date Collected:	12.17.2020 00:00	Sample Depth:	3 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.18.2020 12:18	U	1
Toluene	108-88-3	**0.0194**	0.00200	mg/kg	12.18.2020 12:18		1
Ethylbenzene	100-41-4	**0.0159**	0.00200	mg/kg	12.18.2020 12:18		1
m,p-Xylenes	179601-23-1	**0.0465**	0.00399	mg/kg	12.18.2020 12:18		1
o-Xylene	95-47-6	**0.0168**	0.00200	mg/kg	12.18.2020 12:18		1
Total Xylenes	1330-20-7	**0.0633**	0.00200	mg/kg	12.18.2020 12:18		1
Total BTEX		**0.0986**	0.00200	mg/kg	12.18.2020 12:18		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	12.18.2020 12:18	
1,4-Difluorobenzene	540-36-3	95	%	70-130	12.18.2020 12:18	

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Tanks RP

Sample Id:	**FL 46 @ 3"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-023	Date Collected:	12.17.2020 00:00	Sample Depth:	3 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16100**	202	mg/kg	12.18.2020 18:27		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**347**	50.1	mg/kg	12.18.2020 09:09		1
Diesel Range Organics (DRO)	C10C28DRO	**1410**	50.1	mg/kg	12.18.2020 09:09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**111**	50.1	mg/kg	12.18.2020 09:09		1
Total TPH	PHC635	**1870**	50.1	mg/kg	12.18.2020 09:09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	130	%	70-135	12.18.2020 09:09	
o-Terphenyl	84-15-1	122	%	70-135	12.18.2020 09:09	

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Tanks RP

Sample Id:	**FL 46 @ 3"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-023	Date Collected:	12.17.2020 00:00	Sample Depth:	3 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.18.2020 14:06	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.18.2020 14:06	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.18.2020 14:06	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.18.2020 14:06	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.18.2020 14:06	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.18.2020 14:06	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.18.2020 14:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	12.18.2020 14:06	
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.18.2020 14:06	

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Tanks RP

Sample Id:	**FL 47 @ 3"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-024	Date Collected:	12.17.2020 00:00	Sample Depth:	3 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14400**	201	mg/kg	12.18.2020 18:33		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**241**	50.1	mg/kg	12.18.2020 09:33		1
Diesel Range Organics (DRO)	C10C28DRO	**810**	50.1	mg/kg	12.18.2020 09:33		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**70.9**	50.1	mg/kg	12.18.2020 09:33		1
Total TPH	PHC635	**1120**	50.1	mg/kg	12.18.2020 09:33		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	12.18.2020 09:33	
o-Terphenyl	84-15-1	132	%	70-135	12.18.2020 09:33	

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Tanks RP

Sample Id:	**FL 47 @ 3"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-024	Date Collected:	12.17.2020 00:00	Sample Depth:	3 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.101	0.101	mg/kg	12.18.2020 14:35	U	200
Toluene	108-88-3	**2.93**	0.403	mg/kg	12.18.2020 14:35		200
Ethylbenzene	100-41-4	**2.77**	0.403	mg/kg	12.18.2020 14:35		200
m,p-Xylenes	179601-23-1	**5.66**	0.806	mg/kg	12.18.2020 14:35		200
o-Xylene	95-47-6	**2.51**	0.403	mg/kg	12.18.2020 14:35		200
Total Xylenes	1330-20-7	**8.17**	0.403	mg/kg	12.18.2020 14:35		200
Total BTEX		**13.9**	0.101	mg/kg	12.18.2020 14:35		200

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.18.2020 14:35	
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.18.2020 14:35	

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Tanks RP

Sample Id:	**FL 48 @ 3"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-025	Date Collected:	12.17.2020 00:00	Sample Depth:	3 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14700**	200	mg/kg	12.18.2020 18:39		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**476**	50.1	mg/kg	12.18.2020 09:53		1
Diesel Range Organics (DRO)	C10C28DRO	**2000**	50.1	mg/kg	12.18.2020 09:53		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**161**	50.1	mg/kg	12.18.2020 09:53		1
Total TPH	PHC635	**2640**	50.1	mg/kg	12.18.2020 09:53		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	133	%	70-135	12.18.2020 09:53	
o-Terphenyl	84-15-1	114	%	70-135	12.18.2020 09:53	

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Tanks RP

Sample Id:	**FL 48 @ 3"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-025	Date Collected:	12.17.2020 00:00	Sample Depth:	3 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.100	0.100	mg/kg	12.18.2020 14:58	U	200
Toluene	108-88-3	**3.67**	0.402	mg/kg	12.18.2020 14:58		200
Ethylbenzene	100-41-4	**3.15**	0.402	mg/kg	12.18.2020 14:58		200
m,p-Xylenes	179601-23-1	**5.73**	0.803	mg/kg	12.18.2020 14:58		200
o-Xylene	95-47-6	**2.32**	0.402	mg/kg	12.18.2020 14:58		200
Total Xylenes	1330-20-7	**8.05**	0.402	mg/kg	12.18.2020 14:58		200
Total BTEX		**14.9**	0.100	mg/kg	12.18.2020 14:58		200

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.18.2020 14:58	
4-Bromofluorobenzene	460-00-4	111	%	70-130	12.18.2020 14:58	

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Tanks RP

Sample Id:	**FL 49 @ 3"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-026	Date Collected:	12.17.2020 00:00	Sample Depth:	3 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14600**	200	mg/kg	12.18.2020 18:57		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.18.2020 10:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	**81.3**	50.1	mg/kg	12.18.2020 10:13		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.18.2020 10:13	U	1
Total TPH	PHC635	**81.3**	50.1	mg/kg	12.18.2020 10:13		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.18.2020 10:13	
o-Terphenyl	84-15-1	107	%	70-135	12.18.2020 10:13	

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Tanks RP

Sample Id:	**FL 49 @ 3"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-026	Date Collected:	12.17.2020 00:00	Sample Depth:	3 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.19.2020 07:46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.19.2020 07:46	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.19.2020 07:46	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.19.2020 07:46	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.19.2020 07:46	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.19.2020 07:46	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.19.2020 07:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.19.2020 07:46	
4-Bromofluorobenzene	460-00-4	110	%	70-130	12.19.2020 07:46	

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Tanks RP

Sample Id:	**FL 50 @ 3"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-027	Date Collected:	12.17.2020 00:00	Sample Depth:	3 in

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 12:45	% Moisture:	
Seq Number:	3145342			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14100**	200	mg/kg	12.18.2020 19:03		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.18.2020 10:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.18.2020 10:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.18.2020 10:34	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.18.2020 10:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	12.18.2020 10:34	
o-Terphenyl	84-15-1	117	%	70-135	12.18.2020 10:34	

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Tanks RP

Sample Id:	**FL 50 @ 3"**	Matrix:	Soil	Date Received:	12.17.2020 10:38
Lab Sample Id:	681584-027	Date Collected:	12.17.2020 00:00	Sample Depth:	3 in
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0213	0.0213	mg/kg	12.18.2020 11:20	U	1
Toluene	108-88-3	<0.0213	0.0213	mg/kg	12.18.2020 11:20	U	1
Ethylbenzene	100-41-4	<0.0213	0.0213	mg/kg	12.18.2020 11:20	U	1
m,p-Xylenes	179601-23-1	<0.0426	0.0426	mg/kg	12.18.2020 11:20	U	1
o-Xylene	95-47-6	<0.0213	0.0213	mg/kg	12.18.2020 11:20	U	1
Total Xylenes	1330-20-7	<0.0213	0.0213	mg/kg	12.18.2020 11:20	U	1
Total BTEX		<0.0213	0.0213	mg/kg	12.18.2020 11:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.18.2020 11:20	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.18.2020 11:20	

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 681584

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Etech Environmental & Safety Solution, Inc

Tanks RP

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145340 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717428-1-BLK — LCS Sample Id: 7717428-1-BKS — LCSD Sample Id: 7717428-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	244	98	247	99	90-110	1	20	mg/kg	12.18.2020 12:46	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145342 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717429-1-BLK — LCS Sample Id: 7717429-1-BKS — LCSD Sample Id: 7717429-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	247	99	247	99	90-110	0	20	mg/kg	12.18.2020 16:33	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145340 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681577-001 — MS Sample Id: 681577-001 S — MSD Sample Id: 681577-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	22.6	200	213	95	215	96	90-110	1	20	mg/kg	12.18.2020 13:04	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145340 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681584-002 — MS Sample Id: 681584-002 S — MSD Sample Id: 681584-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11600	201	11800	100	11800	100	90-110	0	20	mg/kg	12.18.2020 14:58	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145342 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681584-012 — MS Sample Id: 681584-012 S — MSD Sample Id: 681584-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10600	198	10800	101	10800	100	90-110	0	20	mg/kg	12.18.2020 16:51	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145342 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681584-022 — MS Sample Id: 681584-022 S — MSD Sample Id: 681584-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	18100	200	18300	100	18300	102	90-110	0	20	mg/kg	12.18.2020 18:15	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Final 1.000

QC Summary 681584

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Etech Environmental & Safety Solution, Inc

Tanks RP

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145453 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717422-1-BLK — LCS Sample Id: 7717422-1-BKS — LCSD Sample Id: 7717422-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1060	106	1090	109	70-135	3	35	mg/kg	12.18.2020 03:45	
Diesel Range Organics (DRO)	<50.0	1000	1070	107	1050	105	70-135	2	35	mg/kg	12.18.2020 03:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		104		110		70-135	%	12.18.2020 03:45
o-Terphenyl	110		101		103		70-135	%	12.18.2020 03:45

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145454 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717423-1-BLK — LCS Sample Id: 7717423-1-BKS — LCSD Sample Id: 7717423-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1010	101	1160	116	70-135	14	35	mg/kg	12.18.2020 03:45	
Diesel Range Organics (DRO)	<50.0	1000	1010	101	1130	113	70-135	11	35	mg/kg	12.18.2020 03:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		114		115		70-135	%	12.18.2020 03:45
o-Terphenyl	122		105		115		70-135	%	12.18.2020 03:45

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145453 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717422-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.18.2020 03:25	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145454 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717423-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.18.2020 03:25	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Final 1.000

QC Summary 681584

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Tanks RP

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145453 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681582-002 — MS Sample Id: 681582-002 S — MSD Sample Id: 681582-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	1120	112	1020	102	70-135	9	35	mg/kg	12.18.2020 04:46	
Diesel Range Organics (DRO)	<49.9	998	1050	105	1120	112	70-135	6	35	mg/kg	12.18.2020 04:46	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		100		70-135	%	12.18.2020 04:46
o-Terphenyl	113		117		70-135	%	12.18.2020 04:46

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145454 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681699-001 — MS Sample Id: 681699-001 S — MSD Sample Id: 681699-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	1190	119	1110	111	70-135	7	35	mg/kg	12.18.2020 04:46	
Diesel Range Organics (DRO)	<50.2	1000	1210	121	1170	117	70-135	3	35	mg/kg	12.18.2020 04:46	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		108		70-135	%	12.18.2020 04:46
o-Terphenyl	114		102		70-135	%	12.18.2020 04:46

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145319 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717413-1-BLK — LCS Sample Id: 7717413-1-BKS — LCSD Sample Id: 7717413-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.104	104	0.109	109	70-130	5	35	mg/kg	12.17.2020 19:38	
Toluene	<0.00200	0.100	0.0995	100	0.109	109	70-130	9	35	mg/kg	12.17.2020 19:38	
Ethylbenzene	<0.00200	0.100	0.0929	93	0.0974	97	71-129	5	35	mg/kg	12.17.2020 19:38	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.198	99	70-135	5	35	mg/kg	12.17.2020 19:38	
o-Xylene	<0.00200	0.100	0.0925	93	0.0977	98	71-133	5	35	mg/kg	12.17.2020 19:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		95		97		70-130	%	12.17.2020 19:38
4-Bromofluorobenzene	88		86		87		70-130	%	12.17.2020 19:38

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 681584

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Tanks RP

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145455 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717415-1-BLK — LCS Sample Id: 7717415-1-BKS — LCSD Sample Id: 7717415-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0992	99	0.0996	100	70-130	0	35	mg/kg	12.18.2020 06:15	
Toluene	<0.00200	0.100	0.0896	90	0.0919	92	70-130	3	35	mg/kg	12.18.2020 06:15	
Ethylbenzene	<0.00200	0.100	0.0926	93	0.0944	94	71-129	2	35	mg/kg	12.18.2020 06:15	
m,p-Xylenes	<0.00400	0.200	0.191	96	0.194	97	70-135	2	35	mg/kg	12.18.2020 06:15	
o-Xylene	<0.00200	0.100	0.0953	95	0.0982	98	71-133	3	35	mg/kg	12.18.2020 06:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		105		104		70-130	%	12.18.2020 06:15
4-Bromofluorobenzene	115		110		110		70-130	%	12.18.2020 06:15

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145319 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681582-002 — MS Sample Id: 681582-002 S — MSD Sample Id: 681582-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.109	109	0.106	106	70-130	3	35	mg/kg	12.17.2020 20:23	
Toluene	<0.00199	0.0996	0.106	106	0.103	103	70-130	3	35	mg/kg	12.17.2020 20:23	
Ethylbenzene	<0.00199	0.0996	0.0998	100	0.0965	97	71-129	3	35	mg/kg	12.17.2020 20:23	
m,p-Xylenes	<0.00398	0.199	0.204	103	0.198	99	70-135	3	35	mg/kg	12.17.2020 20:23	
o-Xylene	<0.00199	0.0996	0.101	101	0.0973	97	71-133	4	35	mg/kg	12.17.2020 20:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		94		70-130	%	12.17.2020 20:23
4-Bromofluorobenzene	90		88		70-130	%	12.17.2020 20:23

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3145455 — Matrix: Soil — Date Prep: 12.17.2020
Parent Sample Id: 681699-001 — MS Sample Id: 681699-001 S — MSD Sample Id: 681699-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0946	95	0.0906	91	70-130	4	35	mg/kg	12.18.2020 07:00	
Toluene	<0.00200	0.0998	0.0806	81	0.0772	78	70-130	4	35	mg/kg	12.18.2020 07:00	
Ethylbenzene	<0.00200	0.0998	0.0759	76	0.0761	77	71-129	0	35	mg/kg	12.18.2020 07:00	
m,p-Xylenes	<0.00399	0.200	0.151	76	0.149	75	70-135	1	35	mg/kg	12.18.2020 07:00	
o-Xylene	<0.00200	0.0998	0.0761	76	0.0784	79	71-133	3	35	mg/kg	12.18.2020 07:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	12.18.2020 07:00
4-Bromofluorobenzene	115		118		70-130	%	12.18.2020 07:00

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

Chain of Custody

XENCO

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

Work Order No: 681584

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Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	Etech Environmental & Safety	Company Name:	Goodnight
Address:	3100 Plains Highway	Address:	
City, State ZIP:	Lovington, NM, 88260	City, State ZIP:	
Phone:	575-396-2378	Email:	Email Results to PM@etechenv.com + Client

Work Order Comments

Program: UST/PST [ ] PRP [ ] Brownfields [ ] RRC [ ] Superfund [ ]
State of Project:
Reporting: Level I [ ] Level II [ ] PST/UST [ ] TRRP [ ] Level IV [ ]
Deliverables: EDD [ ] ADaPT [ ] Other:

Project Name:	Tanks RP	Turn Around	
Project Number:	13563	Routine:	✓
Project Location	Rural Eddy County, NM	Rush:	[ ]
Sampler's Name:	Miguel Ramirez	Due Date:	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.0 / 2.8	Thermometer ID	T-NM-007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	27

ANALYSIS REQUEST

Preservative Codes

HNO3: HN
H2S04: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	Chloride E300	BTEX 8021	TPH Modified Ext	TPH TX1005	Sample Comments
FL5@8"	S	12.17.20		8"	1	X	X	X		miguel@etechenv.com
FL6@10"	S	12.17.20		10"	1	X	X	X		
FL 26 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 27 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 28 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 29 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 30 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 31 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 32 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 33 @ 8"	S	12.17.20		8"	1	X	X	X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			12.17.20 1038			
3						
5						

Revised Date 101419 Rev. 2019.1

Chain of Custody

XENCO

Work Order No: 681584

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

Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	Etech Environmental & Safety	Company Name:	Goodnight
Address:	3100 Plains Highway	Address:	
City, State ZIP:	Lovington, NM, 88260	City, State ZIP:	
Phone:	575-396-2378	Email:	Email Results to PM@etechenv.com + Client

Work Order Comments

Program: UST/PST [ ] PRP [ ] Brownfields [ ] RRC [ ] Superfund [ ]
State of Project:
Reporting: Level II [ ] Level III [ ] PST/UST [ ] TRRP [ ] Level IV [ ]
Deliverables: EDD [ ] ADaPT [ ] Other:

Project Name:	Tanks RP	Turn Around	
Project Number:	13553	Routine:	☑
Project Location	Rural Eddy county, NM	Rush:	[ ]
Sampler's Name:	Miguel Ramirez	Due Date:	
PO #:			

SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):			Thermometer ID		
Received Intact:	Yes No		See Page1		
Cooler Custody Seals:	Yes No N/A		Correction Factor:		
Sample Custody Seals:	Yes No N/A		Total Containers:		

ANALYSIS REQUEST

Preservative Codes

HNO3: HN
H2S04: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	Chloride E300	BTEX 8021	TPH Modified Ext	TPH TX1005	Sample Comments
FL 34 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 35 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 36 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 37 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 38 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 39 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 40 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 41 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 42 @ 8"	S	12.17.20		8"	1	X	X	X		
FL 43 @ 8"	S	12.17.20		8"	1	X	X	X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Ave Cruz	12.17.20 1038	4		
3			6		
5					

Revised Date 08141Rev. 2019.1

Chain of Custody

XENCO

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

Work Order No: 681584

www.xenco.com Page 3 of 3

Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	Etech Environmental & Safety	Company Name:	Goodnight
Address:	3100 Plains Highway	Address:	
City, State ZIP:	Lovington, NM, 88260	City, State ZIP:	
Phone:	575-396-2378	Email:	Email Results to PM@etechenv.com + Client

Work Order Comments

Program: UST/PST [ ] PRP [ ] Brownfields [ ] RRC [ ] Superfund [ ]
State of Project:
Reporting: Level II [ ] Level III [ ] PST/UST [ ] TRRP [ ] Level IV [ ]
Deliverables: EDD [ ] ADaPT [ ] Other:

Project Name:	Tanks RP	Turn Around	
Project Number:	13553	Routine:	✓
Project Location	Rural Eddy County, NM	Rush:	[ ]
Sampler's Name:	Miguel Luminez	Due Date:	
PO #:			

SAMPLE RECEIPT				
Temperature (°C):	Temp Blank:	Yes No	Wet Ice:	Yes No
Received Intact:	Yes No	Thermometer ID	See Page 1	
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Total Containers:		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	Chloride E300	BTEX 8021	TPH Modified Ext	TPH TX1005
FL 44 @ 8"	S	12.17.20		8"	1	X	X	X	
FL 45 @ 3"	S	12.17.20		3"	1	X	X	X	
FL 46 @ 3"	S	12.17.20		3"	1	X	X	X	
FL 47 @ 3"	S	12.17.20		3"	1	X	X	X	
FL 48 @ 3"	S	12.17.20		3"	1	X	X	X	
FL 49 @ 3"	S	12.17.20		3"	1	X	X	X	
FL 50 @ 3"	S	12.17.20		3"	1	X	X	X	

Preservative Codes

HNO3: HN
H2S04: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:30pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Cloe Cuate	12.17.20 1035	2		
3			4		
5			6		

Revised Date 101419 Rev. 2019.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 12.17.2020 10.38.00 AM

Work Order #: 681584

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T_NM_007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 12.17.2020

Checklist reviewed by: Jessica Kramer Date: 12.17.2020

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Certificate of Analysis Summary 682735

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP Release

Project Id: 13553
Contact: Joel Lowry
Project Location: Rural Eddy County, New Mexico

Date Received in Lab: Mon 12.28.2020 15:36
Report Date: 12.29.2020 10:46
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	682735-001		682735-002		682735-003				
	Field Id:	FL 7 @ 14"		FL 48 @ 9"		FL 46 @ 6"				
	Depth:	14- in		9- in		6- in				
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	12.28.2020 00:00		12.28.2020 00:00		12.28.2020 00:00				
TPH By SW8015 Mod	***Extracted:***	12.28.2020 16:58		12.28.2020 16:58		12.28.2020 16:58				
	Analyzed:	12.28.2020 23:38		12.29.2020 00:39		12.29.2020 01:00				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<49.8	49.8	<50.0	50.0			
Diesel Range Organics (DRO)		<49.8	49.8	204	49.8	<50.0	50.0			
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<49.8	49.8	<50.0	50.0			
Total TPH		<49.8	49.8	204	49.8	<50.0	50.0			

BRL - Below Reporting Limit

Jessica Kramer

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

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Analytical Report 682735

for

Etech Environmental & Safety Solution, Inc

Project Manager: Joel Lowry

Tanks RP Release

13553

12.29.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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12.29.2020

Project Manager: **Joel Lowry**
Etech Environmental & Safety Solution, Inc
P.O. Box 62228
Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **682735**
Tanks RP Release
Project Address: Rural Eddy County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 682735. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 682735 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 682735

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP Release

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FL 7 @ 14"	S	12.28.2020 00:00	14 in	682735-001
FL 48 @ 9"	S	12.28.2020 00:00	9 in	682735-002
FL 46 @ 6"	S	12.28.2020 00:00	6 in	682735-003

CASE NARRATIVE

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Client Name: Etech Environmental & Safety Solution, Inc

Project Name: Tanks RP Release

Project ID: *13553*
Work Order Number(s): *682735*

Report Date: *12.29.2020*
Date Received: *12.28.2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 682735

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP Release

Sample Id:	**FL 7 @ 14''**	Matrix:	Soil	Date Received:	12.28.2020 15:36
Lab Sample Id:	682735-001	Date Collected:	12.28.2020 00:00	Sample Depth:	14 in
Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.28.2020 16:58	% Moisture:	
Seq Number:	3146197			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.28.2020 23:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.28.2020 23:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.28.2020 23:38	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.28.2020 23:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.28.2020 23:38	
o-Terphenyl	84-15-1	106	%	70-135	12.28.2020 23:38	

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Certificate of Analytical Results 682735

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP Release

Sample Id:	**FL 48 @ 9''**	Matrix:	Soil	Date Received:	12.28.2020 15:36
Lab Sample Id:	682735-002	Date Collected:	12.28.2020 00:00	Sample Depth:	9 in
Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.28.2020 16:58	% Moisture:	
Seq Number:	3146197			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.29.2020 00:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	**204**	49.8	mg/kg	12.29.2020 00:39		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.29.2020 00:39	U	1
Total TPH	PHC635	**204**	49.8	mg/kg	12.29.2020 00:39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.29.2020 00:39	
o-Terphenyl	84-15-1	101	%	70-135	12.29.2020 00:39	

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Certificate of Analytical Results 682735

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP Release

Sample Id:	**FL 46 @ 6''**	Matrix:	Soil	Date Received:	12.28.2020 15:36
Lab Sample Id:	682735-003	Date Collected:	12.28.2020 00:00	Sample Depth:	6 in
Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.28.2020 16:58	% Moisture:	
Seq Number:	3146197			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.29.2020 01:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.29.2020 01:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.29.2020 01:00	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.29.2020 01:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.29.2020 01:00	
o-Terphenyl	84-15-1	105	%	70-135	12.29.2020 01:00	

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

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QC Summary 682735

Etech Environmental & Safety Solution, Inc

Tanks RP Release

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3146197 Matrix: Solid Date Prep: 12.28.2020
MB Sample Id: 7718038-1-BLK LCS Sample Id: 7718038-1-BKS LCSD Sample Id: 7718038-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1050	105	1120	112	70-135	6	35	mg/kg	12.28.2020 22:58	
Diesel Range Organics (DRO)	<50.0	1000	1090	109	1120	112	70-135	3	35	mg/kg	12.28.2020 22:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		94		96		70-135	%	12.28.2020 22:58
o-Terphenyl	97		100		119		70-135	%	12.28.2020 22:58

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3146197 Matrix: Solid Date Prep: 12.28.2020
MB Sample Id: 7718038-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.28.2020 22:38	

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3146197 Matrix: Soil Date Prep: 12.28.2020
Parent Sample Id: 682735-001 MS Sample Id: 682735-001 S MSD Sample Id: 682735-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	1110	111	1180	118	70-135	6	35	mg/kg	12.28.2020 23:59	
Diesel Range Organics (DRO)	<50.1	1000	1130	113	1130	113	70-135	0	35	mg/kg	12.28.2020 23:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		105		70-135	%	12.28.2020 23:59
o-Terphenyl	106		108		70-135	%	12.28.2020 23:59

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Chain of Custody

XENCO

Work Order No: 6682735

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

Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	Etech Environmental & Safety	Company Name:	Goodnight
Address:	3100 Plains Highway	Address:	
City, State ZIP:	Lovington, NM, 88260	City, State ZIP:	
Phone:	575-396-2378	Email:	Email Results to PM@etechenv.com + Client

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Tanks RP Release	Turn Around	
Project Number:	13553	Routine:	☐
Project Location	Rural Eddy county, NM	Rush:	4/24/6
Sampler's Name:	Miguel Ramirez	Due Date:	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	2.0/1.8	Thermometer ID		
Received Intact:	(Yes) No	T-NM.007		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes (No) N/A	Total Containers:	3	

Preservative Codes

HNO3: HN
H2S04: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	Chloride E300	BTEX 8021	TPH Modified Ext	TPH TX1005	Sample Comments
FL 7@14"	S	12.27.20		14"	1	X		X		
FL 4@9"	S	12.27.20		9"	1			X		
FL 6@6"	S	12.28.20		6"	1			X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Cloe Cuffo	12.28.20 1536	2		
3				4		
5				6		

Revised Date 10 14 19 Rev. 2019 1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Etech Environmental & Safety Solution, I

Date/ Time Received: 12.28.2020 03.36.00 PM

Work Order #: 682735

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T_NM_007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 Custody Seals intact on sample bottles?	**Yes**	
#6*Custody Seals Signed and dated?	**Yes**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	Samples received in bulk containers.
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**No**	
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 12.28.2020

Checklist reviewed by: Date: 12.28.2020

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Certificate of Analysis Summary 683013

Etech Environmental & Safety Solution, Inc, Midland, TX

Project Name: Tanks RP Release

Project Id: 13553
Contact: Ronny Matte
Project Location: Rural Eddy County

Date Received in Lab: Wed 12.30.2020 13:50
Report Date: 12.31.2020 14:04
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	683013-001		683013-002					
	Field Id:	FL35@10"		FL47@5"					
	Depth:	10- ft		5- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	12.30.2020 00:00		12.30.2020 00:00					
TPH By SW8015 Mod	***Extracted:***	12.30.2020 17:00		12.30.2020 17:00					
	Analyzed:	12.30.2020 19:40		12.30.2020 20:41					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.0	50.0				
Diesel Range Organics (DRO)		<49.9	49.9	<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.0	50.0				
Total TPH		<49.9	49.9	<50.0	50.0				

BRL - Below Reporting Limit

Jessica Kramer

eurofins | Environment Testing Xenco

Analytical Report 683013

for

Etech Environmental & Safety Solution, Inc

Project Manager: Ronny Matte

Tanks RP Release

13553

12.31.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

eurofins | Environment Testing Xenco

12.31.2020

Project Manager: **Ronny Matte**
Etech Environmental & Safety Solution, Inc
P.O. Box 62228
Midland, TX 79711

Reference: Eurofins Xenco, LLC Report No(s): **683013**
Tanks RP Release
Project Address: Rural Eddy County

Ronny Matte:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 683013. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 683013 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

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Sample Cross Reference 683013

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP Release

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FL35@10"	S	12.30.2020 00:00	10 ft	683013-001
FL47@5"	S	12.30.2020 00:00	5 ft	683013-002

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CASE NARRATIVE

Client Name: Etech Environmental & Safety Solution, Inc

Project Name: Tanks RP Release

Project ID: *13553*
Work Order Number(s): *683013*

Report Date: *12.31.2020*
Date Received: *12.30.2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 683013

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP Release

Sample Id:	**FL35@10"**	Matrix:	Soil	Date Received:	12.30.2020 13:50
Lab Sample Id:	683013-001	Date Collected:	12.30.2020 00:00	Sample Depth:	10 ft
Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.30.2020 17:00	% Moisture:	
Seq Number:	3146471			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.30.2020 19:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.30.2020 19:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.30.2020 19:40	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.30.2020 19:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.30.2020 19:40	
o-Terphenyl	84-15-1	106	%	70-135	12.30.2020 19:40	

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Certificate of Analytical Results 683013

Etech Environmental & Safety Solution, Inc, Midland, TX

Tanks RP Release

Sample Id:	**FL47@5"**	Matrix:	Soil	Date Received:	12.30.2020 13:50
Lab Sample Id:	683013-002	Date Collected:	12.30.2020 00:00	Sample Depth:	5 ft
Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.30.2020 17:00	% Moisture:	
Seq Number:	3146471			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.30.2020 20:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.30.2020 20:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.30.2020 20:41	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.30.2020 20:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	12.30.2020 20:41	
o-Terphenyl	84-15-1	109	%	70-135	12.30.2020 20:41	

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 683013

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Etech Environmental & Safety Solution, Inc

Tanks RP Release

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3146471 — Matrix: Solid — Date Prep: 12.30.2020
MB Sample Id: 7718213-1-BLK — LCS Sample Id: 7718213-1-BKS — LCSD Sample Id: 7718213-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1090	109	1160	116	70-135	6	35	mg/kg	12.30.2020 18:58	
Diesel Range Organics (DRO)	<50.0	1000	1120	112	1130	113	70-135	1	35	mg/kg	12.30.2020 18:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	88		108		101		70-135	%	12.30.2020 18:58
o-Terphenyl	80		110		102		70-135	%	12.30.2020 18:58

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3146471 — Matrix: Solid — Date Prep: 12.30.2020
MB Sample Id: 7718213-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.30.2020 18:38	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3146471 — Matrix: Soil — Date Prep: 12.30.2020
Parent Sample Id: 683013-001 — MS Sample Id: 683013-001 S — MSD Sample Id: 683013-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	1200	120	1100	110	70-135	9	35	mg/kg	12.30.2020 20:00	
Diesel Range Organics (DRO)	<50.1	1000	982	98	1080	108	70-135	10	35	mg/kg	12.30.2020 20:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		111		70-135	%	12.30.2020 20:00
o-Terphenyl	113		109		70-135	%	12.30.2020 20:00

MS/MSD Percent Recovery — [D] = 100*(C-A) / B
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery — [D] = 100 * (C) / [B]
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Final 1.000

Chain of Custody

Work Order No: 683013

XENCO
Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440, El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
Atlanta, GA (770) 449-8800
www.xenco.com Page 1 of 1

Project Manager:	Joel Lowry	Bill to: (if different)	
Company Name:	Etech Environmental & Safety	Company Name:	Goodnight Midstream
Address:	3100 Plains Highway	Address:	
City, State ZIP:	Lovington, NM, 88260	City, State ZIP:	
Phone:	575-396-2378	Email:	Email Results to PM@etechenv.com + Client

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level I ☐ Level II ☐ PST/US ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Tanks RP Release	Turn Around	
Project Number:	13553	Routine:	☐
Project Location	Rural Eddy county, NM	Rush:	24 hr ☑
Sampler's Name:	Miguel Ramirez	Due Date:	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	2.8 / 2.6	Thermometer ID		
Received Intact:	(Yes) / No	TPH007		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:	2	

Preservative Codes

HNO3: HN
H2S04: H2
HCL: HL
None: NO
NaOH: Na
MeOH: Me
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers/Preservative Code	Chloride E300	BTEX 8021	TPH Modified Ext	TPH TX1005	Sample Comments
FL35@10"	S	12.30.20		10"	1			X		
FL47@5"	S	12.30.20		5"	1			X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			123020 1354	2		
3				4		
5				6		

Revised Date 101419 Rev. 2019.1

Appendix D
Photographic Log

Photographic Log

Photo Number: 1 **Photo Direction:** North **Photo Description:** Release	
Photo Number: 2 **Photo Direction:** West-Northwest **Photo Description:** Release	

Photographic Log

Photo Number: 3 **Photo Direction:** Northeast **Photo Description:** Release	

Photo Number: 4 **Photo Direction:** Southeast **Photo Description:** Release	

Photographic Log

Photo Number: 5 **Photo Direction:** Southwest **Photo Description:** Release	

Photo Number: 6 **Photo Direction:** South-Southeast **Photo Description:** Release	

Photographic Log

Photo Number: 7	
Photo Direction: Northeast	
Photo Description: Release	

Photo Number: 8	
Photo Direction: Southwest	
Photo Description: Release	

Photographic Log

Photo Number: 9 **Photo Direction:** North **Photo Description:** Release	

Photo Number: 10 **Photo Direction:** Southwest **Photo Description:** Release	

Photographic Log

Photo Number: 11 **Photo Direction:** Northwest **Photo Description:** Excavation	

Photo Number: 12 **Photo Direction:** Northwest **Photo Description:** Excavation	

Photographic Log

Photo Number: 13 **Photo Direction:** West **Photo Description:** Excavation	

Photo Number: 14 **Photo Direction:** West **Photo Description:** Excavation	

Photographic Log

Photo Number: 15	
Photo Direction: North	
Photo Description: Excavation	

Photo Number: 16	
Photo Direction: Northeast	
Photo Description: Excavation	

Photographic Log

Photo Number: 17 **Photo Direction:** South **Photo Description:** Backfilled Excavation	

Photo Number: 18 **Photo Direction:** South **Photo Description:** Backfilled Excavation	

Photographic Log

Photo Number: 19 **Photo Direction:** Northeast **Photo Description:** Backfilled Excavation	

Photo Number: 20 **Photo Direction:** West **Photo Description:** Backfilled Excavation	

Photographic Log

Photo Number: 21	
Photo Direction: West	
Photo Description: Backfilled Excavation	

Photo Number: 22	
Photo Direction: South	
Photo Description: Backfilled Excavation	

Appendix E
Basic Data Report for
Drillhole SNL-15 (C-3152)

DOE/WIPP-05-3325

Basic Data Report
For Drillhole SNL-15 (C-3152)
(Waste Isolation Pilot Plant)

September 2008

This document has been submitted as required to:

Office of Scientific and Technical Information
P.O. Box 62
Oak Ridge, TN 37831
Prices available from (865) 576-8401

Additional information about this document may be obtained by calling (800) 336-9477. Copies may be obtained by contacting the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161

Processing and final preparation of this report was performed by the Waste Isolation Pilot Plant Management and Operating Contractor for the U.S. Department of Energy under Contract No. DE-AC29-01AL66444.

DOE/WIPP-05-3325

Basic Data Report
For Drillhole SNL-15 (C-3152)
(Waste Isolation Pilot Plant)

Dennis W. Powers
Consulting Geologist
140 Hemley Road
Anthony, TX 79821

and

Ronald G. Richardson
Washington Regulatory and Environmental Services
P.O. Box 2078
Carlsbad, NM 88220

September 2008

West Texas Water Well Service, Rig #15 at SNL-15, viewed toward the west. The 7.875-inch rotary bit has been laid down, and the crew is tripping in to begin coring using compressed air. Photo taken June 5, 2005, by Dennis W. Powers.

EXECUTIVE SUMMARY

SNL-15 (permitted by the New Mexico State Engineer as C-3152) was drilled and completed in early June 2005 to provide geological data and hydrological testing of the Culebra Dolomite Member of the Permian Rustler Formation in an area east of the Waste Isolation Pilot Plant (WIPP) site where data are sparse and where Culebra transmissivity is expected to be very low. SNL-15 is located near the southeast corner of section 26, T22S, R31E, in eastern Eddy County, New Mexico. SNL-15 was drilled to a total depth of 950 ft below ground level (bgl), based on driller's measurements. Below the caliche pad, SNL-15 encountered the Mescalero caliche, Gatuña, Santa Rosa, Dewey Lake, and Rustler Formations. The Rustler was cored from the lower Tamarisk Member through the Culebra Dolomite and into the upper Los Medaños Member. Geophysical logs were acquired from the open hole to a depth of ~938 ft. No water was observed

The upper part of the Los Medaños has normal lithology, thickness, and stratigraphic sequence for areas east of WIPP. The upper clastic-halite unit of the Los Medaños (M-2/H-2) at SNL-15 was well preserved in cores, and it was dominated by halite, consistent with expectations based on previous drilling at this location. The halite is medium-to-coarse crystalline, generally white to brown, and it is bedded and interbedded with thin mudstone layers. The halite displays both displacive and incorporative growth. The contact with the overlying Culebra was recovered as a single core, and the uppermost core from M-2 is well-laminated gray silty claystone, does not indicate signi cant deformation, and grades sharply into the overlying dolomite.

Core recovery from the Culebra was complete, revealing a unit with no observable open porosity. There are some narrow fractures within the core, and they are lled or lined with halite that is generally brous. Some sulfate vug llings also exhibits coarse, clear halite cements. Smaller vugs are present in the lower third of the Culebra, below ~924 ft (as marked on the core), but they also are lled with dolomite(?) silt. Some subhorizontal bedding occurs throughout the core, and there are concentrated laminae at ~923 ft and 910 ft. Small sulfate nodules are more abundant in the upper 1 ft of the Culebra than in most such cores, and the more organic-rich zone that commonly marks the top of dolomite is just below the nodular zone. The Culebra is 30.5 ft thick in core and 30 ft thick as interpreted by geophysical logs. This is thicker than normal for the WIPP site, but it is consistent with modest thickening toward the east and southeast previously interpreted. Given the presence of halite and fractures and porosity, the Culebra will have low transmissivity compared to most wells tested at WIPP.

The Tamarisk has a normal stratigraphic sequence for the area east of WIPP and greater thickness than at the WIPP site because of halite beds. Only the lower few feet of the Tamarisk were recoverd as core. Geophysical logs and cuttings are the basis for interpreting the rest of the unit. The basal sulfate unit (A-2) includes horizontal beds and laminae near the base. The geophysical log shows a thin argillaceous zone in the upper part of A-2 that is persistent across the WIPP area. At SNL-15, halite (H-3) dominates over mudstone (M-3). Halite overlies A-2, followed by mixed halite and mudstone that is ~16 ft thick. Above the mixed zone, a sulfate and halite bed ~12 ft thick includes ~2-4 ft of polyhalite at the top. This sulfate bed persists east and southeast of the WIPP site as a stratigraphic unit. Nearly 50 ft of halite, with another thin sulfate bed, cap the polyhalite and are the nal deposit of the M-3/H-3 complex. The upper Tamarisk sulfate (A-3) is nearly 55 ft thick, consistent with other encounters in the area.

The Magenta Dolomite is ~24 ft thick, based on geophysical logs. The Magenta was not cored, and cuttings revealed only general composition of dolomite and some sulfate. Resistivity logs

showed the Magenta to be more conductive than underlying and overlying anhydrite beds. There are some modest differences in resistivity in the upper part of the Magenta, but no indications of .

The Forty-niner is represented by a sequence of sulfate–halite and mudstone–sulfate sequence. The basal anhydrite (A-4) is ~16 ft thick and shows little evidence of M-4/H-4 is dominated by halite, with a more argillaceous zone, ~10 ft thick in the middle. At 660 ft, a thin, higher density bed is likely to be sulfatic and may even be somewhat polyhalitic, given a modestly elevated natural gamma. There are upper and lower halite zones in M-4/H-4 that show little natural gamma and should be nearly pure halite. The upper anhydrite (A-5) of the Forty-niner is 28 ft thick, and the contact with the overlying Dewey Lake appears sharp on the logs.

The Dewey Lake is thicker at SNL-15 than in drillholes farther west where the upper part of the formation has been eroded. Cuttings showed more gypsum and probable sulfate cement below 250 ft, and induction resistivity increased and remained higher below that point. This is among the higher stratigraphic positions where this cement has been encountered in WIPP drillholes.

The remaining Santa Rosa Formation at SNL-15 is represented by interbedded reddish-brown siltstones and sandstones.

The Gatuña at SNL-15 is mainly calcareous sandstone, with carbonate at the top. Manganese oxide stains found here in the Gatuña are also common elsewhere in the formation.

The Mescalero caliche is moderately indurated at SNL-15, but cuttings were to determine the stage of development.

SNL-15 was drilled (and reamed through cored intervals) with an original diameter of 7.875 inches to the depth for completion. Fiberglass reinforced plastic (FRP) tubing (2.48 inches inside diameter) was placed in the hole, with a screen interval across the Culebra Dolomite from 928.5–902.0 ft below the top of the connector on the conductor casing. Because of the low transmissivity of the Culebra in this area, no pumping test is anticipated that would require larger casing. Approximately 2.5 ft of FRP casing was left above the connector. HolePlug® (bentonite) was placed in the bottom of the hole to 935 ft, and the annulus was lled with 4/10 gravel to 896 ft, above the Culebra. HolePlug® was placed from 896–891 ft to separate the Culebra from the Tamarisk mudstone. The annulus above the bentonite was cemented to the surface.

SNL-15 was completed June 7, 2005. SNL (Sandia National Laboratories) installed a miniTroll on June 23, 2005, to monitor pressure changes in response to testing at other wells and recovery after drilling. The water level recorded by Washington Regulatory and Environmental Services (WRES) was measured April 11, 2006; water was 692.67 ft below the top of the casing.

Table of Contents

List of Figures and Tables

In keeping with practice at the WIPP site, the basic data for SNL-15 are reported in the inch-pound, or English, system; metric equivalents are given in one The following conversion factors for metric equivalents may be useful:

MULTIPLY ENGLISH UNIT	BY	TO OBTAIN METRIC UNIT
foot (ft)	0.3048	meter (m)
inch (in.)	25.4	millimeter (mm)
inch (in.)	2.54	centimeter (cm)
pounds (lb)	0.4536	kilogram (kg)

Drilling Crew for West Texas Water Well Service on SNL-15: Luis Armendariz (l: driller), Israel Galván (c), and Reuben Bugarin (r). Photo by Dennis W. Powers, June 5, 2005.

1.0 Introduct Ion

SNL-15 was drilled near the southeast corner of section 26, T22S, R31E, in eastern Eddy County, New Mexico (Fig. 1-1). It is located 102 ft from the south line (fsl) and 807 ft from the east line (fel) of the section (Fig. 1-2). This location places the drillhole east of the WIPP site and on the drillpad used for P-18 (Jones, 1978), which has now been plugged and abandoned. SNL-15 was begun on June 1, 2005, and was completed June 7. SNL-15 will be used to monitor groundwater levels of the Culebra Dolomite Member of the Permian Rustler Formation for the WIPP in an area of very low transmissivity.

SNL-15 was permitted by the New Mexico State Engineer as C-3152. Of cial correspondence regarding permitting and regulatory information must reference this permit number.

Most drillholes at WIPP have been described after completion to provide an account of the geology, hydrology, or other basic data acquired during drilling and immediate completion of the drillhole. In addition, the basic data report provides an account of the drilling procedures and activities that may be helpful to later interpretations of data or for further work in the drillhole, including test activities and eventual plugging and abandoning activities. The basic data report also provides a convenient means of reporting information about administrative activities necessary to drill the hole.

1.1 Purpose of WIPP

WIPP is a U.S. Department of Energy (DOE) facility disposing of transuranic and mixed waste, byproducts of U.S. defense programs, as certi ed by the U.S. Environmental Protection Agency (EPA) and under a permit issued by the New Mexico Environment Department. WIPP is located about 25 miles east of Carlsbad, New Mexico, in eastern Eddy County (Fig. 1-1). Disposal panels are being excavated in the Permian Salado Formation at a depth of about 2,150 ft bgl.

1.2 Purpose of Sn L-15

SNL-15 was designed and located to provide information for the integrated hydrology program for the WIPP (Sandia National Laboratories [SNL], 2003). Among the objectives of the integrated hydrology program, SNL-15 will help "… resolve questions related to observed water-level changes around the WIPP site, provide data needed for comprehensive modeling of WIPP groundwater hydrology, [and] construct a groundwater monitoring network that can be maintained throughout the operational period of WIPP …" (p. 1).

Culebra water levels in many of the wells monitored for WIPP have been rising in recent years, contrasting with the conditions used to calibrate models of the Culebra across the site area (SNL, 2003) for the Compliance Cert ation Application (CCA; U.S. DOE, 1996). Hydraulic properties of the Culebra vary spatially, and three factors (overburden, upper Salado dissolution, and Rustler halite distribution) appear to explain most of the variability in transmissivity (Holt and Yarbrough, 2002; Holt and Powers, 2002; Powers and others, 2003). The Compliance Recerti cation Application (CRA; U.S. DOE, 2004) submitted to the EPA models release scenarios through the Culebra using transmissivity based on these factors.

SNL-15 was located east of WIPP where data are sparse and where Culebra transmissivity is believed to be very low, although hydraulic data from P-18 are poorly constrained (Beauheim, 1987). In addition, geologic data obtained from the drillhole would help confirm the effects of Rustler halite on Culebra hydraulic properties. No well designated SNL-15 was included in the program plan (SNL, 2003), but it is located at the site designated WTS-3. From the program plan (SNL, 2003) and other documents (Appendix A),

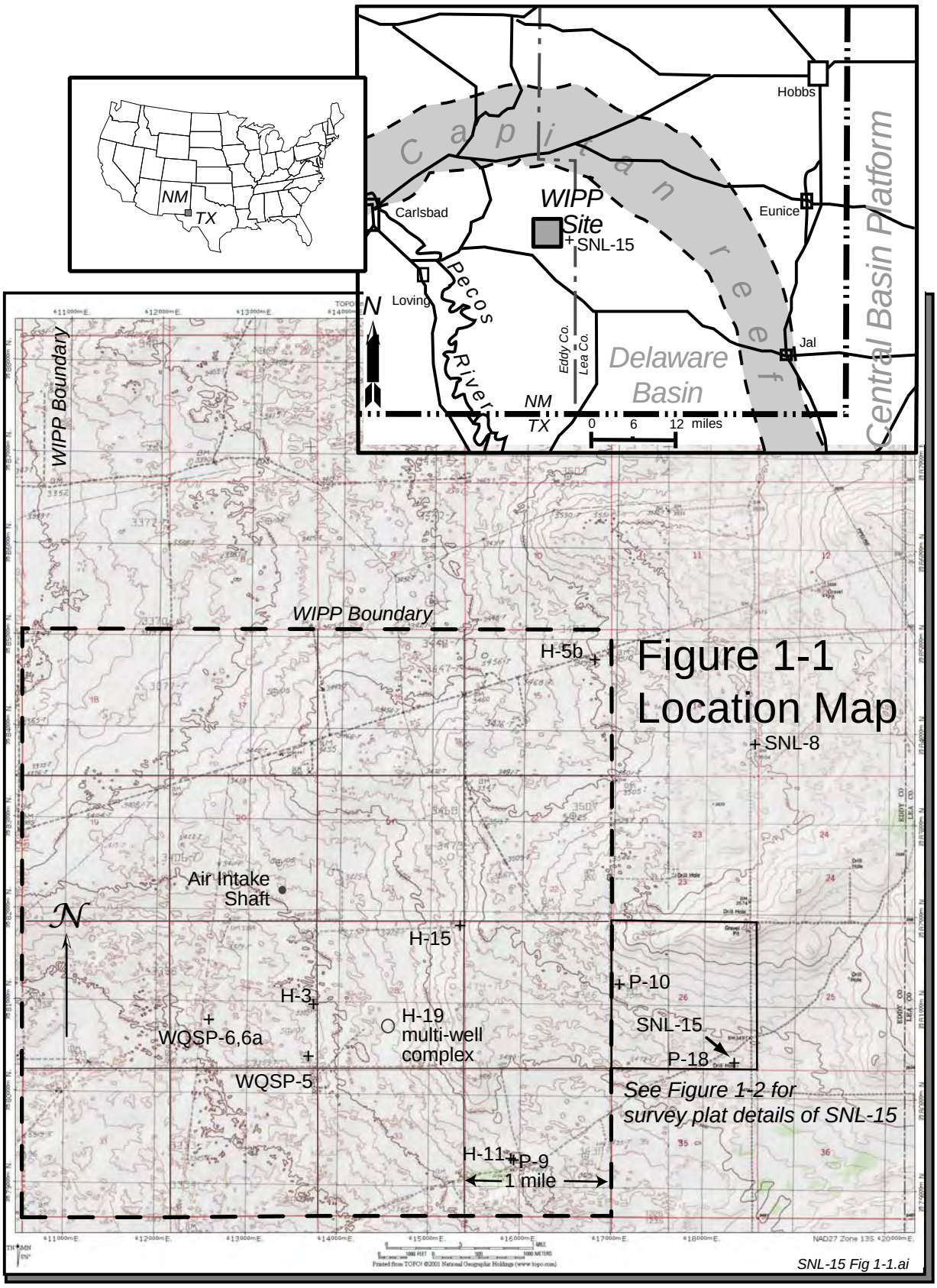


Figure 1-1
Location Map

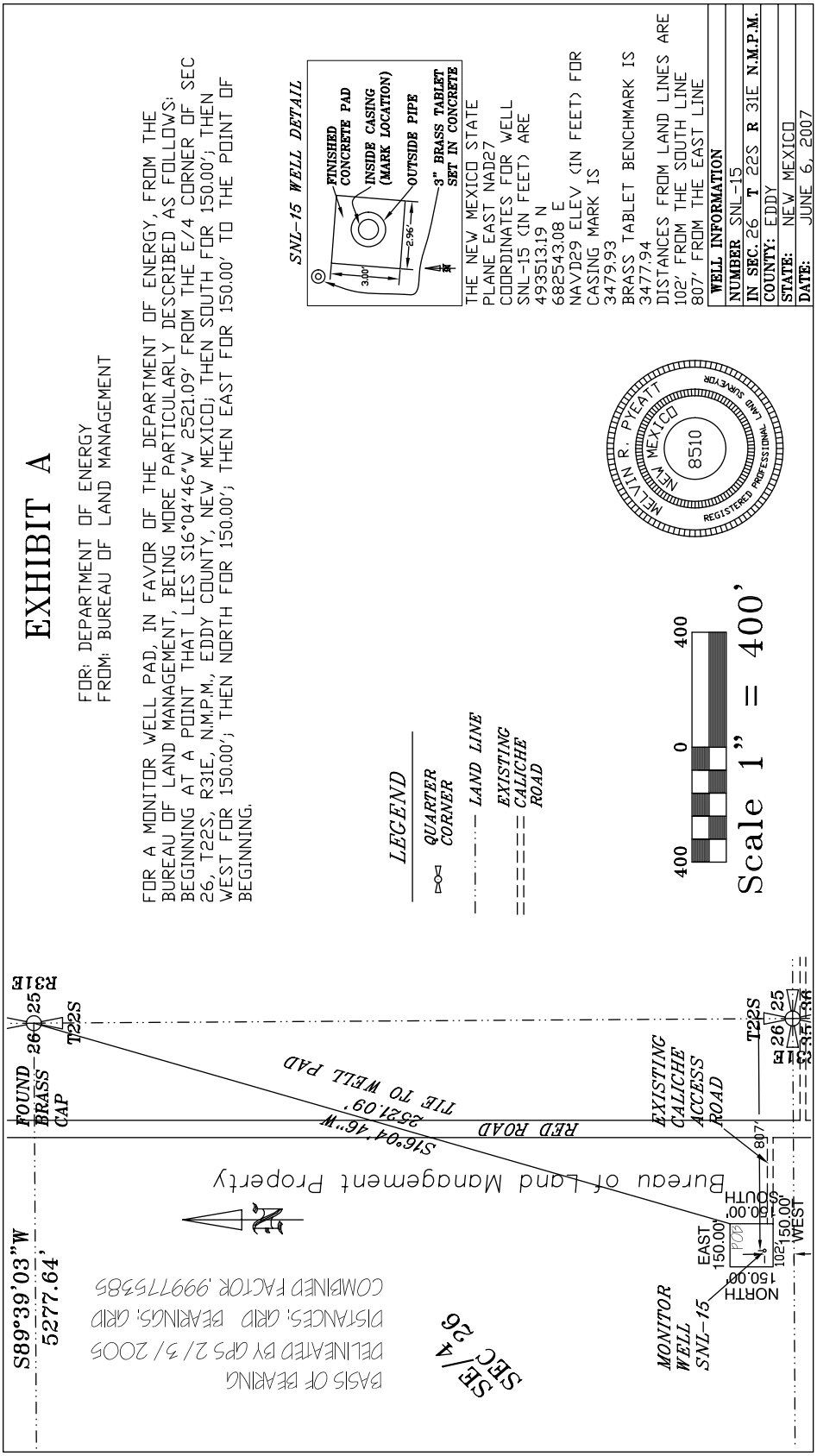


Figure 1-2
Survey Plat
for SNL-15

SNL-15 is to:

1. Provide water-level data in a key area east of the WIPP site;
2. Provide a location for monitoring a large-scale (multipad) pumping test south of WIPP; and
3. Provide a possible location for a slug test of Culebra hydraulic properties.

1.3 SNL-15 drilling and completion

The basic information about drilling and completion of SNL-15 is presented here in tabular form (Table 1-1) and graphics (Figs. 1-3, 1-4, and 1-5) for ease of reference. Appendix B includes details based on daily drilling logs.

SNL-15 was rotary drilled and cored to a total depth of 950 ft bgl (Fig. 1-3) as measured during drilling. Coring recovery was complete, and the measured, and marked core was 1.5 ft more than the depth measured during drilling, reaching 951.5 ft. The total depth of the drillhole may be 951.5 ft, as shown by ( ) in some diagrams. For practical purposes, 950 ft is taken as the total depth. The bottom of the hole was plugged before reaming the cored interval to 940 ft and then logging for completion activities. Geophysical logging indicated ~3 ft less depth to stratigraphic contacts in the lower part of SNL-15; geological logs (Appendix C) show greater depths for the Culebra than are indicated by geophysical logs. SNL-15 was drilled using compressed air (two compressors). Cuttings from SNL-15 were of useful size because of these methods.

Core recovery was complete through the Culebra, with recovered lengths slightly exceeding the cored interval as measured during drilling (Table 1-1; Appendix C). Complete core recovery is rare through the Culebra (e.g., Powers, 2002b; Mercer and others, 1998).

In keeping with recent practice at WIPP, SNL-15 was cased with FRP casing rather than steel to provide longer utility of the well for monitoring and testing. Steel-cased wells at WIPP are expected to be plugged and abandoned and, where necessary, replaced with wells completed with FRP casing (SNL, 2003).

SNL-15 was completed with a single screened interval for monitoring and testing of only the Culebra Dolomite (Fig. 1-4). With a single completion interval, some of the difficulties associated with multiple completions can be avoided: expense of buying, placing, and maintaining packers; loss of water-level data when packers fail; mixing of waters of differing qualities when packers fail; and the increased complexity of testing in a well completed to multiple intervals. If warranted, additional wells can be completed to other intervals, such as the Magenta Dolomite Member of the Rustler Formation, on the SNL-15 wellpad (SNL, 2003).

Geophysical logs, especially the natural gamma and caliper logs, were used to make the nal decisions regarding completion of SNL-15 (Fig. 1-4) (Appendices D and E). The drillhole penetrated the uppermost part of the lower Rustler, and HolePlug® was put into SNL-15 to prevent circulation into that interval (Fig. 1-4). The bottom of the Culebra screen interval was placed at 928.5 ft, well above the claystone below the Culebra. The Culebra is thicker than the screen interval; this avoids possible plugging of the lowermost slots and covers higher zones that are generally more porous (Fig. 1-4). The top of the screen, at 902 ft, is at the top of the Culebra. The top of the gravel pack (4/10 silica gravel) at 896 ft is below the level of the mudstone in the Tamarisk to prevent connection to the Culebra. Bentonite (HolePlug®) was placed to 891 ft, and the annulus above the bentonite was cemented to the surface. The caliper log (Fig. 1-3) after the drillhole was drilled to 940 ft at a diameter of 7.875 inches and before the casing was placed shows little sign of drillhole enlargement in the Forty-niner and Tamarisk mudstones or in the mudstone just below the Culebra.

The surface (Fig. 1-5) provides stability, security, and ready access to the casing for measurements, sampling, or other testing. The

Figure 1-3
SNL-15 As-Built Diagram

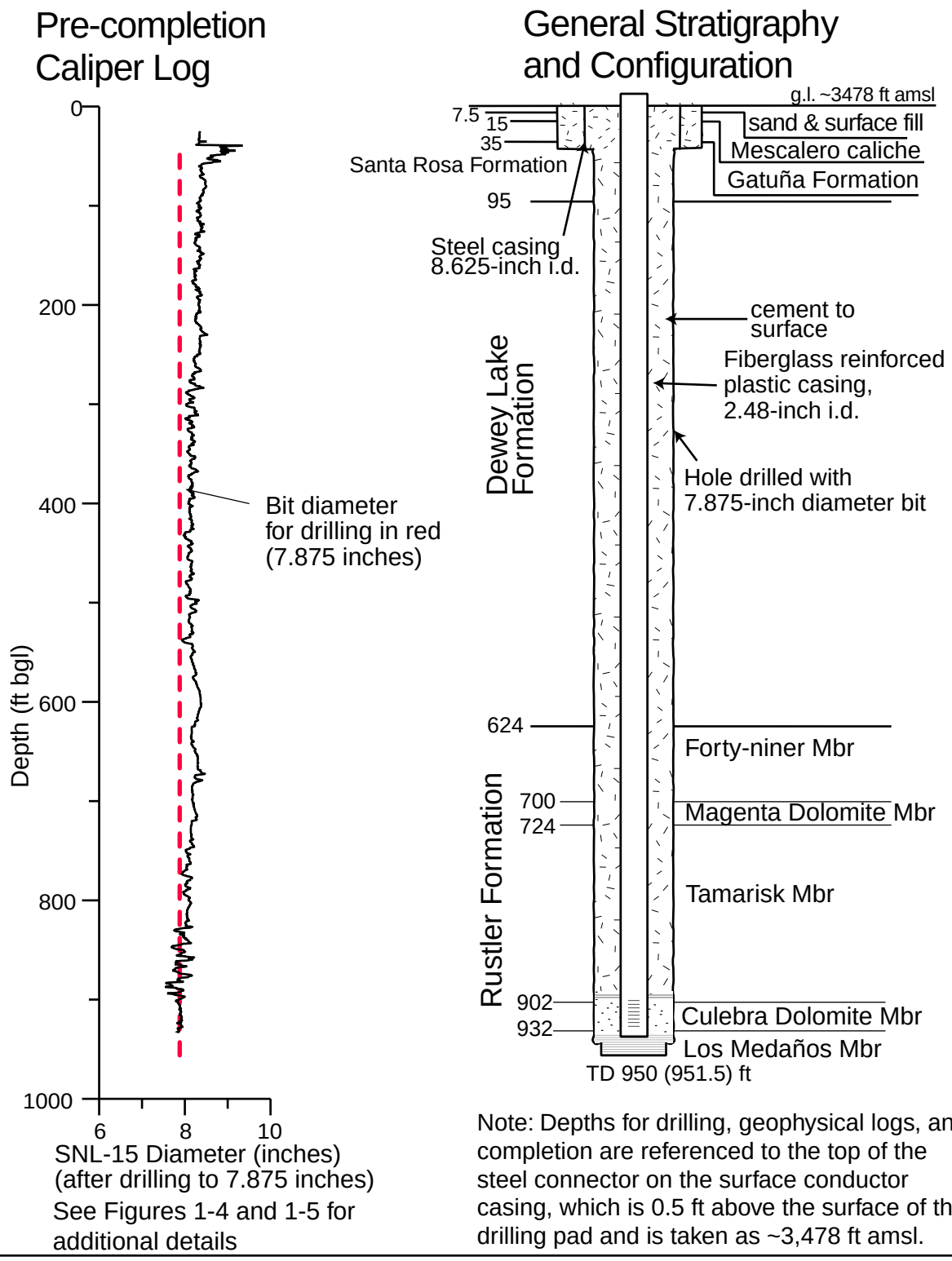


Table 1-1. Summary of Drilling and Well Completion Records for Hydrologic Drillhole SNL-15 (C-3152)

LOCATION: Southeast ¼, Section 26, Township 22 South (T22S), Range 31 East (R31E)

SURFACE COORDINATES: The well is located 102 ft from the south line (fsl) and 807 ft from the east line (fel) of Section 26. The New Mexico State Plane (NAD 27) horizontal coordinates in feet are 493512.95 North, 682542.25 East (Fig. 1-2 shows the survey plat). Universal Transverse Mercator (UTM) horizontal coordinates (NAD27, Zone 13) in meters were calculated for SNL-15 using Corpscon for Windows (v. 6.0): 618352.94 East, 3580336.30 North. Figure 1-1 shows UTM coordinates on a 1,000-m grid.

ELEVATION: All depths used in geological and geophysical data were measured from the top of the connector on the steel surface conductor casing just above the level of the drillpad surface (Fig. 1-5). Depths are reported as below ground level (bgl), which is taken as 3,478 ft above mean sea level (amsl), the rounded value for the brass tablet benchmark (3,477.94 ft amsl) adjacent to the cement well pad. [This is the resurveyed value from the plat in Fig. 1-2; the benchmark has not been replaced (Fig. 1-5) and shows the original embossed value of 3479.22 ft amsl.] The primary datum for the completed well is 3,479.93 ft amsl (NGVD 29)

glass reinforced plastic casing inside the protective well pipe.

Figures

DRILLING RECORD:

Dates: Began drilling June 1, 2005; drillhole reached total depth (950 ft) on June 5, 2005. Geophysical logging was conducted on June 6, 2005, after reaming the cored interval. Drillhole was cased and cemented June 7, 2005.

Circulation Fluid: SNL-15 was drilled to TD with circulating air, discharging cuttings into a lined portable steel container. The hole was drilled (and reamed following coring) using a 7.875-inch bit and did not require additional reaming to complete.

Cored Intervals: 4.0-inch core was taken through these intervals (depths from drilling data):

900.0–950.0 (951.5 bottom of marked core) ft bgl: lower Tamarisk, Culebra Dolomite, and upper Los Medaños Members

Rig and Drilling Contractor: Gardner-Denver 1500; West Texas Water Well Service, Odessa, Texas

Table 1-1. Summary of Drilling and Well Completion Records For Hydrologic Drillhole SNL-15 (C-3152), continued.

Drillhole Record:

Size (inches)	From (ft bgl)	To (ft bgl)
12.75	0	39.5
7.875	39.5	940
6.75	940	950

Casing Record:

Outside diameter (inches)	Inside diameter (inches)	Weight/ft (pounds)	From (ft bgl)*	To (ft bgl)
8.625	8.125	22.36 steel	-0.5	39.5
2.880	2.480	1.75 FRP** blank	-2.0	902.00
2.880	2.480	1.75 FRP screen	902.00	928.5
2.880	2.480	1.75 FRP blank	928.5	935.0

*Top of the casing connector is the reference for depth denoted below ground level (bgl). The FRP extends ~2 ft (-2) above the steel casing connector.

**FRP: fiberglass reinforced plastic; specifications for SP2000 FRP tubing have changed since SNL-15 was completed

Coring Record:

Core Run No.	Depth Interval (ft) From	To	Interval (ft) Cored	Recovered	Recovered %
1	900	927	27	27.4	101.48%
2	927	950	23	24.1	104.78%
		Totals	50	51.5	103.00%

Figure 1-4
SNL-15 Completion and Monitoring Configuration (6/7/05)

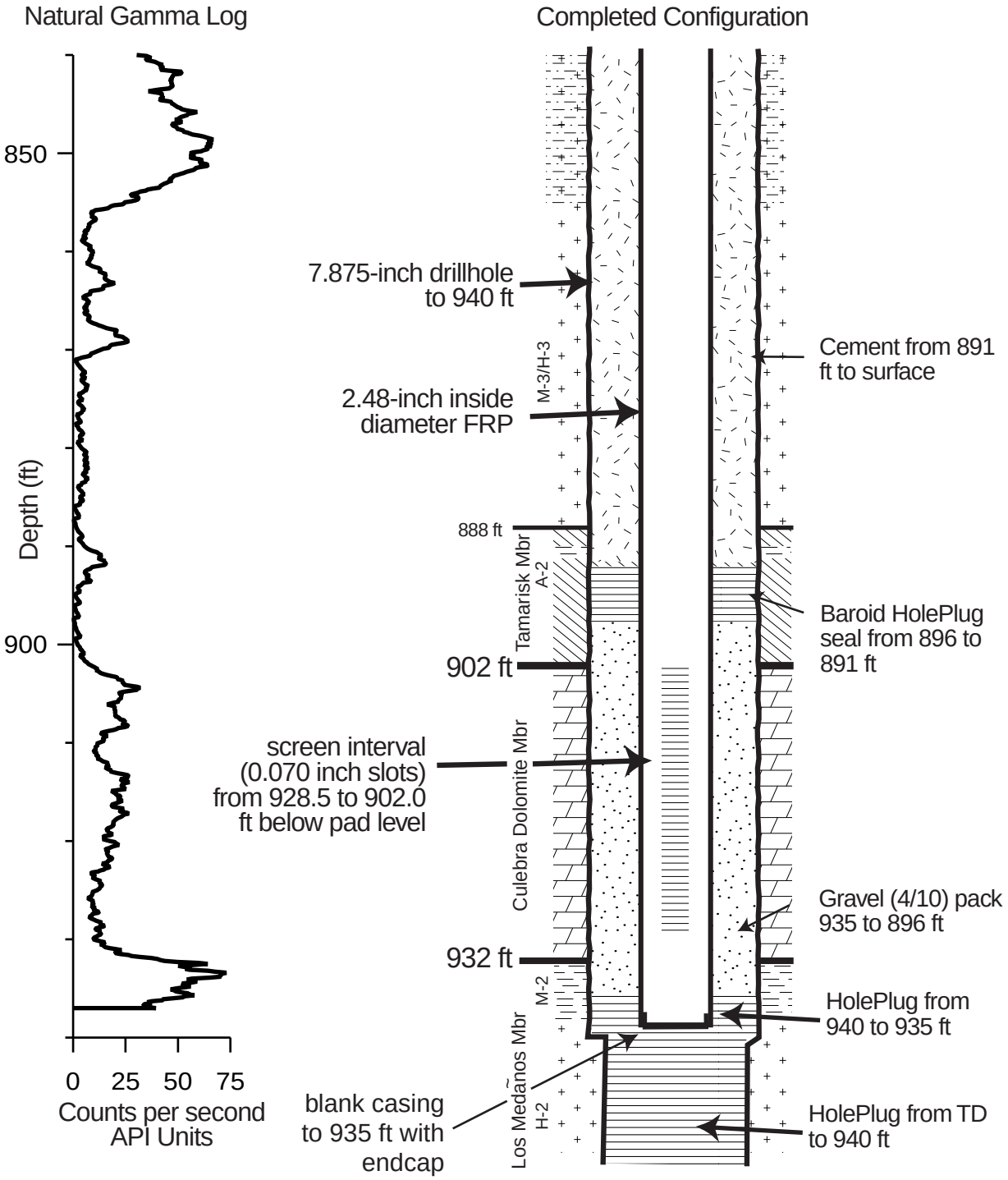
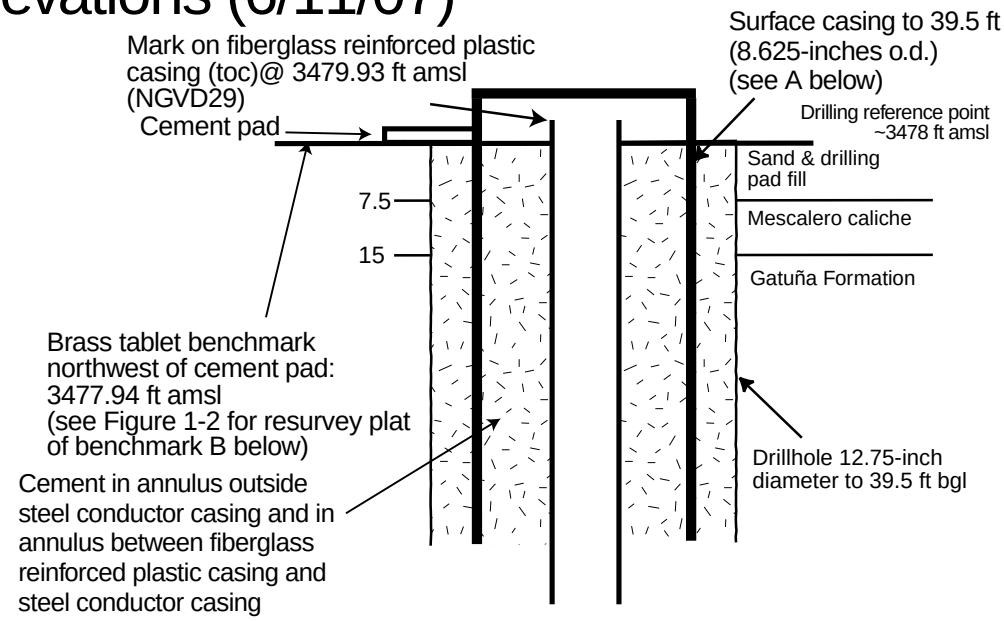
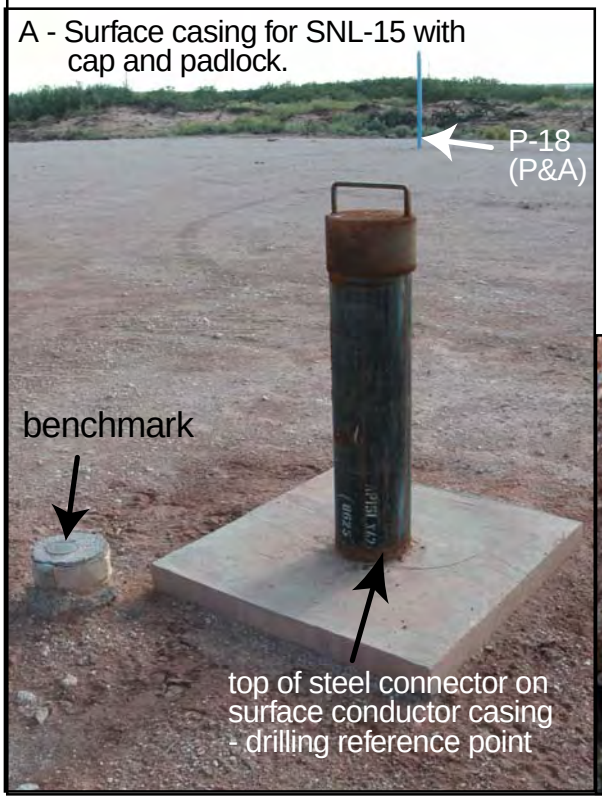


Figure 1-5
SNL-15 Surface Configuration and Elevations (6/11/07)





Note: Depths of shallow units are based on cuttings collected at intervals, and contacts are arbitrarily assigned between sample depths

Note: benchmark was punched with an elevation of 3479.21 ft amsl based on original survey.

surface benchmark is an accessible reference point for future measurements if the well con guration is changed.

A steel surface conductor casing was cemented in place to a depth of 39.5 ft below the surface, with the top of the steel connector on the conductor casing ~6 inches above the pad level (Fig. 1-5) serving as a common reference point for drilling; geophysical logging; and placing the screened interval, sand pack, bentonite seal, and cement. The top of the steel connector was estimated to have an elevation of 3,479 ft amsl, based on a pre-drilling survey of the well pad. The benchmark placed at the drilling pad surface next to the completed well has an elevation of 3,477.94 ft amsl (after resurvey 2007) and is very close to the elevation of the connector on the casing. *Other than water-level monitoring, depths are stated as bgl, and the top of the steel connector on the surface conductor casing is taken as a proxy reference point for ground level with an elevation of ~3,478 ft amsl (Figs. 1-3, 1-4, and 1-5).* The FRP casing projects ~2 ft above the steel connector on top of the conductor casing. This FRP casing point is surveyed (Fig. 1-5), and it provides the reference point and reference elevation (3,479.93 ft amsl; after resurvey, 2007) for monitoring water levels.

1.4 o ther Background

SNL-15 was drilled and completed by the West Texas Water Well Service, 3410 Mankins, Odessa, Texas, under contract from Washington TRU Solutions LLC (WTS). Coring was done by John Wood, Diamond Oil Well Drilling Co., Inc., P.O. Box 7843, Midland, Texas. Geophysical logging was conducted by Al Henderson, Jet West Geophysical Services, LLC, 2550 La Plata Highway, Farmington, NM, 87499-3522, under contract to West Texas Water Well Service. Geological support was provided by Dennis W. Powers under contract to WTS. Mike Stapleton of the New Mexico e of the State Engineer witnessed hole completion activities (Appendix D). Well drilling wastes (cuttings) were removed from SNL-15 and disposed of at the Lea Land, Inc., land ll north of WIPP. Archeological clearances obtained from the U.S. Bureau of Land Management were based on eld work and reports by Mesa Field Services, Carlsbad, New Mexico (Appendix E). Cores from SNL-15 were photographed with a digital camera, and a photo log is included in Appendix F. Electronic images can be requested from WTS.

Formal color designations (weak red: 5YR5/4) included in the text and Appendix C are based on the 1971 edition of the Munsell Soil Color Charts. The names may differ from the general color observed; the rocks are compared when dry unless

1.5 Acknowledgements

Drafts of this document were reviewed by Rick Salness, Joel Siegel, and Rick Beauheim, and their comments improved the nal report. Mark Crawley (Washington Regulatory and Environmental Services - WRES) provided field support and information on well development. Doug Lynn (WRES) obtained permits and provided permitting and regulatory information included in appendix material. Ronnie Keith and Luis Armendariz (West Texas Water Well Service) provided drilling data and daily drilling records. West Texas Water Well Service personnel were very helpful in providing access for sampling during drilling. Al Henderson (Jet West Geophysical Services) provided the printed and electronic files that were used to develop Figure 2-1. Vivian Allen (L&M) provided useful editorial guidance.

2.0 Geo Lo Glc AL dAt A

2.1 General Geological Background

The geology and hydrology of formations at the WIPP site and surroundings have been intensively investigated since 1975, and the information and interpretations have been reported in numerous documents. The most thorough compilation is certainly the Compliance Certi cation Application (CCA) submitted in 1996 by the DOE to the EPA (U.S. DOE, 1996). Some salient features of the broader geological history, as well as more recent work on the geohydrology of the Rustler (e.g., Holt and Yarbrough, 2002; Powers, 2002a, 2003a; Powers and others, 2003), are relevant to understanding the geology and hydrology at SNL-15.

The Delaware Basin (Fig. 1-1) was a large structural feature that controlled deposition through much of the Paleozoic. By late Permian, the basin connection to the open ocean was restricted, and evaporite minerals were precipitated in abundance to fill the basin. Near the end of the Permian, circulation with the ocean improved, and some of the Rustler Formation, for example, was deposited in saline water rather than brine. As the Permian ended and Triassic began, signi cant redbeds were deposited in non-marine environments. Although surrounding areas accumulated variable thicknesses of later Mesozoic and Cenozoic age sediments, the WIPP area appears mainly to have been subject to erosion during an extended period. Some basin tilting from middle to late Cenozoic time exposed the evaporite beds to faster solution and erosion, and weathered material began to accumulate. The Pecos River drainage became integrated through the region during this period, and more recent deposits re ect such a sedimentary environment as well as sources of sediment from outside the local area. Although the region continues to be subject to some dissolution of evaporites and erosion, large areas have remained geologically stable for about the last half million years, resulting in the formation and preservation of pedogenic calcrete (caliche) deposits.

2.2 Geological data From SnL-15

SNL-15 encountered a normal stratigraphic sequence from ground level to total depth for this location east of the WIPP site area, (Fig. 2-1; Table 2-1). Units encountered ranged from unconsolidated sur cial alluvium to the upper part of the Los Medaños Member of the Permian Rustler Formation. Structural, sedimentological, and diagenetic features were examined during investigation using cuttings, cores, and geophysical logs. Details of the sedimentology of the Rustler will extend understanding of that unit. There was no noticeable water produced from any unit, including the Culebra, during drilling.

The geologic units encountered in SNL-15 are described from total depth to the surface, in the order in which they were deposited rather than in the order in which they were encountered in the drillhole. Cores and cuttings were described in the eld using mainly drilling depths for depth control. Geologic logs detailing eld observations of cuttings and cores are included in Appendix C. The difference between geophysical logs and drilling depths is generally slight. The largest differences between depths determined by geophysical logging and core markings based on depths measured during drilling is approximately 3 ft through lower units in SNL-15. Decisions about placing screen intervals and annulus llings were based on depths indicated by geophysical logs (Appendix G).

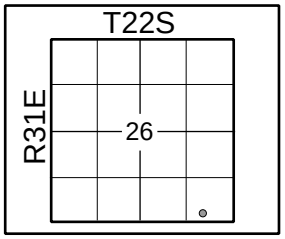
Note that the descriptions that follow use depths that correspond to core markings, with basic stratigraphic intervals provided by geophysical logs, as indicated.

2.2.1 Permian r ustler Formation

The Rustler was drilled and cored into the upper Los Medaños Member. The contact between the Rustler and the overlying Dewey Lake Formation is at 624 ft (Fig. 2-1), and 326 ft of the Rustler were penetrated at SNL-15 (Table 2-1).

Figure 2-1
Well Record SNL-15 (C-3152)

Company: Washington TRU Solutions LLC
Well: SNL-15 (C-3152)
Section: 26 Twp: T22S Rge: R31E
Location: 102 ft from south line (fsl)
807 ft from east line (fel)



Reference point
Log measured from: top of connector on conductor casing (gl)
Drilling measured from: gl
Permanent Datum: benchmark (resurveyed 2007)

Elevation
KB:
DF:
GL: 3478 ft amsl
(benchmark: 3477.94)

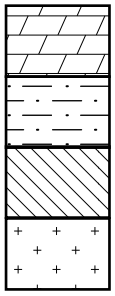
Drilling contractor: West Texas Well Water Service
Coring contractor: Diamond Oil Well Drilling Co.
Geophysical logs: Al Henderson
Jet West Geophysical Services, LLC (NM)
Geologist: Dennis W. Powers
Spud date: June 1, 2005
Completion date: June 7, 2005
Total depth (TD): 950 ft bgl (driller log)

Casing Record
Conductor: 40 ft
8.625 inch steel
Casing: 2.48 inch i.d.
fiberglass reinforced
plastic to 935 ft bgl
Screened interval:
928.5-902 ft bgl

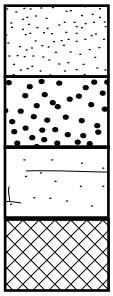
Geophysical Logs Date: June 6, 2005
Micro/Laterolog/Induction/SP: 0-936 ft
Gamma/Fluid: 0-936 ft
Caliper: 0-934 ft
Density/Neutron: 0-938 ft

Type fluid in hole: air
Res mud: n/a
Res mud filtrate:
n/a
Max. Rec. Temp.:
not recorded

General Lithologic Symbols Used

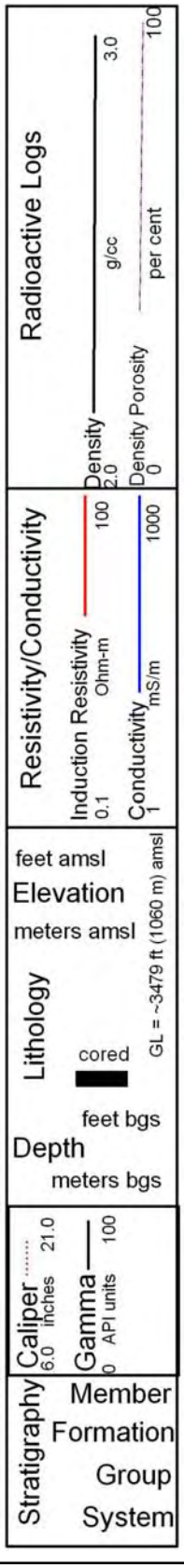


Dolomite
Mudstone/siltstone
Anhydrite
Halite



Fine sandstone & siltstone
Coarse sandstone
Sandstone w/caliche
Polyhalite

SNL-15 Well Log Headers



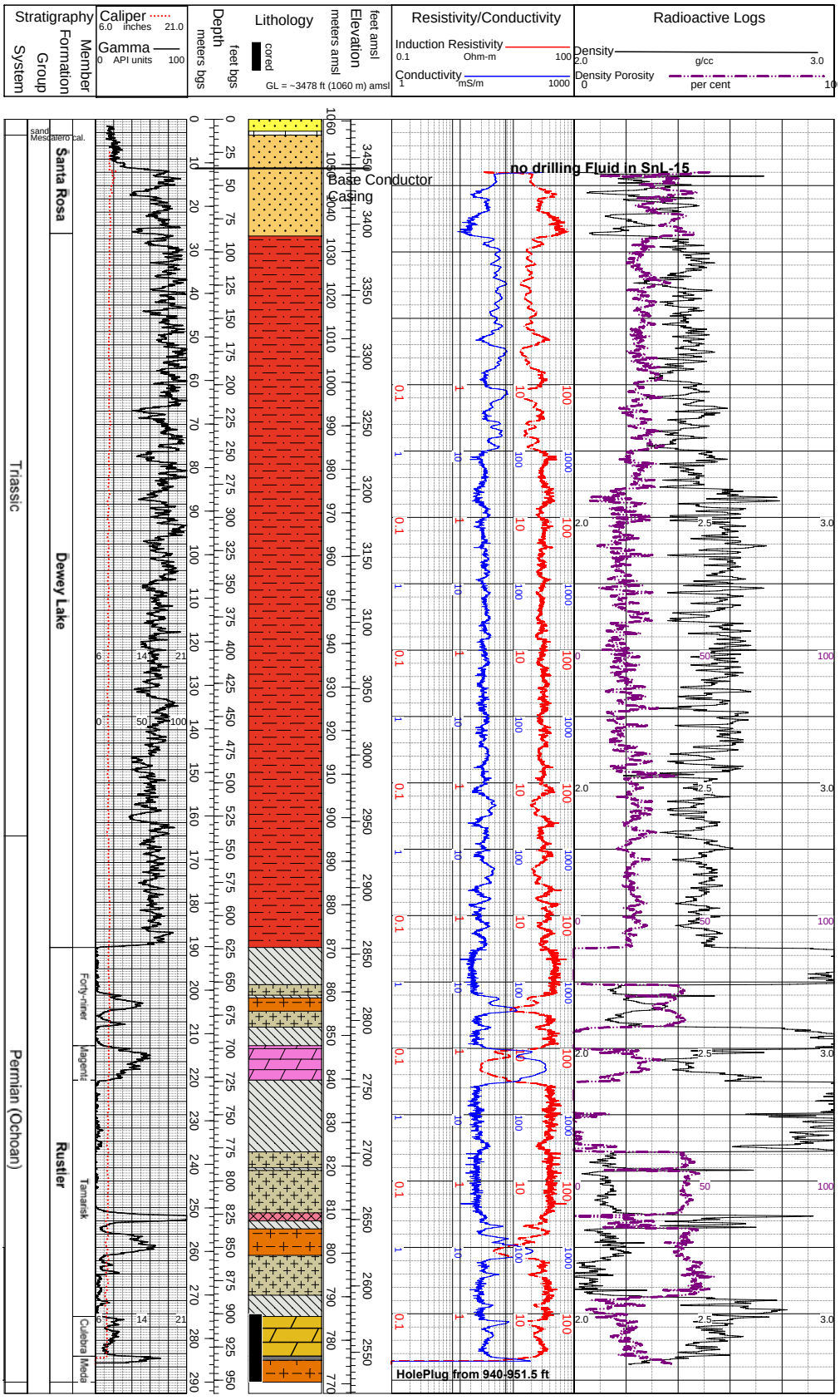


Figure 2-1, continued.

(see Appendix G for larger format log)

Table 2-1
Geology at Drillhole SNL-15

System/ Period/Epoch		Formation or unit	Member *Informal units*	Depth below surface (ft)[1]
Cenozoic	Holocene	surface dune sand and pad fill		0 - 7.5 ft
	Pleistocene	Mescalero caliche		7.5 - 15 ft
	Miocene-Pleistocene	Gatuña		15 ft - 35 ft
Mesozoic	**Triassic**	Santa Rosa[2]		35 ft - 95 ft
		Dewey Lake[3]		95 ft - 624 ft
Paleozoic	**Permian**	Rustler	Forty-niner *A-5* *M-4/H-4* *A-4*	624 ft - 700 ft *624 ft - 652 ft* *652 ft - 684 ft* *684 ft - 700 ft*
			Magenta Dolomite	700 ft - 724 ft
			Tamarisk *A-3* *M-3/H-3* *A-2*	724 ft - 902 ft *724 ft - 778 ft* *778 ft - 888 ft* *888 ft - 902 ft*
			Culebra Dolomite	902 ft - 932 ft
			Los Medaños[4] *M-2/H-2*	932 ft - 951.5 ft *932 ft - 951.5 ft (TD)* [5]

[1]Depths are based on measurements by geophysical logging; drilling and coring provided supplemental data to total depth (TD) of 950 ft bgl by driller's log and 951.5 ft as marked on core. Geophysical logs and drilling/coring depths begin at the top of the connector on the surface steel conductor casing. This reference point is taken as 3,478 ft amsl; it is near the elevation of the surface benchmark adjacent to SNL-15. Water level depths will be measured and reported relative to the glass reinforced plastic casing (Fig. 1-5). Geological logs based

depths, mainly in the lower part of SNL-15.

[2]The Santa Rosa Formation, part of the Dockum Group or undifferentiated Triassic, is present at SNL-15, although it commonly is eroded west of the center of the WIPP site.

[3]The Dewey Lake Formation has been considered part of the Permian System in the past. Recent work (Renne and others, 1996, 2001) indicates that lithologically equivalent rocks in Texas are mostly Lower Triassic, with some Upper Permian at the base.

[4]The Los Medaños Member was named by Powers and Holt (1999) to replace the informal unit "unnamed lower member" of the Rustler Formation.

[5]The driller's total depth was 950 ft. The core recovered from 900–950 ft totaled 51.5 ft, and the lowest marked core is at 951.5 ft.

2.2.1.1 Los Medaños Member

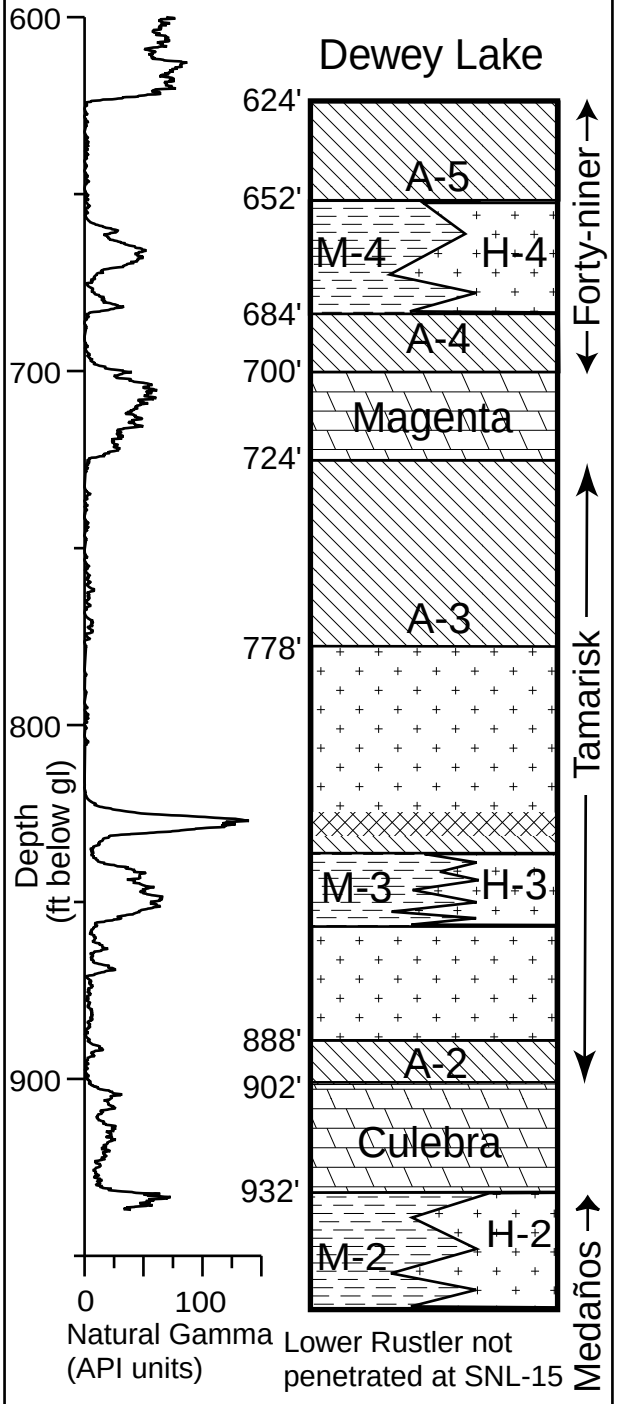
The Los Medaños was named by Powers and Holt (1999) based on the rocks described in shafts at the WIPP site. For the area around WIPP, studies of the Rustler have commonly referred to this interval from the base of the Culebra Dolomite Member to the top of the Salado Formation as the unnamed lower member of the Rustler. Holt and Powers (1988) and Powers and Holt (1999) also informally subdivided the Los Medaños into ve units (Fig. 2-2): a bioturbated clastic interval at the base, a sandy transition zone, a lower mudstone-halite 1 (M-1/H-1), anhydrite 1 (A-1), and an upper mudstone-halite 2 (M-2/H-2). Halite margins for the Los Medaños below A-1 have been treated as a single composite unit (Powers, 2002a), called M-1/H-1 (Fig. 2-2), because halite below A-1 is not restricted to the thinner zone designated M-1/H-1 in these earlier publications.

The upper part of the Los Medaños was cored (16.1 ft) in SNL-15, penetrating into halite facies (H-2) of M-2/H-2, but not reaching A-1.

The informal unit *mudstone-halite 2* (M-2/H-2; Fig. 2-2) was encountered from 935.4–951.5 ft bgl, based on coring depths, and recovery was complete. The natural gamma log shows the top of M-2/H-2 at 932 ft (Fig. 2-1). The basal contact with A-1 was not penetrated. The contact between M-2 and Culebra was recovered as continuous core, and the contact is sharp and undeformed.

From 938.7–951.5 ft, the core is clear halite that appears gray to slightly orange. Crystals are ne to very coarse, up to 1.5 inches across. Variable amounts of reddish brown (5YR5/4) silty claystone form irregular beds and zones as well as interstices between crystals (Fig. 2-3). Although halite shows displacive boundaries in mud in some zones, other halite margins are somewhat more irregular. There is some halite that incorporates mud. A few thin planes may be corrosion surfaces from exposure to fresher water in ows within the salt pan. From 943.3–945.5 ft, the halite is sulfatic, and some of the sulfate is likely polyhalite.

Figure 2-2
Rustler Units at SNL-15



Formal and informal Rustler Formation units and depths at SNL-15 based on natural gamma log in combination with density logs that help identify halite intervals.

Figure 2-3. Coarse Halite with Reddish-Brown Mudstone, Upper H-2

Thin, silty claystone at 938.2 ft overlies a very thin sulfate and includes probable claystone clasts. Some thin sulfate marks the boundary with gray claystone.

The upper 2.9 ft of M-2 consists of gray (5Y5/1) to dark gray claystone (5Y4/1) (Fig. 2-4) that shows evidence of thin bedding and laminae that are approximately horizontal. A narrow fracture from 936–937 ft is lled with gypsum and, possibly, halite. Slickensides in some of the claystone are ~50 degrees from horizontal. The contact at 935.4 ft with the Culebra is sharp and undeformed.

2.2.1.2 Culebra Dolomite Member

Based on the natural gamma log from SNL-15, the Culebra extends from 932–902 ft bgl, a thickness of 30 ft (Fig. 2-1). Based on drilling depths available at the time, the recovered Culebra core was marked from 935.4–904.9 ft bgl (as used in information in Appendices C and F). Recovered Culebra core (Fig. 2-5) totals 30.5 ft thick, and this represents all of the unit.

Holt and Powers (1988) found a range of 20–30 ft thickness in Culebra cores described from the WIPP Project, and a regional thickness exceeding 40 ft, based on geophysical log data. core loss in the middle of the Culebra is common. Complete recovery of core at SNL-15 is likely due to the lack of porosity and the halite that lls a few fractures as well as some pore space. Drilling using compressed air may also have contributed to complete recovery.

The dolomite recovered in core from SNL-15 is generally light gray (5Y7/2) to pale yellow (5Y8/3). The Culebra at SNL-15 is thin bedded to laminar (Fig. 2-5). No open vugs were observed. Nodules are variable in size, ranging to ~2 inches, and are distributed through the unit. Nodules were composed of anhydrite with some probable gypsum. Some pore space associated with nodules also was lled with halite (Fig. 2-6). Very tiny lled pores or spheres appear to be distributed through the lower Culebra, but they are to interpret or describe because they are visible

Figure 2-4. Gray Claystone (M-2) and Overlying Culebra Dolomite

in part in a patina or case-hardened surface of the core.

Subvertical fractures occur mainly between ~917 and 925 ft, and they are filled with halite (Fig. 2-7). The fractures generally have separations less than 0.25 inch.

The hydrostratigraphic units proposed for the Culebra by Holt (1997) are less obvious in the SNL-15 core, and they may not be represented so clearly because features of these units are partly expressed by diagenesis that has not occurred at this location.

The most likely equivalent to the basal CU-4 hydrostratigraphic unit occurs from 933–935.4 ft. It has bedding, is ne-grained, and does not exhibit much in the way of lled pores. In the WIPP site area, including H-19, this zone shows some fracturing, and the basal contact is usually slightly deformed by fracturing.

From 926–933 ft, the Culebra shows thin (~0.25 inch) laminar zones spaced at 2–6 inches and abundant small pores (~0.06 inch). A few pores up to ~0.5 inch are scattered through the interval. This interval is tentatively correlated with CU-3 (Holt, 1997).

From 911–926 ft, the dolomite displays more laminar bedding, and larger vugs, up to ~2 inches, are common but not abundant. Some bedding-plane separations occur along darker organic- or clay-rich laminae. In addition, there are several halite- lled fractures within the lower half of this zone. The fracture between 917 and 918 ft shows some staining as well as 2-7); this fracture might have some open porosity within the formation. This is likely the most porous section of the Culebra. The entire interval is tentatively assigned to CU-2 (Holt, 1997).

From 911–904.9 ft, the dolomite is grained, silty, thin bedded to laminar, with organic-rich laminae in the upper part and gypsum nodules at the top. Vugs are limited and large (to 2 inches). This interval tentatively corresponds to CU-1 (Holt, 1997).

Figure 2-5 Culebra Dolomite Member of the Rustler Formation at SNL-15

Photo scales vary slighty due to cropping

Figure continued next page

Figure 2-5 continued

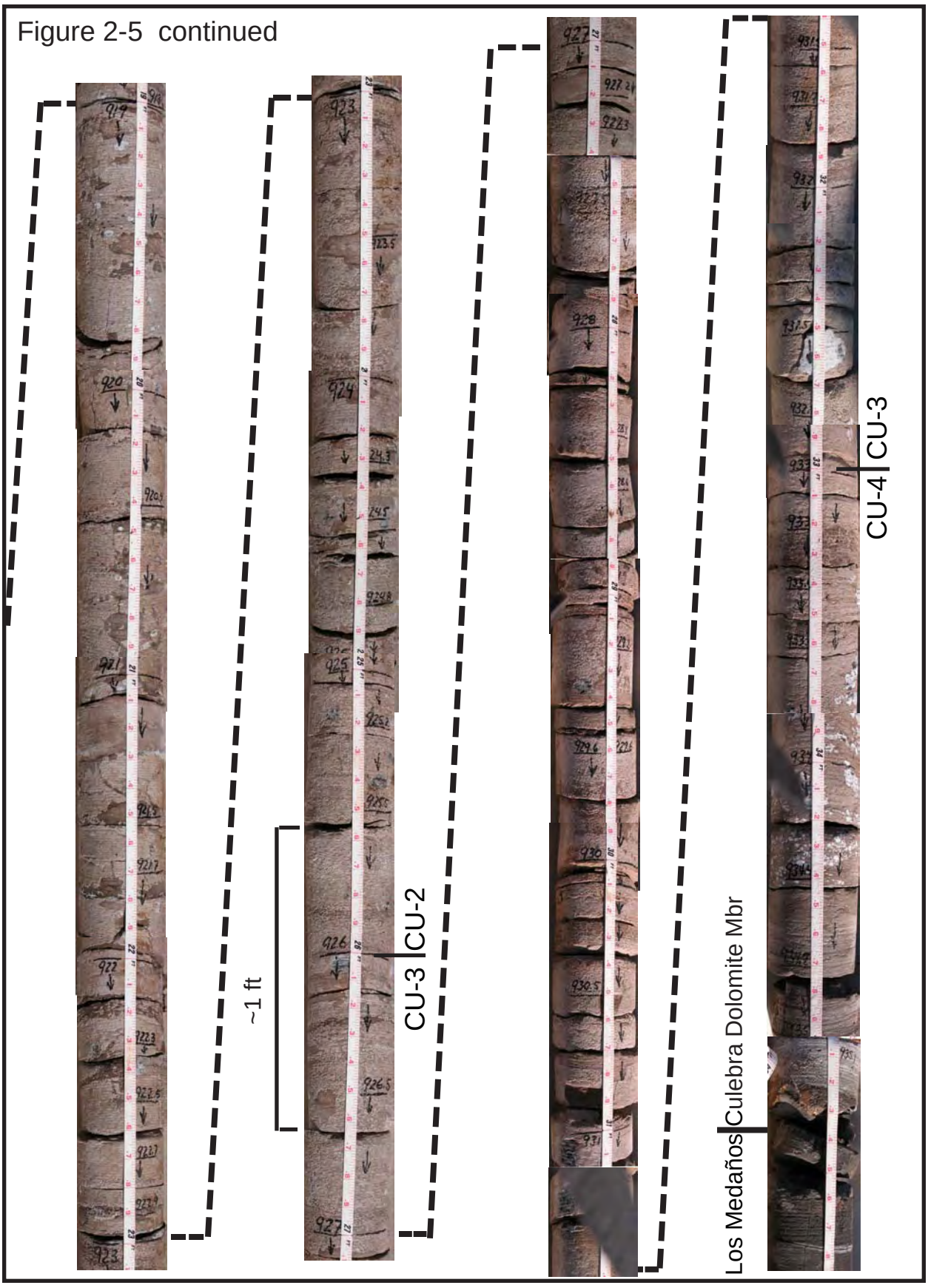


Figure 2-6. Halite on Fracture in Culebra Dolomite. The fracture shows black staining under the clear halite that coats much of the surface. Core has a 4-inch diameter.

Figure 2-7. Halite in Culebra at 907.8 ft. Halite (dark, clear

Core is 4 inches across.

The geophysical logs (Fig. 2-1) of the Culebra provide few additional details of the unit. The natural gamma shows a low from 909–913 ft, which is taken to correspond to the upper part of the core believed to represent upper CU-2. Resistivity remains generally high through the Culebra, with two somewhat reduced resistivity zones (905–910 ft and 914–918 ft, log depths). These correspond to ~909–914 ft and 918–922 ft core depths, based on the differences between depths at the top and base of Culebra. The upper zone includes the inferred CU-1 and CU-2 boundary, with the most strongly expressed laminar bedding and some bedding-plane separations. The lower zone of lower resistivity coincides with the most fractured Culebra interval, even though fractures tend to have halite Overall, there is not a great contrast in log properties through the Culebra, and the Culebra is not likely to have either high porosity or high transmissivity based on log and core observations.

2.2.1.3 Tamarisk Member

The natural gamma log of SNL-15 shows that the Tamarisk occurs from 724–902 ft bgl. The Tamarisk comprises three basic subunits: a lower anhydrite, a middle halite and mudstone, and an upper anhydrite; all three are clearly shown by geophysical logs and were recorded by cuttings during drilling. Powers and Holt (2000) labeled these A-2, M-3/H-3, and A-3, respectively, and showed that the lateral gradation from mudstone M-3 to halite H-3 generally re ects lateral changes in deposition. SNL-15 is located mainly in the saltpan or H-3 facies of these beds, although the natural gamma also indicates an argillaceous or muddy zone. The basal 4.9 ft of the Tamarisk was cored; the remainder of the unit is described on the basis of cuttings and geophysical logs.

The informal unit *anhydrite 2* (A-2; Fig. 2-2) at the base of the Tamarisk is 14 ft thick (888–902 ft) based on the geophysical logs. The cored interval from 900.0–904.9 ft is predominantly dark gray anhydrite with some gypsum. It is generally ne to medium crystals, with clear gypsum in pores, including sulfate needles that precede cements. There may be some halite pore fillings. Thin beds and thin laminae are visible, and the core is purplish from 904.2–904.6 ft.

The informal Tamarisk unit *mudstone-halite 3* (M-3/H-3; Fig. 2-2) at SNL-15 is 164 ft thick (724–888 ft bgl), based on the natural gamma log. Halite (H-3) dominates this informal unit at SNL-15.

The geophysical log (Fig. 2-1) for M-3/H-3 illustrates subdivisions described by Holt and Powers (1988). They divided H-3 at the sulfate bed near the middle of H-3 into a lower H-3a and an upper H-3b. H-3a can be further subdivided into a lower clean halite, middle argillaceous halite, and upper clean halite below the sulfate bed. H-3a here at SNL-15 only exhibits the lower clean halite and middle argillaceous halite, similar to other drillholes (e.g., H-12; Holt and Powers, 1988) away from the middle of the halite salt pan.

The density log indicates higher density sulfate dominates from 824–836 ft, with some possible thin interbeds of halite. The upper part of the sulfate has higher natural gamma and corresponds to polyhalite that is persistent through much of the depositional basin east of the WIPP site.

H-3b at SNL-15 has very low natural gamma, indicating little clay or clastic material. A thin anhydrite from 791–792 ft is also consistent with units that are persistent through the deeper part of the depositional basin east of WIPP.

A-3 was not cored. Cuttings indicate gray to dark gray anhydrite. The density log shows the unit is 54 ft (724–778 ft) thick and persistently high

2.2.1.4 Magenta Dolomite Member

Based on geophysical logs, the Magenta at SNL-15 is 24 ft thick (700–724 ft). This is

a normal thickness for the member. Cuttings from the unit ranged from powder to small chips with a grayish-purple hue (2.5YR5/2; weak red).

Geophysical log data from the Magenta show lower density than the adjacent anhydrite beds. Resistivity is much lower through the Magenta than in adjacent beds. These responses may indicate halite and some porosity with a little brine. Gypsum is not favored in the presence of halite, which exists in overlying and underlying members.

2.2.1.5 Forty-niner Member

Based on geophysical logs, the Forty-niner at SNL-15 is 76 ft thick (624–700 ft). The Forty-niner is described on the basis of cuttings and geophysical logs. Like the Tamarisk, the Forty-niner consists of upper and lower anhydrites with a middle unit that includes halite at SNL-15. Powers and Holt (2000) informally designated these units as A-4, M-4/H-4, and A-5, from bottom to top. They attributed the lateral relationship between clastic beds (M-4) and halite (H-4) to depositional facies of

The lower unit, *anhydrite 4* (A-4; Fig. 2-2), is gray anhydrite; cuttings include some clear halite that is from the overlying unit. A-4 is 16 ft thick (684–700 ft), based on geophysical logs, and contacts are sharp.

Mudstone-halite 4 (M-4/H-4; Fig. 2-2) is about 32 ft thick (652–684 ft), based on the natural gamma and density log. Cuttings and geophysical log data indicate that H-4 predominates, with lower and upper clean halite with a middle more argillaceous reddish-brown zone. A thin anhydrite occurs from 660–662 ft.

The upper sulfate unit, *anhydrite 5* (A-5), is gray (5YR6/1) anhydrite that is 28 ft thick (624–652 ft bgl) at SNL-15. The upper contact with the Dewey Lake Formation is sharp.

2.2.2 Permo-triassic dewey Lake Formation

The Dewey Lake Formation has most commonly been assigned to the Permian System (e.g., Hills and Kottlowski, 1983), although there is no direct evidence, either paleontological or radiometric, of age in the vicinity of WIPP. More recently, Renne and others (1996, 2001) obtained radiometric (Ar-Ar) ages from ash beds near the base of lithologically equivalent red beds (Quartermaster Formation) in the Texas panhandle. These ages show that the basal Quartermaster is Permian, but most of the formation is early Triassic in age. Although lithologic contacts are not inherently isochronous, the particular relationships of evaporites to red beds suggest that the Dewey Lake is mainly Triassic in age (e.g., Schiel, 1988, 1994; Powers and Holt, 1999). Lucas and Anderson (1993) have asserted that the Quartermaster, and Dewey Lake, are Permian in age, but more recent direct evidence supersedes their discussion.

At SNL-15, the Dewey Lake is 529 ft thick (95–624 ft bgl) and is composed mainly of reddish-brown (2.5YR4/4 to 5/4) interbedded sandy siltstone, argillaceous siltstone, and ne-grained sandstone. Small white reduction spots and zones are a common characteristic of the Dewey Lake and are recorded by the cuttings at SNL-15. The Dewey Lake is generally moderately well indurated. It is slightly calcareous near the top but shows no evidence of carbonate deeper in the formation. Below 210 ft, Dewey Lake cuttings include gypsum, and there is some macroscopic indication of gypsum cements below this depth. The Dewey Lake is described on the basis of cuttings, drilling rates, and geophysical log characteristics.

Geophysical logs from SNL-15 can be interpreted to indicate different basic sedimentary regimes as well as porosity conditions (e.g., Doveton, 1986). The following information follows the basic template developed for

a study of the Dewey Lake hydrogeology (Powers, 2003b) and applied to other drillholes such as C-2737 (Powers, 2002b) and SNL-2 (Powers and Richardson, 2004).

All three general depositional regimes for the Dewey Lake Formation can be distinguished on natural gamma logs of SNL-15.

The interval from 530–624 ft bgl in SNL-15 displays the natural gamma features of the lower Dewey Lake informally called the *basal bedded zone* (Powers, 2003b). Resistivity is, however, not helpful in differentiating the lower two units. The natural gamma uctuates around a similar value (~70–100 cps in this case) over this vertical interval. A short low in natural gamma indicates the top of the zone.

The interval from 174–530 ft bgl (356 ft thick) is marked by generally upward-increasing gamma above thinner low-gamma units. These are interpreted as an interval of d *cycles* because increasing natural gamma is frequently an indicator of ner clastic grain sizes (Doveton, 1986; Powers, 2003b). The base of this interval is de ned by sandstone from ~522–530 ft. Near the center of the site, this interval is more than 300 ft thick; at C-2737 it was 260 ft thick (Powers, 2002b). West-southwest of WIPP, sandstones of the upper -upward cycles are removed by erosion.

Above 174 ft, natural gamma decreases, consistent with coarsening upward proposed by Powers (2003b). The contact with the Santa Rosa at 95 ft is placed where interbedded sandstones and siltstones begin to dominate.

The natural gamma log through the -upward cycles shows zones of decreased intensity over intervals from 216–222 ft and 250–258 ft, likely corresponding to very ne to medium-grained sandstones found across the site area (Powers, 2003b). The sand grains from the lower unit are typically subangular to well-rounded and include few opaque grains. This unit corresponds to sandstone 1 (*ss1*), a persistent sandstone in this stratigraphic interval (Powers, 2003b). The upper sandstone is less persistent.

There is a decrease in resistivity above 250 ft that roughly coincides with the rst observed gypsum in cuttings. Cuttings above this zone did not indicate the presence of carbonate, and it is possible the zone above 250 ft is also partially cemented by sulfate. The resistivity change is ~374 ft above the top of the Dewey Lake. This is stratigraphically higher in the Dewey Lake than at C-2737 (Powers, 2002b), where the boundary between sulfate and carbonate coincides with the resistivity change.

From resistivity (Fig. 2-1) and by comparison with other drillholes, the Dewey Lake is likely to be more transmissive above ~250 ft, but there were no indications of water during drilling.

2.2.3 t riassic Santa r osa Formation

The Santa Rosa at SNL-15 is ~60 ft thick (35–95 ft). It is mainly interbedded siltstone and sandstone that is moderately indurated and ranges from yellowish red (5YR6/6) to light reddish-brown (5YR6/4). The sandstone includes mica and coarser grains in the lower part of the formation.

2.2.4 Miocene-Pleistocene Gatuña Formation

The Gatuña is ~20 ft thick (15–35 ft). It is mainly very calcareous sandstone, ranging from red (2.5YR5/6) to pink (5YR7/3). The sandstone includes ~1% dark opaque grains and some manganese oxide stains, which is similar to in broader studies of the Gatuña (Powers and Holt, 1993).

2.2.5 Pleistocene Mescalero c aliche

The Mescalero is an informal soil stratigraphic unit by Bachman (1973). It is widespread in southeastern New Mexico, and it is a continuous stratigraphic unit at the WIPP site. Uranium-disequilibrium ages indicate the Mescalero formed as a pedogenic

unit between ~570,000 (± 100,000) and about 420,000 (±60,000) years ago (Rosholt and McKinney, 1980). The age is further bounded by the Lava Creek B ash, about 600,000 years old, which underlies the Mescalero along Livingston Ridge (Izett and Wilcox, 1982).

At SNL-15, the Mescalero is up to 7.5 ft thick (7.5–15 ft) based on shallow cuttings samples. The Mescalero is a white, very calcareous sandstone to sandy limestone. Sand grains were

Bachman and Machette (1977) classi ed six useful stages of pedogenic calcrete development, ranging from I as the least developed to VI morphologies showing multiple generations of calcrete development. ("Pedogenic calcrete" is preferred by many geologists and pedologists over the term "caliche" because of the wide variation in use of the latter term.) The Mescalero

Construction ll and sand is up to 7.5 ft thick at the drillhole location. The sand is weak red (2.5YR4/2), friable, and subround to round. The Berino soil (Chugg and others, 1971) was not established at SNL-15.

3.0 Preliminary Hydrological Data For SNL-15

SNL-15 was drilled specifically to monitor water levels from the Culebra Dolomite Member of the Rustler Formation and to serve as a location for observations during pumping tests.

3.1 Checks for Shallow Groundwater Above the Rustler Formation

The hole was drilled with compressed air, and there were no indications of water inflow or accumulation above the Rustler during drilling.

3.2 Initial Results From the Magenta Dolomite

The Magenta was drilled with compressed air, and there were no indications of water inflow or accumulation from the Magenta during drilling.

3.3 Initial Results From the Culebra Dolomite

The Culebra was drilled with compressed air, and there were no indications of water inflow or accumulation from the Culebra during drilling.

On June 7, 2005, the FRP casing was placed in the hole, and the well was completed for Culebra monitoring.

After the well was completed, there was no well development.

On June 23, 2005, SNL placed a miniTroll in SNL-15 to monitor water-level changes as the well recovered after completion and to prepare for slug tests that were carried out early in 2006.

WRES began monthly water-level monitoring of the Culebra on April 11, 2006; the initial depth to water was 692.65 ft below the top of casing (US DOE, 2007).

Core photographs of Culebra Dolomite from SNL-15 representing middle (left) and lower (right) portions of the member, which has very low permeability. V -

across. Photographs by Dennis Powers on 6/5/2005. These photographs are not referred to in the text.

4.0 SIGnIFIc Ance/ dIScu SSIon

The materials used in completing SNL-15 are expected to be stable over a lengthy monitoring period, in contrast to steel casing in monitoring wells drilled before 1995. Newer monitoring wells provide construction experience for groundwater surveillance wells that may be drilled in the future.

The lower Rustler and upper Salado were not penetrated at SNL-15. Previous studies of thickness changes between the Culebra and Vaca Triste Sandstone Member of the Salado (Powers, 2002a, 2003a; Powers and others, 2003) indicated that SNL-15 was located far east of the upper Salado halite margin and is the area where no halite has been dissolved. SNL-15 was also located east of the margin of halite in each non-carbonate member of the Rustler (Fig. 4-1), in areas where the halite has not been dissolved.

Halite was recovered from cores in the upper M-2/H-2 interval, as expected. The contact with the overlying Culebra showed continuous deposition and no deformation. The core from SNL-15 was consistent with the proposal by Holt and Powers (1988) that Culebra was deposited over the gray claystone and siltstone without a hiatus. The gray claystone and siltstone was deposited across (above) the halite-pan salts in the depositional center of the basin rather than being a residue after halite was dissolved from the uppermost M-2/H-2.

The most significant geologic finding of SNL-15 is the presence of halite in fractures and pore spaces of the Culebra Dolomite. Holt (1997), following the development of depositional models for the Rustler by Holt and Powers (1988), predicted that halite might form cements east of WIPP. Powers and others (2006) explored the distribution of halite in the Culebra and other Rustler units, including at SNL-15.

Culebra core recovery was complete. One reason may be the lack of porosity at SNL-15 because of halite. In addition, the drilling used compressed air, and this may also have contributed to the success in core recovery. At SNL-15, pores or vugs were less abundant than in many cores from the Culebra, and the pores are lled. Fracturing was limited, and halite filled the fractures. The Culebra overall will likely have low transmissivity.

Halite in the Tamarisk can be divided into a lower and an upper part by a sulfate bed, including polyhalite. The lower halite shows a clean lower part and an argillaceous upper part that t with the model of mud at to halite pan deposition established by Holt and Powers (1988).

The Forty-niner also included halite at SNL-15, showing a position within the halite pan rather than in the mud at environment where most WIPP drillholes are located.

Cuttings and resistivity changes suggest that the sulfate cements of the Dewey Lake occur below ~250 ft bgl. This position is somewhat higher stratigraphically than at the center of the WIPP site (Powers, 2003b). The broad trend for this boundary is to be stratigraphically low west and south of the WIPP site center and stratigraphically higher in the center and eastern part of the site (Powers, 2003b). There does not appear to be a productive saturated zone at this boundary in SNL-15, or in any other part of the Dewey Lake.

The Santa Rosa is thin at SNL-15, and it was eroded before the Gatuña was deposited. Logs and cuttings indicate the Santa Rosa is interbedded sandstone and siltstones. No water was encountered in the Santa Rosa.

The Gatuña is ~20 ft thick at SNL-15. The formation tends to be thinner, or not exist, in the eastern part of WIPP. SNL-15 is located along the side of a subdued valley that trends southwest through Los Medaños to Nash Draw. It appears that the valley has developed as part of Gatuña erosion and deposition. To the north, on a topographic high, the Santa Rosa crops out and has Mescalero caliche developed on it. Gatuña may be thicker to the south in the center of the valley.

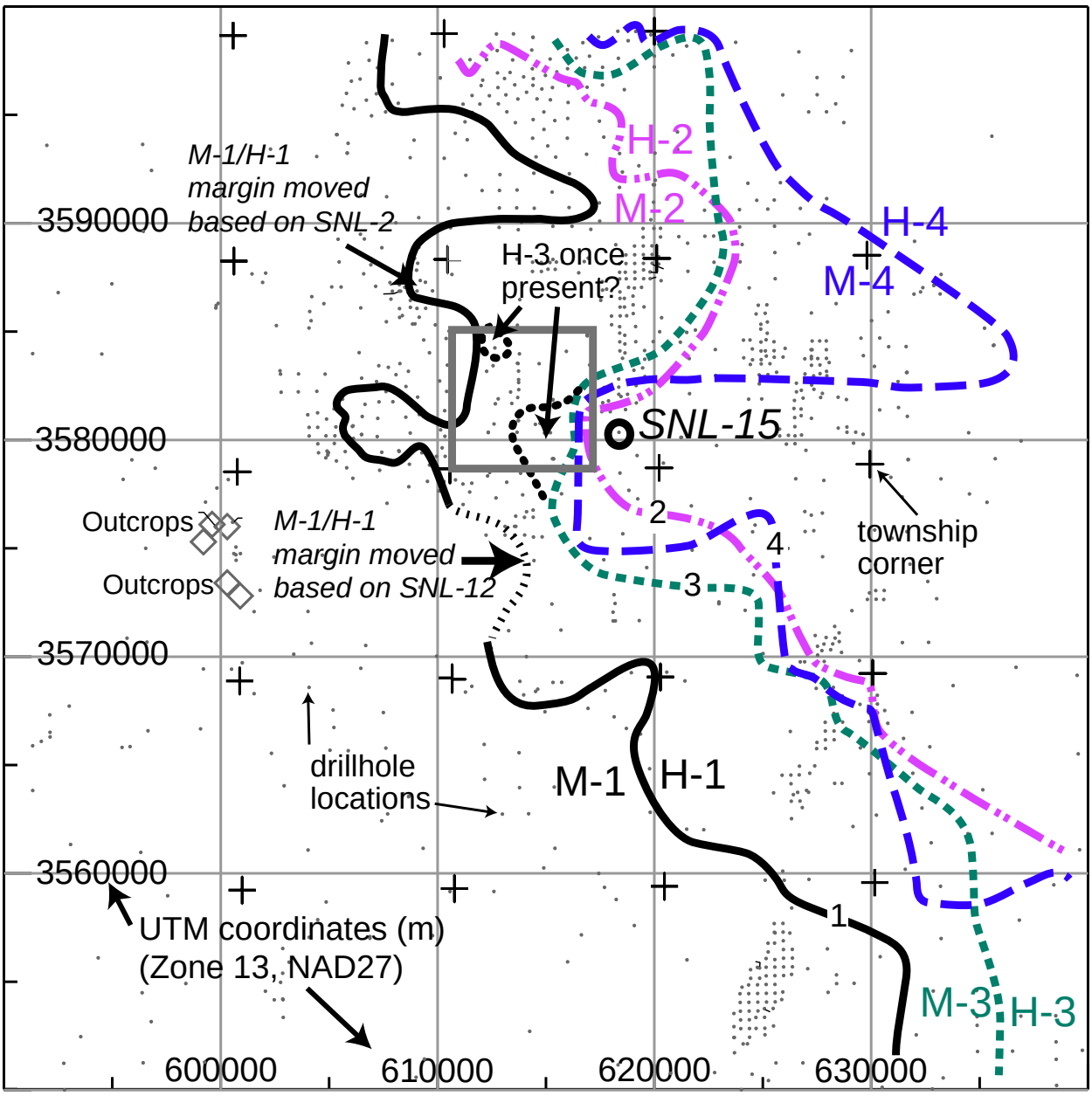


Figure 4-1. Rustler Halite Margins Near SNL-15. Halite is present east of the margins shown. SNL-15 was located in an area where Culebra transmissivity was expected to be low and halite is

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U.S. Department of Energy, 2004, Title 40 CFR Part 191 Subparts B and C Compliance Recerti cation Application for the Waste Isolation Pilot Plant: DOE/WIPP 04-3231, U.S. Department of Energy, Carlsbad, NM.

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Appendix A
Drillhole Objectives

The basic document providing the basis for the drillhole and operations is the Program Plan WIPP Integrated Groundwater Hydrology Program, FY03-09 (Revision 0; Sandia National Laboratories, 2003). The main objectives are to resolve questions about water-level changes, provide data for modeling groundwater hydrology, and construct a network of wells to monitor groundwater through the WIPP operational period. Sections of this document relevant to this drillhole have been reproduced on the following pages, with the page number of the section preceding the extract and an ellipsis (…) following the end of the extracted section. A

The original document (Sandia National Laboratories, 2003) should be consulted for complete details and context for the program.
text.

SNL-15 was not designated as a location in the original groundwater hydrology program (Sandia National Laboratories, 2003). Within the program, the well designated WTS-3 was located where SNL-15 was drilled. WTS-3 was designated to replace plugged and abandoned well P-18, in a location east of WIPP where Culebra transmissivity is expected to be very low.
hydrology. Because the program to drill most of the WTS locations was abandoned, SNL-15 was designated for this location.

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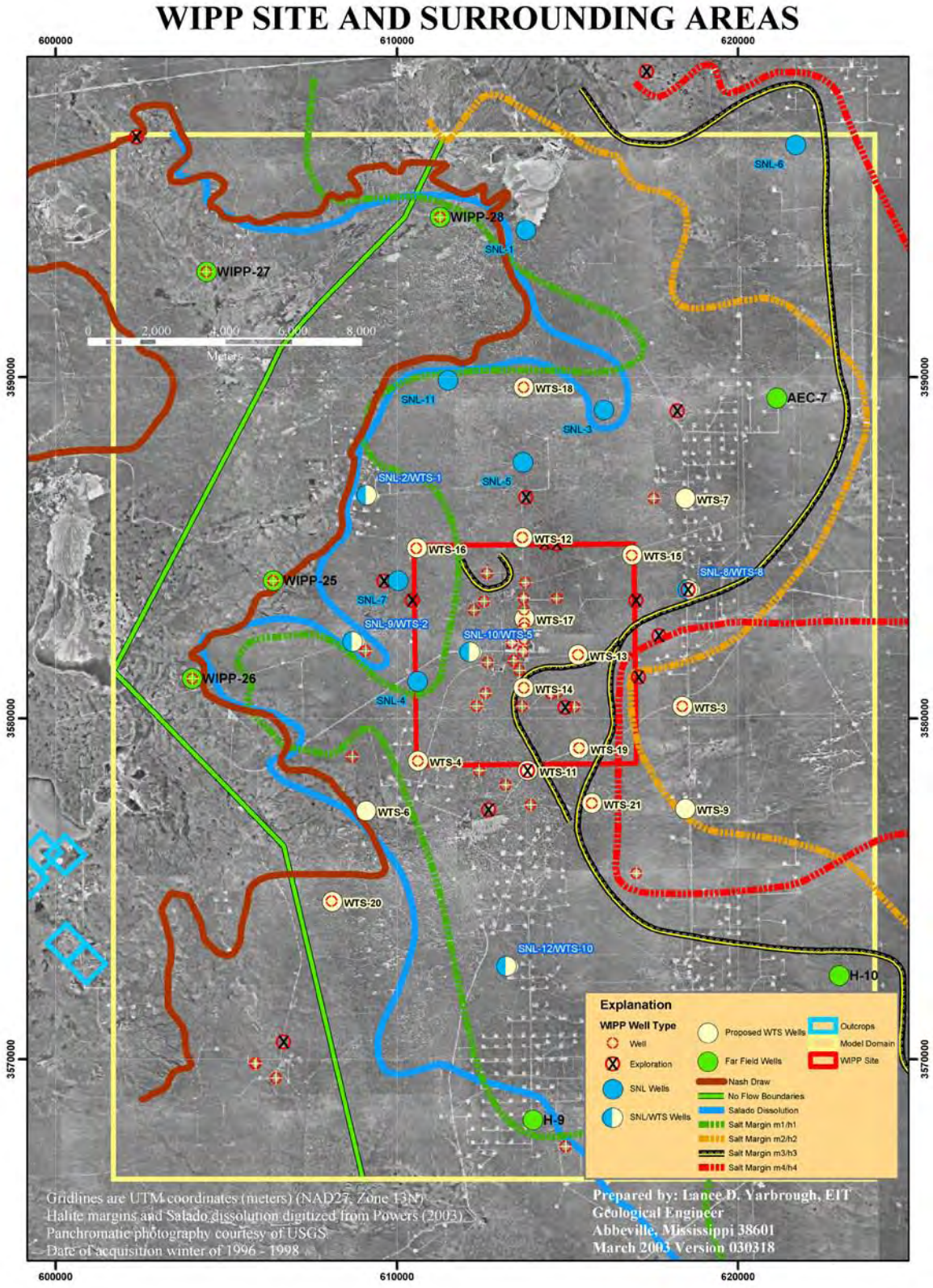
WIPP SITE AND SURROUNDING AREAS
600000
610000
620000
3590000
3580000
3570000
WIPP-28
WIPP-27
WIPP-25
WIPP-26
SNL-1
SNL-2/WTS-1
SNL-3
SNL-4
SNL-5
SNL-6
SNL-7
SNL-8/WTS-8
SNL-9/WTS-2
SNL-10/WTS-5
SNL-11
SNL-12/WTS-10
WTS-3
WTS-4
WTS-6
WTS-7
WTS-9
WTS-11
WTS-12
WTS-13
WTS-14
WTS-15
WTS-16
WTS-17
WTS-18
WTS-19
WTS-20
WTS-21
AEC-7
H-9
H-10
0 2,000 4,000 6,000 8,000
Meters
Explanation
WIPP Well Type
Well
Exploration
SNL Wells
SNL/WTS Wells
Proposed WTS Wells
Far Field Wells
Nash Draw
No Flow Boundaries
Salado Dissolution
Salt Margin m1/h1
Salt Margin m2/h2
Salt Margin m3/h3
Salt Margin m4/h4
Outcrops
Model Domain
WIPP Site
Gridlines are UTM coordinates (meters) (NAD27, Zone 13N)
Halite margins and Salado dissolution digitized from Powers (2003)
Panchromatic photography courtesy of USGS
Date of acquisition winter of 1996 - 1998
Prepared by: Lance D. Yarbrough, EIT
Geological Engineer
Abbeville, Mississippi 38601
March 2003 Version 030318

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5. Description of Field Activities

A variety of field activities are planned to address the issues discussed in Section 3 and provide data needed for the modeling activities discussed in Section 4. To the extent possible, the activities represent an integrated approach to addressing all of the issues simultaneously, rather than a piecemeal approach that addresses each issue individually. The principal components of the field activities are drilling and logging of new and replacement wells, testing in individual wells, large-scale testing involving many wells, recompletion of existing wells, and plugging and abandonment of old wells. In addition, we anticipate that various ancillary activities will be necessary to collect information to support scenario evaluation and conceptual model development. The planned schedule for the field activities, as well as for the modeling activities, is described in Section 6. The activities described below represent our best current estimate of the work that will be needed. Clearly, the activities conducted in FY04 and later years are necessarily contingent on the results of previous years' field and modeling activities. As described in Section 11, a meeting of all parties involved in the hydrology program will be held annually to evaluate progress to date and develop final plans for the coming year.

5.1 New and Replacement Wells

Twelve locations have been identified where data from new wells are needed. These locations are designated with "SNL-#" labels in this document. Some of these wells are expected to provide information directly relevant to the scenarios under consideration, while others will provide information needed to support our conceptual and numerical models. In addition, a long-term Culebra monitoring network consisting of fiberglass-cased wells at potentially 21 locations has been designed to provide the data needed for compliance with the requirements of the WIPP HWFP. These wells will replace the existing network of steel-cased wells that are deteriorating and in need of plugging and abandonment. The 21 locations for the long-term monitoring network are designated with "WTS-#" labels. Well locations have been optimized so that five wells can serve as both SNL and WTS wells, reducing the total to 28 locations. Preliminary locations for the wells are shown in Figure 8. However, the final number and locations of the WTS wells will be optimized based on the modeling described in Section 4. Seven other existing well locations outside the extent of the HWFP network have been identified that will likely require replacement wells in the future to continue to provide data needed for Culebra modeling. New Magenta wells will be installed at six of the SNL- and WTS-designated locations to provide data needed for scenario evaluation and modeling. Five Dewey Lake wells are planned for locations north of the WIPP site where Dewey Lake water is encountered while drilling the Culebra wells. The justifications for the 12 SNL locations are given below, followed by the justifications for the WTS locations and the "far-field" replacement locations. Table 1 shows the roles to be played by each of the wells. The sequencing of drilling and testing in the new wells is described and explained in Section 6.

5.1.1 SNL Well Justifications

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Table 1. Roles Served by Planned Wells.

Well	Addresses leakage from tailings pile	Addresses high-T conduits	Addresses leaking boreholes	Addresses Salado dissolution	Provides model boundary condition information	Provides other information needed for modeling	Provides information supporting conceptual model	Provides information on flow across WIPP site
WTS-3						X	X	

…

5.1.2 WTS Well Justifications

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WTS-3: This Culebra well will replace plugged and abandoned well P-18 east of the WIPP site, and provide needed information on transmissivity east of the m4/h4 halite margin. A Magenta well will also be installed at this location to provide information on Magenta head and transmissivity east of the site needed for modeling.

…

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Table 2. Testing to Be Performed in New/Replacement Wells.

Well	4-day Pumping Test	Slug Tests	Multipad Pumping Test	Scanning Colloidal Borescope Logging	Testing Not Needed—Replacement Well
WTS-3		C, M			

C=Culebra well
M=Magenta well

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5.3.2 Multipad Pumping Tests

Large-scale (multipad) pumping tests of the Culebra are planned for three locations to provide transient response data needed for flow-model calibration. Multipad pumping tests typically involve pumping for a month or longer at one location while monitoring responses at surrounding observation wells up to several miles away. Such tests have been performed in the past within the WIPP site boundaries at the H-3, H-11, H-19, and WIPP-13 locations, greatly facilitating model calibration in the affected areas where observation wells were present. The new wells to be installed provide the opportunity to extend the increased model-calibration capability provided by multipad tests to the regions surrounding the WIPP site, which is needed to improve our understanding of how hydraulic stresses originating off-site propagate to the wells on the WIPP site. In particular, one of the primary objectives of the multipad tests will be to determine the presence or absence of high-transmissivity connections between known areas of high T, such as between H-6 and P-14, and between H-11 and H-9. These types of features are important because, if present, they provide pathways for water from Nash Draw to flow under the Livingston Ridge surface or, if absent, they prevent that flow so that the only effect of increased heads in Nash Draw is to decrease the east-to-west gradient in the Culebra, causing heads to rise. Multipad tests will be performed north, south, and west of the WIPP site. (Transmissivity is too low east of the site to sustain the necessary pumping for a multipad test, and our conceptual model assumes the Culebra does not show the heterogeneity in this region that multipad tests are designed to address. The individual well tests at the new wells east of the site should be sufficient to confirm this assumption.)

Well SNL-9/WTS-2 will be the pumping well for the western multipad test, with observation wells as shown in Figure 18. Provided that it is able to produce at least approximately 5 gpm, SNL-5 will be the pumping well for the northern multipad test, with observation wells as shown in Figure 19. If SNL-5 does not have the needed pumping capacity, SNL-11, SNL-3, and WTS-12 (in that order) will be considered as potential fallback pumping wells for the test. The pumping well for the southern multipad test will prospectively be SNL-12/WTS-10, with observation wells as shown in Figure 20. Should SNL-12/WTS-10 not have the required pumping capacity, WTS-11 and WTS-6 (in that order) will be considered as fallback pumping locations.

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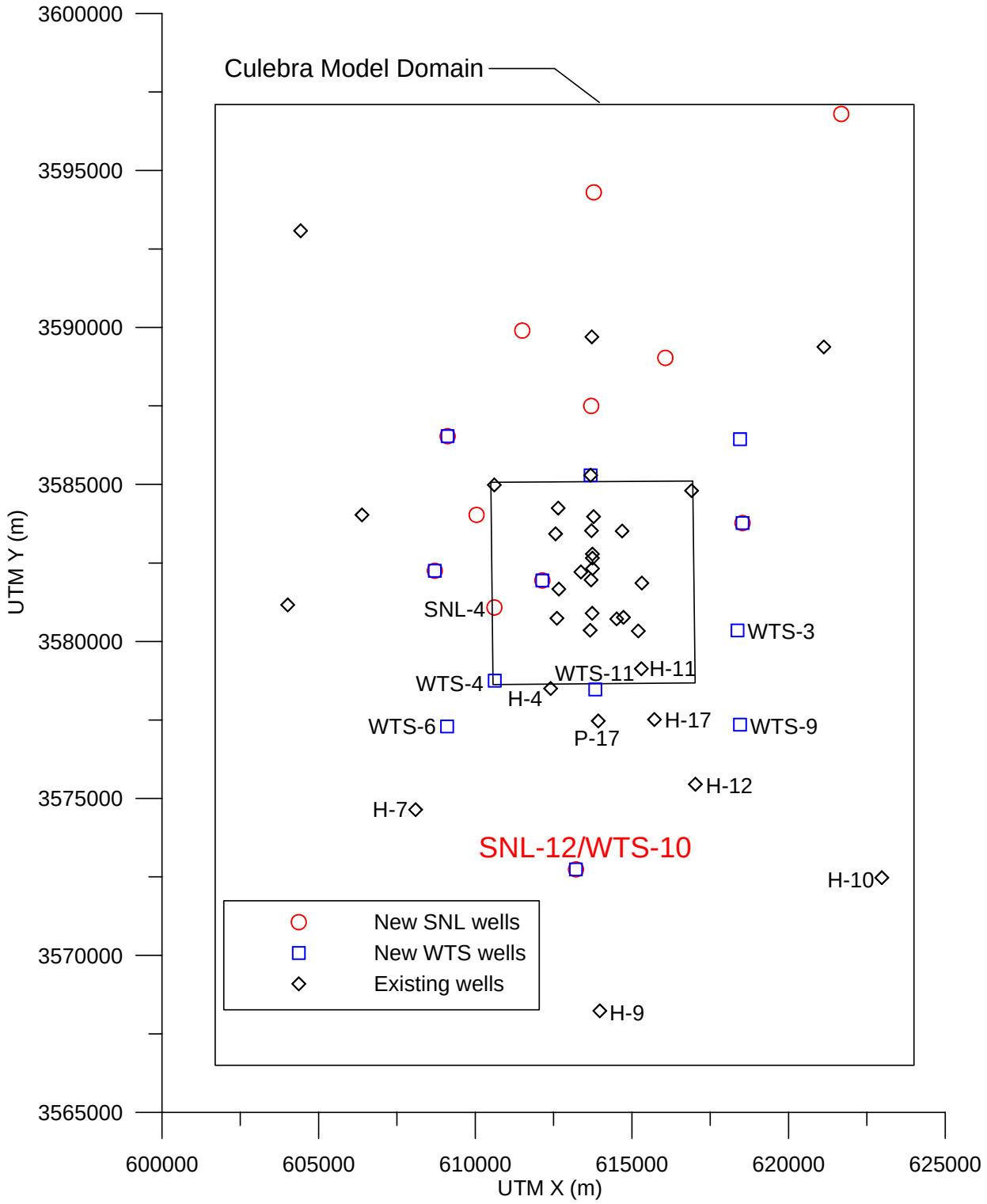

Figure 20. Pumping well and principal observation wells for southern multipad pumping test.

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Table 5. Anticipated Total Depths of Proposed Wells.

Location	Culebra Well Depth (ft)	Magenta Well Depth (ft)	Dewey Lake Well Depth (ft)
WTS-3	960	750	

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Consulting Geologist

August 1, 2004

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Hydrology Lead
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Ronald G. Richardson
Field Lead
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Dear Rick and Ron:

By request from Rick Beauheim, I have re-examined geologic data in the vicinity of the following potential locations for drillholes to provide recommendations on whether the locations are appropriate, considering the objectives of the drillholes.

Drillhole Name	General Location	Hydrologic Objectives	Geologic Information
SNL-6	500' fnl & fel, 7-21-32	Model boundary conditions; conceptual model: low T in area with H-2 and M-3	Better logs show H-3 present; move south ~ 1 mi
SNL-8	@ P-20; 800' fsl, 100' fel, 14-22-31	Confirm assumed low T east of WIPP, located in area of possible dissolution of halite from H-3; provide info on Culebra heads in area with many O&G wells	Logs re-examined confirm M-3 and indicate possible thicker M-3 adjacent to inferred halite margin at P-20 and adjacent O&G wells
SNL-13	SE ¼, 1-23-30	Replace WTS-4, provide monitor well in area off SW corner of WIPP where some models show flow is forced	No halite in H-2, -3, or -4; probable H-1 halite cements in most drillholes
SNL-14	SE ¼, 4-23-31	Examine area between P-17 and H-17 for possible high T zone indicated in CCA	No drillhole or other data helps define the mudstone-halite boundaries in M-2/H-2, M-3/H-3, and M-4/H-4
SNL-15	@P-10; 2300 fnl, 340' fwl, 26-22-31	Confirm T values in area with halite in all Rustler units along eastern boundary of WIPP	Drillhole data confirm halite present in P-10 and nearby oil and gas drillholes

Locations for SNL-6 and SNL-14 provide some challenges. From preliminary analysis, additional logs near the northeast corner of the hydrology domain indicate that halite is present farther west than was indicated in the original analysis (Powers, 2002). Although it is desirable to locate SNL-6 in an area without H-3, determining Culebra hydraulic properties near the boundary of the hydrologic domain is more important. SNL-6 would have to be located at considerable distance from this corner of the domain to assure not encountering H-3. Because SNL-14 is intended to test for the presence of a high T zone in the Culebra between H-17 and

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Assessing FY05 Drillhole Locations
August 1, 2004

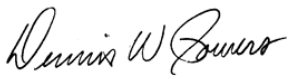
P-17, the drillhole should be located where H-3 is not present to minimize effects it may have on Culebra T values. Nevertheless, there are no drillholes between H-17 and P-17 to help delineate this margin. SNL-14 was therefore located approximately midway between the drillholes.

The coordinates for the drilling pads for each hole are:

Drillhole Name	UTM X (m) (NAD27)	UTM Y (m) (NAD27)	T,R Approximate Location (estimated)
SNL-6	621294	3595390	7-21-32, 1825 fsl, 1250 fel
SNL-8	618522	3583793	14-22-31, 900 fsl, 125 fel
SNL-13	610406	3577599	1-23-30, 1750 fsl, 400 fel
SNL-14	614871	3577302	4-23-31, 800 fsl, 1475 fel
SNL-15	617137	3581276	26-22-31, 2100 fnl, 500 fwl

Map locations, aerial photos with locations, and some site figures for each drill hole are included in the following pages.

Sincerely,



Dennis W. Powers

Note that pages of this memorandum not relevant to SNL-15 have not been reproduced.

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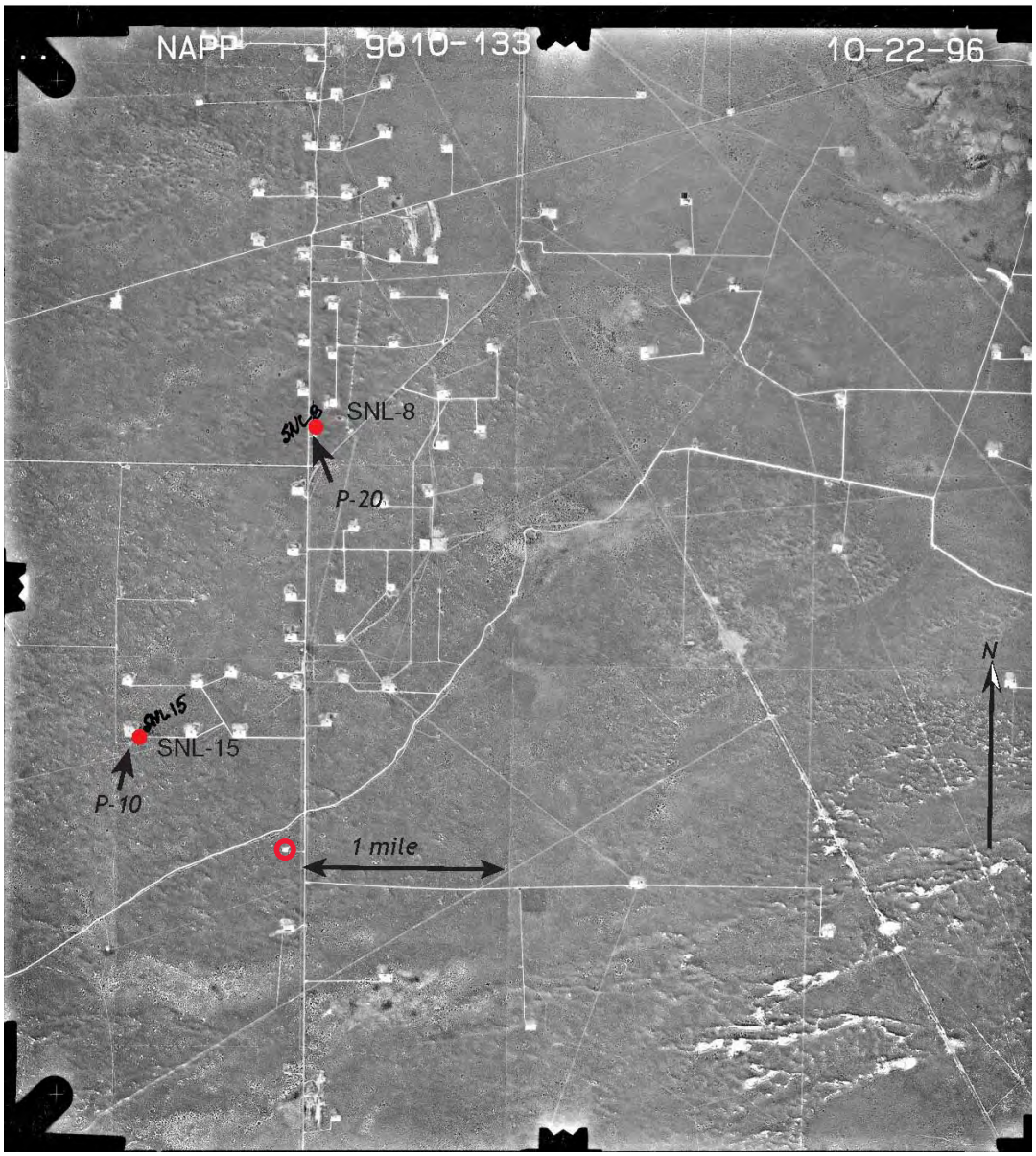

Aerial photograph showing locations of SNL-8 and SNL-15.

Note that SNL-15 was relocated to the P-18 drillpad after this memorandum; red

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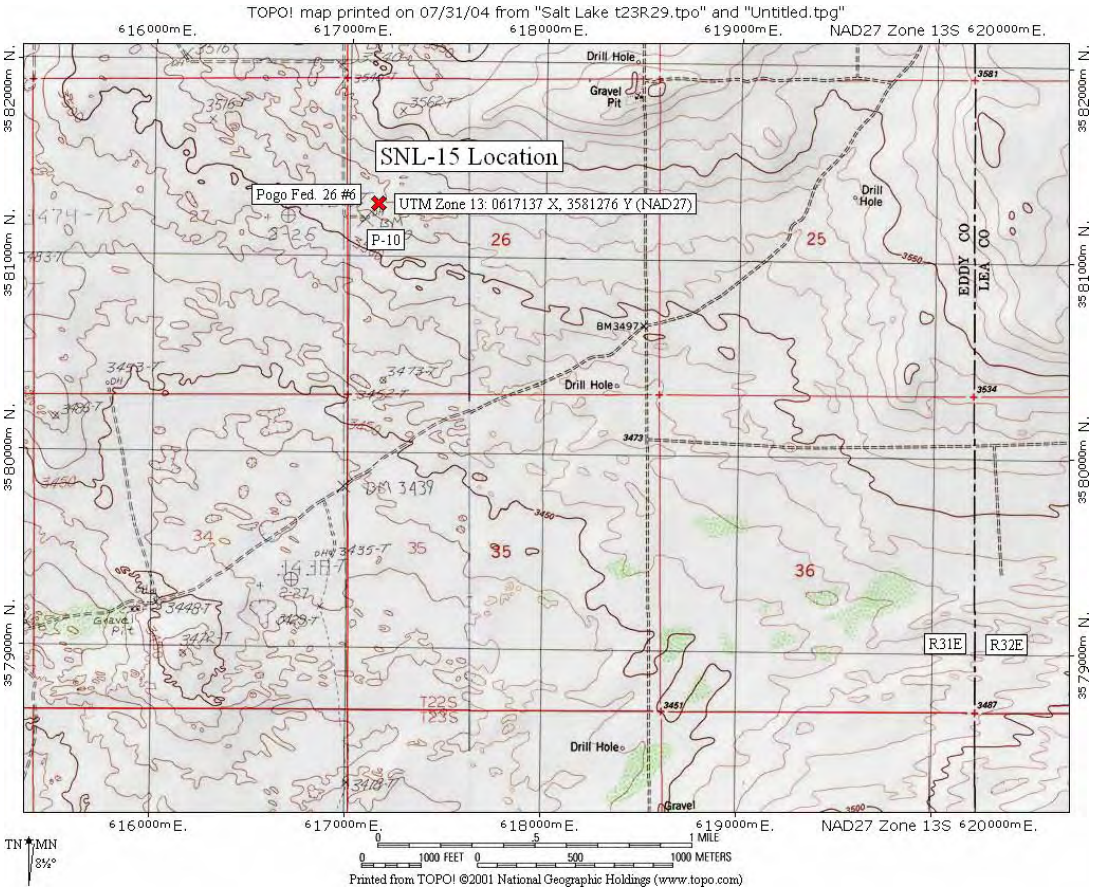
Assessing FY05 Drillhole Locations
August 1, 2004



Topographic map of SNL-15 location and photograph showing adjacent pad for oil well. WIPP Waste Handling building is on horizon just left of the pump jack.

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March 6, 2005

Ron Richardson
Field Lead
WRES

Rick Beauheim
Hydrology Lead
Sandia National Laboratories

Drilling Estimates and Revisions for New Hydrology Wells FY2005

Because of limits to the budget for drilling in 2005, I have revised the expectations for drillholes SNL-6, SNL-8, SNL-13, SNL-14, and SNL-15 (see accompanying Excel workbook). Here I also describe the differences with respect to the hydrology plan and also initial points about these drillholes (notes adjacent to initial Excel worksheet). In reassigning coring intervals and drilling depths, I have made an attempt to maximize the information for higher priority items. That does not mean that I think the earlier objectives were unnecessary or inappropriate. At the end of the summary, I provide some additional priorities for decision-making based on incremental costs as they accrue. For easy reference, a generalized diagram of the stratigraphy of each hole and the the intervals to be cored under this revision is included at the end of the drillhole summaries.

SNL-6

Prior Expectations for SNL-6

SNL-6 was originally located in the area of the northeast corner of the hydrological modeling domain. Its purpose is to establish model boundary conditions that are important in evaluating potential vertical-leakage pathways to the Culebra. In addition, the transmissivity of the Culebra at SNL-6 was expected to be low because it is generally in the vicinity of halite in Rustler units M-2/H-2 and M-3/H-3. SNL-6 was originally scheduled to be drilled during FY04.

The hydrology plan generically indicated that wells such as SNL-6 would be cored through the Magenta Dolomite Member (~30 ft) and from the lower part of the upper Tamarisk Member anhydrite to about 20 ft below the Culebra Dolomite (~70 ft) for a total of about 100 ft.

My initial forecast called for coring from the uppermost anhydrite of the Forty-niner Member through the base of the Rustler and into the upper Salado, a total of about 350 ft. This more ambitious plan was based on the lack of control for the mudstone/halite facies in all units and unknown effects on the hydrology of the Culebra and other units. It is not believed that the upper Salado is being dissolved at this location and drilling was projected for about 50 ft below an expected top of Salado. Coring above and beyond the hydrology plan included the Forty-niner mudstone and basal anhydrite, all of the upper Tamarisk anhydrite, and all of the Los Medaños plus a short interval in the upper Salado.

Current Plan for SNL-6

The current location for SNL-6 is south of the original location, but it is in the same geological setting. Halite is anticipated in M-2/H-2, although data are sparse. The current location is not within the boundary for halite in either M-3/H-3 or M-4/H-4, but the boundary for M-3/H-3 is also not well constrained in this area.

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The revised drilling estimate is only to the depth below the Culebra necessary to establish the casing and screen interval through the Culebra. The revised core intervals include the Forty-niner mudstone and Magenta to examine the M-4/H-4 halite margin. The Tamarisk mudstone (M-3/H-3) above the Culebra is partially cored under this plan. It is expected that halite is present in this unit.

The revised plan will eliminate coring and drilling of intervals through the lower Rustler and into the upper Salado. There will be no extension of detailed facies relationships or estimation of dissolution effects, if any, from these zones.

SNL-8

Prior Expectations for SNL-8

SNL-8 is located adjacent to the north edge of the drilling pad used for P-20. Because it is located west of the apparent margin of halite in M-3/H-3, it will provide information on the relationship of Culebra transmissivity to the presence or absence of salt in the unit. It also is in the vicinity of numerous oil and gas wells and will provide information on Culebra heads in such an area. The location of SNL-8 is also expected to provide information about the direction and rate of groundwater flow across the WIPP for annual reporting to the NMED. SNL-8 was originally scheduled to be drilled during FY05.

The hydrology plan generically indicated that wells such as SNL-8 would be cored through the Magenta Dolomite Member (~30 ft) and from the lower part of the upper Tamarisk Member anhydrite to about 20 ft below the Culebra Dolomite (~70 ft) for a total of about 100 ft.

My initial forecast called for coring from the uppermost anhydrite of the Forty-niner Member through the Magenta and from above the Tamarisk mudstone into the upper Salado, a total of about 280 ft. This plan was based on the lack of detail for the mudstone/halite facies in all units, although the halite facies limits for each unit has already been estimated based on the descriptions from drillhole P-20. It is not believed that the upper Salado is being dissolved at this location and drilling was projected for about 100 ft below an expected top of Salado. Coring above and beyond the hydrology plan included the Forty-niner mudstone and basal anhydrite, and all of the Los Medaños plus a short interval in the upper Salado.

Current Plan for SNL-8

The location for SNL-8 has not changed. Halite is not anticipated in M-2/H-2, although the margin is not distant. The current location is not within the boundary for halite in either M-3/H-3 or M-4/H-4.

The revised drilling estimate is to a depth about 40 ft below the Culebra to try to establish the presence of halite in the upper part of M-1/H-1 and obtain some textural details through coring. The revised core interval eliminates coring of the Forty-niner mudstone to examine the M-4/H-4 halite margin; the Magenta is cored to provide regional data. The Tamarisk mudstone (M-3/H-3) above the Culebra is cored under this plan. It is expected that halite is not present in this unit. The lower Rustler and upper Salado are neither drilled nor cored in this revised plan.

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The revised plan will eliminate coring and drilling of intervals through and around the Magenta as well as through the lower Rustler and into the upper Salado. There will be no extension of detailed facies relationships or estimation of dissolution effects, if any, from these zones.

SNL-13

Prior Expectations for SNL-13

No drillhole designated SNL-13 was included in the original hydrological program plan. SNL-13 is located southwest of the southwest corner of the WIPP site, in an area estimated to be near the margin of halite in the lower Rustler (M-1/H-1). This location is approximately midpoint between two wells (WTS-4 and WTS-6) proposed for the groundwater monitoring program. WTS-4 was meant to replace the P&A drillhole P-15 that was monitored for a number of years. WTS-6 was to provide monitoring information as well as Culebra transmissivity data near the upper Salado dissolution margin. In addition, a Magenta well was proposed for the WTS-6 location to provided needed transmissivity and head data for modeling. WTS-4 was scheduled to be drilled in FY03; WTS-6 was scheduled to be drilled in FY04. The location of SNL-13 likely will provide information about the direction and rate of groundwater flow across the WIPP for annual reporting to the NMED.

The hydrology plan generically indicated that wells WTS-4 and WTS-6 would be cored through the Magenta Dolomite Member (~30 ft) and from the lower part of the upper Tamarisk Member anhydrite to the upper Salado (~145 ft) for a total of about 175 ft.

My initial forecast called for coring of the Magenta and from above the Tamarisk mudstone into the upper Salado, a total of up to 320 ft. This plan was based on the lack of detail for the mudstone/halite facies in all units in this area, although the halite facies limits for each unit has already been estimated based on the descriptions from nearby drillholes. It is not known whether the upper Salado is being dissolved at this location and drilling was projected as much as 235 ft below an expected top of Salado to reach a marker bed. Coring above and beyond the hydrology plan included more of the lower Tamarisk and a longer interval in the upper Salado.

Current Plan for SNL-13

The location for SNL-13 has not changed significantly since it was first proposed. Halite not anticipated in M-2/H-2 or higher. The halite margin for M-1/H-1 is not well constrained in this area. Geophysical logs from surrounding drillholes have been briefly examined and are expected to yield enough information to supplement data from drilling and coring the Rustler/Salado contact.

The revised drilling estimate is to a depth about 10 ft below the Rustler/Salado contact to try to establish whether halite has been dissolved from the uppermost Salado. The core and drilling will also investigate the presence of halite in the upper part of M-1/H-1 and obtain some textural details. The Tamarisk mudstone (M-3/H-3) through Culebra is cored under this plan. The revised

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core interval includes coring of the Magenta; Magenta hydraulic properties in this area are likely to be important, and the hydrology plan locates a Magenta well in this area (WTS-6).

SNL-14

Prior Expectations for SNL-14

No drillhole designated SNL-14 was included in the original hydrological program plan. SNL-14 is located south of the southern boundary of the WIPP site, about midway between drillholes P-17 and H-17, where the Culebra has been tested and monitored. SNL-14 is about centered in an area that was designated the "high-T zone" for the Culebra in many earlier reports. The nearest equivalent well in the existing hydrology program plan was designated WTS-11, and it was originally located nearer the southern WIPP boundary, at the drillpad for P-8. WTS-11 was intended to be a replacement for P-17. WTS-11 was to provide monitoring information as well as Culebra transmissivity data. WTS-11 was scheduled to be drilled in FY05. The location of SNL-14 likely will provide information about the direction and rate of groundwater flow across the WIPP for annual reporting to the NMED.

The hydrology plan generically indicated that wells such as WTS-11 would be cored through the Magenta Dolomite Member (~30 ft) and from the lower part of the upper Tamarisk Member anhydrite to below the Culebra (~70 ft) for a total of about 100 ft.

My initial forecast called for coring the Forty-niner mudstone and through the Magenta and from above the Tamarisk mudstone into the upper Salado, a total of up to 350 ft. This plan was based on the lack of detail for the mudstone/halite facies in all units in this area and the import of SNL-14 as an indicator of the "high-T zone" that is not as prominent in recent modeling based on the Culebra geohydrological conceptual model. Nearby drillholes (P-17 and H-17) bracket the presence and absence of halite in the units above and below the Culebra, and this location is important as a test of the extension of a possible dissolution zone in M-3/H-3. The upper Salado is not likely to be dissolved at this location, but drilling and coring was projected into the upper Salado to thoroughly test the any relationship between high Culebra transmissivity and upper Salado dissolution. Coring above and beyond the hydrology plan included more of the lower Tamarisk and a longer interval in the upper Salado.

Current Plan for SNL-14

Since it was first proposed, the location for SNL-14 has been moved somewhat to mitigate impacts from construction near the Los Medaños, but it is still located along a general midline between H-17 and P-17. There are no changes in the estimates of the geological setting for this drillhole from the original plan for SNL-14. Although SNL-14 is south of the intended location for WTS-11, the geology is expected to be similar.

The revised drilling estimate is to a depth about 50 ft below the Culebra, the depth necessary to check reasonably for halite in the underlying M-2/H-2 and M-1/H-1. The revised core interval includes the Magenta, although there is no plan to locate a Magenta well in this area. The interval including Tamarisk mudstone (M-3/H-3) through Culebra and into the middle of the Los

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Medaños is cored under this plan. This provides a test of the halite in the Tamarisk mudstone as well as an attempt to intercept the upper halite of the lower Rustler (M-1/H-1).

This revised plan eliminates coring of the Forty-niner mudstone to examine the M-4/H-4 halite margin, and it eliminates coring and drilling of the lowermost Rustler and Salado. Direct drillhole and textural evidence from these zones will not be obtained.

SNL-15

Prior Expectations for SNL-15

No drillhole designated SNL-15 was included in the original hydrological program plan. SNL-15 is now located east of the eastern boundary of the WIPP site at the drilling pad for P-18, where the Culebra has been tested and monitored. The hydrology program plan included a groundwater monitoring well (WTS-3) at this location for the Culebra as well as a Magenta test well. Culebra transmissivity is very low at P-18 compared to other test holes, and the presence of halite in underlying and overlying units is believed to be related to the low transmissivity. Because M-4/H-4 above the Magenta is also expected to have halite, the Magenta characteristics here are also of interest. WTS-3 was scheduled to have both Culebra and Magenta wells drilled and completed in FY05. Another groundwater monitoring well (WTS-9) in this same geological setting, but nearer halite margins, was also scheduled to be completed in FY05.

The hydrology plan generically indicated that wells such as WTS-3 and WTS-9 would be cored through the Magenta Dolomite Member (~30 ft) and from the lower part of the upper Tamarisk Member anhydrite to below the Culebra (~70 ft) for a total of about 100 ft.

My initial forecast for SNl-15 called for coring the entire Rustler Formation to establish all of the facies relationships toward the depositional center where all mudstone/halite units are believed to include halite. Including a short interval from the upper Salado brought the estimated core interval to 475 ft. Coring above and beyond the hydrology plan included the upper contact of the Rustler with Dewey Lake, all of the Forty-niner, all of the Tamarisk and all of the Los Medaños.

Current Plan for SNL-15

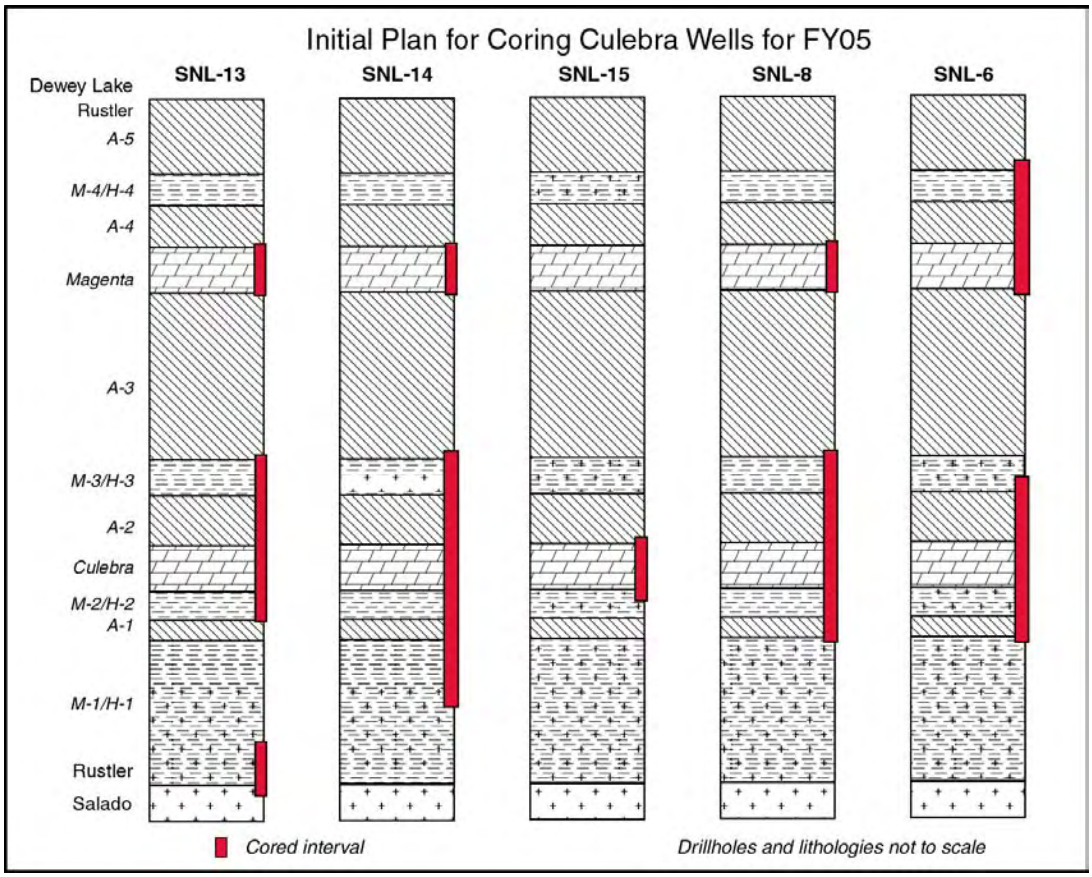
The location for SNL-15 has been moved somewhat since it was first located nearer the halite margins. Proposed locations near existing oil wells were not acceptable to the companies involved. The P-18 drillpad does not have this problem, and it is clearly in a region of hydrological interest. The potential effects of being near a halite margin are not going to be tested in this drillhole, but it should provide more of a benchmark regarding low transmissive Culebra and the relationship of transmissivity of Rustler units to halite in the formation.

The revised drilling estimate is to a depth about 23 ft below the Culebra to allow completion. The revised core interval includes the Culebra and the upper Los Medaños (M-2/H-2).

This revised plan eliminates coring of all Rustler except the Culebra and immediate surrounding units. The evidence regarding halite from P-18 above the total depth of SNL-15 is expected to be confirmed by cuttings. Although a well for the Magenta was proposed here in the hydrology

Dennis W. Powers, Ph. D.
Consulting Geologist

plan, the Magenta has not been included in coring here because of immediate costs. It could also be cored if a Magenta well is actually sited here.



Priorities for Making Decisions During Drilling

Expansion of Drilling and Coring
If the accrued expenses of drilling permits additional targets to be designated, here are my priorities, from higher to lower:

- M-4/H-4 at SNL-8 (+ 35 ft)
- Magenta Dolomite at SNL-15 (+ 30 ft)
- Extend coring above and below Culebra (+ 40 ft)

Contraction of Drilling and Coring
If accrued expenses of drilling require coring to be reduced in later drillholes, here are my priorities, from first to be reduced to last to be reduced:

- Eliminate Magenta at SNL-8 (- 30 ft)
- Eliminate Forty-niner coring at SNL-6 (- 40 ft)
- Eliminate Magenta coring at SNL-6 (- 30 ft)

Dennis W. Powers, Ph. D.
Consulting Geologist

Drilling Estimates and Revisions FY2005
March 6, 2005

Summary Comments on Revisions

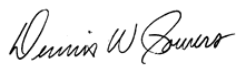
The initial program of drilling and coring I recommended was aggressive, and I intended it to provide a solid base of physical evidence bearing on the geohydrological factors that contribute to the understanding of the spatial variation in the hydraulic properties of the Culebra Dolomite as well as the Magenta Dolomite. A hydrogeological conceptual model of the Culebra has been put forward, and these drillholes provide additional means of testing that model. Although a similar conceptual model of the Magenta has not yet been established, the spacing and distribution of these drillholes potentially add much to the existing coverage, as the eastern sector of the WIPP hydrologic modeling domain is not well represented by cores. Although Salado dissolution is not expected to be a significant factor in any of these five locations except possibly SNL-13, the distribution of halite and other Rustler facies, along with depth, are expected to be significant for the Culebra. The general distribution of halite in the Rustler is believed to be well known, but the margins are still poorly sampled to determine the potential for dissolution to have affected local halite distribution and hydraulic properties of these units.

With budget limitations in mind, I have attempted my version of *triage* – to sort or allocate on the basis of need for or likely benefit from ….

I have eliminated all drilling and coring of the basal Rustler and upper Salado except for SNL-13, which is located in part to test the potential effects of upper Salado dissolution. Data from other drillholes will supplement the estimate of upper Salado dissolution at SNL-13 and the amount of coring and depth has been greatly reduced. Drilling of the basal Rustler and upper Salado in the remaining holes, without core, would not significantly improve knowledge, although a specific data point on the contact might be provided by a geophysical log. I have eliminated coring of any units significantly above or below the Culebra in SNL-15 because there is little doubt about the presence of halite in all mudstone/halite units. I have also eliminated coring of some mudstone/halite units in different holes to focus on the greatest priority, the Culebra Dolomite.

Thirty years of experience at WIPP indicate to me that the cost of not having information and the cost of later providing equivalent information is more expensive than the savings of the moment. Nevertheless, I provide here a basis for choosing drillhole depths and core intervals from the five wells to be drilled and completed in FY04 with these limitations in mind. I will work with you on priorities as the drilling unfolds to do my best to balance the technical needs and budgetary limitations.

Sincerely,



Dennis W. Powers

Appendix B
Abridged Borehole History

The abridged borehole history has been prepared by compiling information from driller's reports by West Texas Water Well Service (WTWWS) personnel, on-site reporting by Washington Regulatory and Environmental Service (WRES) personnel, and geologic logs by Dennis W. Powers. The main information is from WTWWS reports, which are reported as Central Daylight Time. For consistency, all information in the abridged borehole history has been converted to Central Daylight T WRES in the Environmental Monitoring and Hydrology Section.

Note: The abridged drillhole history provided here has been compiled mainly from the daily records produced by personnel of West Texas Water Well Service (WTWWS) and provided to Ron Richardson (Washington Regulatory and Environmental Services). The information has been reformatted and has been modestly edited. *Additions to the record from notes by Dennis Powers or other personnel are in italics.* All times reported in the abridged drillhole history are in CDT (Central Daylight Time) as recorded by WTWWS because they operate from Odessa, TX. Any additional notes included here (*in italics*) with times recorded in MDT (Mountain Daylight Time) at the site have been converted to CDT. Geologic logs (main body of text) have times as MDT, and times in the geologic logs commonly vary slightly from driller's log after allowing for the hour time difference. Drilling operations at SNL-15 were under restrictions because the site is located in designated prairie chicken habitat. As a consequence, actual rig operations could not begin until after 09:00 MDT or 10:00 CDT each day.

6-01-05 Left Odessa, TX, at 08:00 CDT (*see note above*) and arrived at SNL-15 drillpad site at 09:30. Conducted safety meeting. Set rolloff from Tripod. Drilled 12.75" hole to 39.5' by 11:00. Tripped out of hole by 11:12. Prepared to run surface casing by 11:25. Pulled surface casing from hole and reamed to 39.5' from 11:25 to 12:20. Reran 40' casing in hole, leaving 6" stickup above pad level. Cemented surface casing with 42 sacks of cement, *formed pad,* and left site at 14:30.

6-02-05 Arrived on site at 10:00. Held safety meeting. Rigged up diverter for drilling with air and completed rigging up at 13:20. Drilled 7.875" hole from 39.5' at 13:20. Reached 330' at 19:58. Tripped out to collars by 20:15 and departed site.

6-03-05 Arrived on site at 10:05. Held safety meeting. Tripped into hole by 10:40. *No water in drillhole.* Worked on mist pump until 11:15. Drilled 7.875" hole from 330' beginning 11:25. Reached 650' at 19:25. Tipped out of hole to collars, shut down, and departed site *at 20:15*.

6-04-05 Arrived on site at 10:15. Held safety meeting. Tripped into hole from 10:30 to 11:06 to 650'. Drilled from 650' to 900' by 17:46, reaching coring point. Tripped out drillhole by 18:35, shut down and departed site.

6-05-05 *Richardson on site at 09:00, performed housekeeping chores. John Wood (Diamond Oil Well Drilling Company - DOWDCO) arrived at 09:35.* WTWWS crew arrived on site at 10:00. Held safety meeting and performed rig maintenance. *Action Safety personnel on site 10:15 for inspection.* Put core tool together and began to trip in at 11:02. Reached bottom (900') and began to core at 12:20. Cut 27' by 13:35. Tripped out by 15:14. Laid down core, recovering 27'. Tripped into hole from 15:40 to 16:55. Cut 23' (950') by 17:30. Tripped out by 18:20 and laid down core; 24' recovered. Broke down core tool and loaded it for DOWDCO. *John Wood departs site at 19:20. Shut down and left site at 20:00.*

6-06-05 Arrived on site at 10:00. Held safety meeting. Laid rig over to install new cat rope. *Lea Land on site,* moved rolloff out by 10:47. Placed 4.5 bags of HolePlug® to plug cored section from 950' to 938'. Tripped into hole with 7.875" bit and reamed cored section to 940'

from 12:20 to 13:40. Tripped out of hole by 14:40. Removed diverter from rig by 15:05. Jet West (Al Henderson) on site and logged well from 15:05 to 17:45. Secured site and left.

6-07-05 Arrived on site at 10:00. Held safety meeting. Loaded drill pipe onto truck. Laid out tremmie pipe and tallied lengths. Ran tremmie pipe into hole by 12:45. *Mike Stapleton (New Mexico State Engineer representative) on site at 14:20 to observe completion.* Ran 2.5-inch glass-reinforced plastic casing into hole to 935' by 15:12. Screen interval is from 928.5-902' below ground level, with 0.070-inch slots. Put 1 bag of HolePlug® into the annulus below pipe. Placed 4/10 gravel from 935' to 896' by 16:09. Put 3 additional bags of HolePlug® on gravel to bring seal to 891' by 14:30 and allowed plug to set for 15 minutes. *LaFarge on-site at 16:20; set up and* pumped cement from 16:45 to 17:50. *Stapleton departs 17:00.* Pulled tremmie pipe from hole by 18:20. Shut down and departed site.

Luis Armendariz (l) of West Texas Water Well Service and John Wood (r) of Diamond Oil Well Drilling Company prepare to core SNL-15 on June 5, 2005.

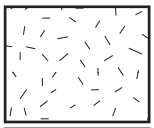
Appendix C
Geologic Logs

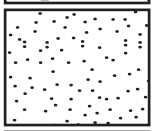
Note: fering scales, and the graphic logs for publication were generally produced at 10 or 20 vertical ft per inch, as indicated in the header for the log.

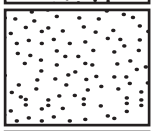
can vary somewhat from depths determined for stratigraphic units based on geophysical logs (see T
data. Depths used for completing the well are based on geophysical logs.

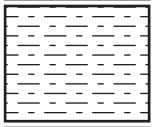
Explanation of Symbols Used in Lithologic Logs (Appendix C)

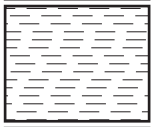
Lithology

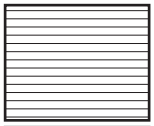

Construction fill

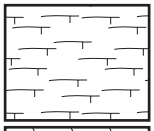

Fine sand or sandstone

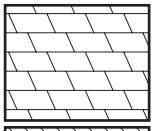

Medium or coarse sand or sandstone

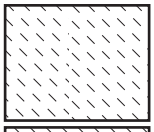

Siltstone

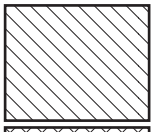

Claystone

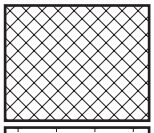

Organic-rich, claystone

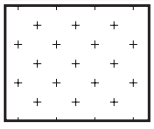

Carbonate (pedogenic calcrete)


Dolomite


Gypsum


Anhydrite


Polyhalite


Halite

Features


Cross-cutting strata


Ripples


Bioturbation

Stylolite


Wavy bedding


Stromatolites, algal bedding

Vertical gypsum crystals


Gypsum nodules


Clasts, may show lithology as fill pattern


Brecciated, fractures

Fracture, f_g for gypsum-filled, f_h for halite-filled

Erosional boundary

Sharp lithologic contact


Gradational lithologic contacts

hz Hard-drilling zone

sl Slickensides

ns No cuttings sample

Symbols may be combined; not all symbols may be used

Basic Data Report for Drillhole SNL-15 (C-3152)
DOE/WIPP-05-3325

CORE LOG Sheet 1 of 7

Hole ID: SNL-15
Location: SE 1/4 of SE 1/4, section 26, T23S, R31E, Eddy Co, NM

Drill Date: 6/1/2005
Drill Crew: West Texas Water Well Service
Drill Method: Rotary with air
Hole Diameter: initial 7.875 inches
Hole Depth:
Hole Orient: vertical downward
Drill Make/Model: Gardner-Denver 1500
Barrel Specs: 6.75 in o.d., 4 in. core
Drill Fluid: air
Core Preserv: box as is

Logged by: Dennis W. Powers, Ph.D., consulting geologist
Date: 6/1-2/2005
Scale: 1" = 20 ft

UTM (NAD27)	Northing	Easting	Elevation (amsl)
Survey Coordinate: (m)	3580336.30 m	618352.94 m	3477.94 ft

Comments: Described lithology from ground level to 900 ft on the basis of collected cuttings. Cored interval described on p.7. Cuttings were generally collected at 10 ft intervals

Run Number	Depth (ft)	% Recovered	RQD	Profile (Rock Type)	Description Contacts are placed midway between samples	Remarks
N/A	0	N/A	N/A		0-5': Dune sand; weak red (2.5YR4/2); f-vf, subround to round grains; <1% dark opaque grains; friable	Drilled to 39.5 ft; set 40 ft of steel casing with o.d. of 8.625 inches and cemented to surface
		C-1			10': Calcareous sandstone (Mescalero caliche), white; f-vf, subround grains; few dark opaque grains; moderate induration; with calcareous sandstone (Gatuña Formation); red (2.5YR5/6); vf-f, subround; few dark opaque grains; some MnO_2 stains; moderate to strong induration.	
		C-2			20': Gatuña as above.	
	20	C-3			30': Calcareous sandstone (Gatuña); pink (5YR7/3); med-vf; subround to rounded grains; ~1% dark opaque grains; MnO_2 stains; strong induration.	
		C-4			40': Siltstone, argillaceous (Santa Rosa Formation); yellowish red (5YR6/6); with some probably mica; non-calcareous; moderate induration	Begin drilling from 39.5 ft with air on 6/2/05.
	40	C-5			50': generally as above; reddish-brown (5YR5/6); slightly more indurated	
		C-6			60': as above	
	60	C-7			70': Sandstone, silty; light reddish-brown (5YR6/4); v.f-f; well indurated; fine laminae (0.125 inch); few mica grains	
		C-8			80': as above, more mica and coarser grains: med to vf.	
	80	C-9			90': Siltstone, argillaceous; reddish-brown (5YR4/4); moderate induration, some possible mica; slightly calcareous; upper Dewey Lake Formation	
		C-10			100': Siltstone, argillaceous; reddish-brown (2.5YR4/4); moderate induration	
	100	C-11				

Hole ID: SNL-15 CORE LOG (cont. sheet) Sheet 2 of 7

Logged by: Dennis W. Powers, Ph.D. Date: 6/2/05

Run Number	Depth (ft)	% Recovered	RQD	Profile (Rock Type)	Description	Remarks
N/A	100	N/A	N/A		110': Siltstone, argillaceous and sandy; reddish-brown (2.5YR4/4); moderate induration	
		C-12				
	120	C-13			120': similar to above, with some hard sandstone chips of similar color; f-vf sand grains; well indurated	
		C-14			130': similar to 110'.	
	140	C-15			140': Siltstone, argillaceous; reddish brown (2.5YR4/4); moderate induration	
		C-16			150': similar to above	
	160	C-17			160': similar to 120'.	
		C-18			170': similar to 120', more sand than at 160'.	
	180	C-19			180': similar to 110'	
		C-20			190': similar to 110'	
	200	C-21			200': similar to 170'	
		C-22			210': similar to 110', trace of fibrous gypsum	
	220	C-23			220': similar to 210'	
		C-24			230': simlar to 110', no trace of gypsum	
	240	C-25			240': similar to 120', mixed sandstone and siltstone	
		C-26			250': Siltstone, reddish-brown (2.5YR5/4); poorly indurated, trace gypsum	
		C-27			260': Sandstone, weak red (2.5YR5/2); vf; well indurated, may be cemented with sulfate; platy	
	260					

Hole ID: SNL-15 CORE LOG (cont. sheet) Sheet 3 of 7

Logged by: Dennis W. Powers, Ph.D. Date: 6/2-3/05

Run Number	Depth (ft)	% Recovered	RQD	Profile (Rock Type)	Description	Remarks
	260					
N/A		N/A	N/A			
		C-28			270': similar to 260'; fibrous gypsum common	
	280	C-29			280': similar to above, little gypsum	
		C-30			290': similar to above, more gypsum.	
	300	C-31			300': similar to above, less gypsum	
		C-32			310': similar to above, more gypsum	
	320	C-33			320': similar to above; little gypsum	
		C-34			330': similar to above, slightly more red (2.5YR5/4; reddish brown); small (<0.05 inch) greenish reduction spots becoming more common	End drilling @ 330' 6/2/05; begin drilling @ 330' 6/3/05; air
	340	C-35			340': similar to 320'; small greenish reduction spots common	
		C-36			350': as above	
	360	C-37			360': as above	
		C-38			370': as above	
	380	C-39			380': Siltstone, little sand; reddish brown (2.5YR5/4); common plates of fibrous gypsum	
		C-40			390': similar to 370'	
	400	C-41			400': as above	
		C-42			410': as above	
		C-43			420': as above	
	420					

Hole ID: SNL-15 CORE LOG (cont. sheet) Sheet 4 of 7

Logged by: Dennis W. Powers, Ph.D. Date: 6/3/05

Run Number	Depth (ft)	% Recovered	RQD	Profile (Rock Type)	Description	Remarks
N/A	420	N/A	N/A			
		C-44			430': Siltstone, sandy; reddish brown (2.5YR5/4); vf sand; small greenish-gray reduction spots (generally < 0.25 inch) common; well indurated; fibrous gypsum common	
	440	C-45			440': similar to above, little gypsum	
		C-46			450': similar to above	
	460	C-47			460': similar to above, more gypsum	
		C-48			470': similar to above, little or no gypsum	
	480	C-49			480': similar to above	
		C-50			490': similar to above, some gypsum	
	500	C-51			500': similar to above, little or no gypsum	
		C-52			510': similar to above, some gypsum	
	520	C-53			520': similar to above; reduction spots generally larger	
		C-54			530': Siltstone; reddish brown (2.5YR5/4); some reduction spots, little or no gypsum; moderate induration	
	540	C-55			540': similar to above	
		C-56			550': Siltstone, sandy; similar to 500'; little gypsum	
	560	C-57			560': Siltstone, similar to 530'	
		C-58			570': similar to above; trace gypsum	
		C-59			580': Siltstone, sandy; similar to 530'	
	580					

Hole ID: SNL-15 CORE LOG (cont. sheet) Sheet 5 of 7

Logged by: Dennis W. Powers, Ph.D. Date: 6/3-4/05

Run Number	Depth (ft)	% Recovered	RQD	Profile (Rock Type)	Description	Remarks
N/A	580	N/A	N/A			
		C-60			590': Siltstone, sandy; reddish brown (2.5YR5/4); vf sand; small greenish-gray reduction spots (generally < 0.25 inch); moderate induration; trace fibrous gypsum	
	600	C-61			600': Siltstone, slightly sandy; reddish brown (2.5YR5/6); few reduction spots; little gypsum	
		C-62			610': similar to 590'	
	620	C-63			620': similar to 590'	
					approximate base Dewey Lake Formation approximate top Rustler Formation	
		C-64 C-65			627': Anhydrite, white to light gray, fine crystalline 630': similar to above, little or no gypsum	
	640	ns				
		C-66			650': similar to above	End drilling @ 650' on 6/3/05 Begin drilling @ 650' on 6/4/05
	660	C-67			660': Halite, clear; with some mixed anhydrite as above	
		C-68			670': Siltstone, sandy; weak red (2.5YR5/2)	
	680	C-69			680': Halite and weak red siltstone, mixed	
		C-70			690': Siltstone; gray (2.5YRN/6); minor clear halite	
	700	C-71			700': similar to above; no halite	
		C-72			710': Dolomite, weak red (2.5YR5/2)	
	720	C-73			720': similar to above	
		C-74			730': Anhydrite, gray	
		C-75			740': similar to above	
	740					

approximate Forty-niner Member extent

~Magenta Dolomite Member

~Tamarisk Member

Hole ID: SNL-15 CORE LOG (cont. sheet) Sheet 6 of 7

Logged by: Dennis W. Powers, Ph.D. Date: 6/4/05

Run Number	Depth (ft)	% Recovered	RQD	Profile (Rock Type)	Description	Remarks
N/A	740	N/A	N/A			
		C-76			750': Anhydrite, gray, fine to medium crystalline	
	760	C-77			760': similar to above	
		C-78			770': similar to above	
	780	C-79			780': similar to above	
		C-80			790': Anhydrite, white to light gray, fine crystalline	
	800	ns				
		ns				
	820	ns				
		C-81			830': Anhydrite, gray (may be from above)	
	840	C-82			840': Siltstone, reddish brown (2.5YR5/4); with clear halite	
		C-83			850': similar to above	
	860	ns				
		C-84			870': similar to above	
	880	C-85			880': similar to above; with gray siltstone	
		C-86			890': Anhydrite, gray	
		C-87			900': similar to above	End drilling @ 900' on 6/4/05
	900					

approximate Tamarisk Member extent

Basic Data Report for Drillhole SNL-15 (C-3152)
DOE/WIPP-05-3325

Hole ID: SNL-15 CORE LOG (cont. sheet) Sheet 7 of 7

Logged by: Dennis W. Powers, Ph.D. Date: 6/5/05

Run Number	Depth (ft)	% Recovered	RQD	Profile (Rock Type)	Description	Remarks
1	900	cut 27'; recovered 27.4'	~8' in segments <4"; RQD = 70.8		Ahydrite and gypsum, dark gray, generally f-m crystalline, with clear gypsum in pores and sulfate needles grown into space before gypsum crystallized. Thin beds to laminae; purplish from 904.2-904.6'	Begin coring @ 900' on 6/5/05
					904.9' Base of Tamarisk Member Top of Culebra Dolomite Member	
	910				Dolomite, light gray (5Y7/2) to pale yellow (5Y8/3); bedded, some wavy thin laminae; large (to ~2") anhydrite and gypsum nodules scattered throughout. Tiny (<1/16") vugs filled with silt (dolomite?) from ~934', become slightly larger from ~925.5'; filling is darker in some vugs, brown from 925.6-922.5'; not present above 919'. Sub-vertical, irregular to somewhat planar, fractures with halite fill (apertures ~0.01-0.03 inches) at 1-3 inch horizontal spacing; some bedding plane halite. Wavy laminae 910.1-910.5', 910.8-912.3'. Sandy dolomite 921.2-921.3'. Erosion surface(?) at ~923' above laminar zone	
	920					
2	930	cut 23'; recovered 24.1'	~8.5' in segments <4"; RQD = 64.7		935.4' Base of Culebra Dolomite Member Top of Los Medaños Member	
					935.4-938.7': Claystone, silty, gray (5Y5/1) at base to dark gray (5Y4/1) at top; gypsum 938.3' and 936'. Thin bedded and thin laminae, ~horizontal. Gypsum and halite(?) in narrow fractures 936.5-937'; slickensides to ~50° from horizontal. 938.7-951.5': Halite, clear, gray to slightly orange, f-vc (up to 1.5"), with variable amounts of silty claystone (5YR5/4; reddish-brown) in interstices and as irregular beds and zones; halite is displacive in mud, with mainly more irregular boundaries and some incorporative growth. Sulfatic 943.3-945.5', polyhalite(?) 943.3-943.7'.	
	940					
	950					End coring @ 951.5' on 6/5/05
	960					
	970					
	980					

Storm clouds southeast of SNL-15 as seen from SNL-15 well pad June 5, 2005.
Photo by Denis W. Powers.

Appendix D
Permitting and Completion Information

A
management coordinator, Environmental Monitoring and Hydrology Section of Washington Regulatory and Environmental Services for the WIPP Project. Selected documents are

matters should refer to the New Mexico State Engineer permit number C-3152.

Information on management of well-drilling wastes for SNL-15 is not included; at the time of basic data report preparation, these wastes were still being characterized for disposal.

Dennis W. Powers, Ph. D.
Consulting Geologist

June 6, 2005

Ron Richardson
Field Lead
WRES

Rick Beauheim
Hydrology Lead
Sandia National Laboratories

Re: Screen Interval for Culebra Dolomite Member in SNL-15

The information regarding the Culebra Dolomite Member in SNL-15 indicates that the best interval to screen is from 902–928.5 ft below the drilling pad level. This decision is based on geophysical logs completed on June 6, 2005 (see attached figure) and cores from SNL-15.

These are factors considered in this decision for SNL-15:

- The Culebra interval, based on the natural gamma geophysical log, is from 902–932 ft. This interval is 30 ft thick, a little thicker than average around the WIPP site, and it is consistent with the recovered core thickness. There is little indication of fluid production from the Culebra; fractures and some pore spaces are filled with halite.
- The transition from Culebra to Los Medaños was recovered, showing the gray claystone below the Culebra was indurated and not particularly plastic. The base of the screen will be placed at ~928.5 ft to provide best coverage of Culebra, well above the claystone.
- The screened or slotted section of the casing joint is expected to be ~26.5 ft long. This will incorporate all of the Culebra except the basal 3.5 ft, which has little porosity.
- Halite was detected about 3 ft below the Culebra in M-2/H-2. HolePlug® will be placed around the blank below the Culebra, to ~935 ft, helping to isolate this interval. HolePlug® was also put into the drillhole to plug from 940 ft to total depth before reaming the cored interval to a final nominal diameter of 7.875 inches to a depth of 940 ft. There is little potential for dissolution of this salt by Culebra brine.
- Geophysical logs and core indicate the anhydrite (A-2) above the Culebra is intact. There is halite in this unit and H-3 is present above A-2. HolePlug® above the gravel pack will restrict fluid movement. There is little potential for dissolution by any Culebra brine.
- The sand/gravel pack should be placed from the top of HolePlug® at ~935 ft to ~897 ft to provide good flow through the screened interval and allow for any immediate compaction. The annulus will be cemented from the top of the HolePlug® at ~892 ft to the surface. Tamarisk halite (H-3) occurs at SNL-15, not mudstone (M-3).
- Because of the pressure and heat generated by cement in the annulus, the casing will be filled with fresh water prior to cementing to prevent physical damage. The fresh water will be removed (probably by air lift) at an early time after hole completion.

I believe this letter summarizes the hydrological and geological justification for setting the screened interval and preparing SNL-15 for completion.

Sincerely,

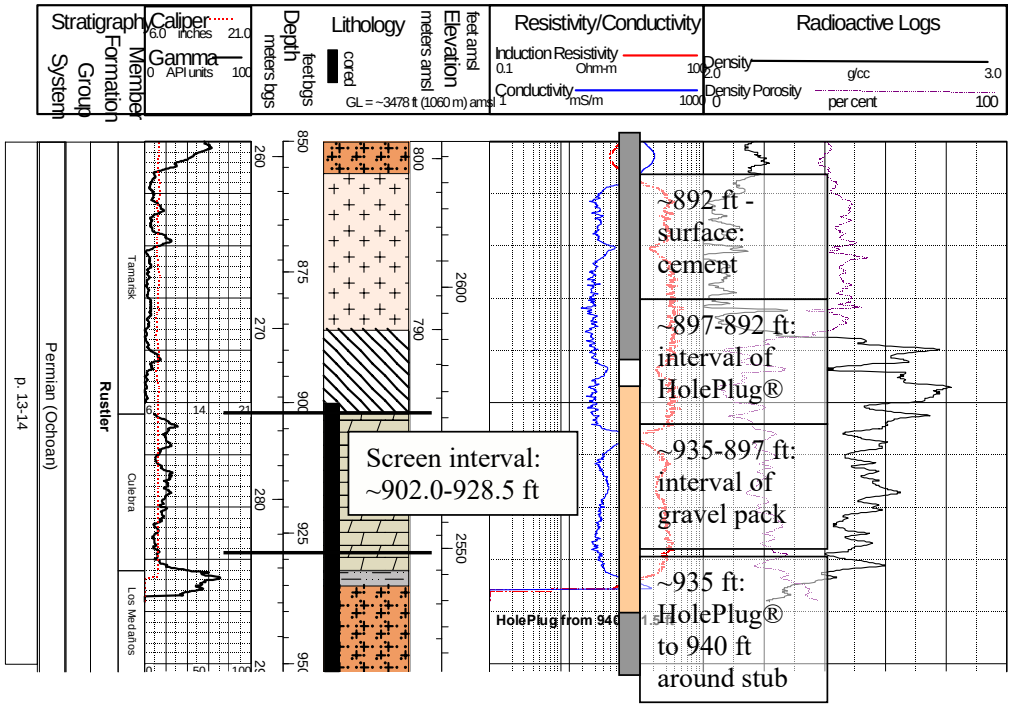
Dennis W. Powers

140 Hemley Road, Anthony, TX 79821
Telephone: (915) 877-3929 E-mail: dwpowers@evaporites.com *CELL: (915) 588-7901*

Dennis W. Powers, Ph. D.
Consulting Geologist

June 6, 2005

Partial Geophysical Log of SNL-15
Showing Completion Intervals



140 Hemley Road, Anthony, TX 79821
Telephone: (915) 877-3929 E-mail: dwpowers@evaporites.com *CELL: (915) 588-7901*

Dennis W. Powers, Ph. D.
Consulting Geologist

August 23, 2005

Rey Carrasco
Geotechnical Engineering
Washington TRU Solutions
Carlsbad, NM 88220

Storage and Retention of Cores and Rock Samples from SNL-15

Background
Cores and cutting samples have been collected from drillhole SNL-15 in support of the drilling and testing program to investigate the hydrology of the Culebra Dolomite Member of the Rustler Formation as well as other units of hydrogeological significance to the program. These samples were collected under my supervision, and the chain-of-custody has been maintained by me or WRES personnel. SNL-15 is being drilled, completed, and tested under WTS contract provisions and under provisions in the hydrology program plan (SNL. 2003. Program Plan, WIPP Integrated Groundwater Hydrology Program, FY03-09, Revision 0. March 14, 2003. ERMS 526671).

Core and Cuttings Storage Conditions
There is no sample or core testing planned for SNL-15 requiring abnormal handling, preservation conditions, or immediate action to obtain test information. As a consequence, these samples and cores can be maintained in your current core storage facilities. Many of the cores obtained from SNL-15 are likely to be accessed in the next few months for further geologic studies to establish more details of stratigraphic, sedimentologic, and diagenetic conditions and events. These studies, if carried out, will be carried out under a formal plan, most likely developed under QA requirements of Sandia National Laboratories.

Core and Cuttings Retention Periods
It is recommended that cores obtained from SNL-15 be maintained indefinitely under normal storage conditions because of their relevance to hydrology and monitoring programs. The cores can be accessed for observations, and they can be removed for further laboratory study, including possible destruction, under a plan with appropriate management and QA approval.

It is recommended that cuttings samples be retained under normal storage conditions through the approval by EPA of the second CRA. The cuttings are commonly very fine in shallow sections and add little to the geologic record from initial observations as well as geophysical logs. Cuttings may be accessed for observation, and they may be removed for further laboratory study, including possible destruction, under a plan with appropriate management and QA approval.

Supplemental Information
Descriptive core logs and digital photographs of cores with a photograph log will be provided to you on CD-ROM format in accessible formats when the content has been reviewed for the basic data report for SNL-15.

Dennis W. Powers

Copy to:
Ron Richardson, *Environmental Monitoring*, WRES
Richard L. Beauheim, *Hydrology Lead*, Sandia National Laboratories

140 Hemley Road, Anthony, TX 79821
Telephone: (915) 877-3929 E-mail: dwpowers@evaporites.com *FAX: (915) 877-5071*

Revised August 1967

IMPORTANT - READ INSTRUCTIONS ON BACK BEFORE FILLING OUT THIS FORM

APPLICATION FOR PERMIT

To appropriate (explore & monitor) the Underground Waters of the State of New Mexico

Date Received 02-07-05 File No. C-3152

1. Name of applicant U.S. Department of Energy, Carlsbad Field Office, WIPP
   Mailing address P.O. Box 3090, Carlsbad, New Mexico 88221-3090
   City and State Carlsbad, New Mexico, 88221

2. Source of water supply Artesian - Culebra (Artesian or shallow water aquifer), located in Carlsbad, (Name of underground basin)

3. The well is to be located in the sw ¼ se ¼ se ¼, Section 26 Township 22 South
   Range 31 East N.M.P.M., or Tract No. n/a of Map No. n/a of the Carlsbad, District,
   on land owned by U.S. Department of the Interior, Bureau of Land Management

4. Description of well: name of driller West Texas Water Well Service
   Outside Diameter of casing < 7 inches; Approximate depth to be drilled 1250 then plugged back to 1000 feet;

5. Quantity of water to be appropriated and beneficially used N/A acre feet, (Consumptive use, diversion)
   for N/A purposes.

6. Acreage to be irrigated or place of use N/A acres.

Subdivision	Section	Township	Range	Acres	Owner

7. Additional statements or explanations The intent of this application is to provide authorization to drill a groundwater monitoring well in support of Performance Assessment for the U. S. Department of Energy's Waste Isolation Pilot Plant. This well will be completed in the Culebra Dolomite Member of the Rustler Formation and will not be used to appropriate water for beneficial use. Initial pump tests will be conducted, not to exceed 30 days @ less than or equal to, 20 gal/min. Thereafter, the subject well will be used for water level measurements only.

I, Harold Johnson, affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

U.S. Department of Energy, Carlsbad Field Office, Permittee,

By: Harold Johnson

Subscribed and sworn to before me this 7th day of Feb, A.D., 2005

My commission expires Oct. 3, 2005 Sharon Warren-Bruso
Notary Public

#323372

Number of this permit_____

ACTION OF STATE ENGINEER

Alter notice pursuant to statute and by authority vested in me, this application is approvedprovided it is not exercised to the detriment of any others having existing rights; further provided that all rules and regulations of the State Engineer pertaining to the drilling of_____ wells be complied with; and further subject to the following conditions:_____

see attached conditions of approval

Proof of completion of well shall be filed on or before N/A, 20xx

Proof of application of water to beneficial use shall be filed on or before N/A, 20xx

Witness my hand and seal this 10th day of February, A.D., 2005

John R. D'Antonio, Jr., P.E., State Engineer

By:_____

Art Mason, District II Supervisor

INSTRUCTIONS

This form shall be executed, preferably typewritten, in triplicate and shall be accompanied by a filing fee of $25.00. Each of triplicate copies must be properly signed and attested.

A separate application for permit must be filed for each well used.

Secs. 1-4 - Fill out all blanks fully and accurately.

Sec. 5 - Irrigation use shall be stated in acre feet of water per acre per annum to be applied on the land. If for municipal or other purposes, state total quantity in acre feet to be used annually.

Sec. 6 - Describe only the lands to be irrigated or where water will be used. If on unsurveyed lands describe by legal subdivision "as projected" from the nearest government survey corners, or describe by metes and bounds and tie survey to some permanent, easily located natural object.

Sec. 7 - If lands are irrigated from any other source, explain in this section. Give any other data necessary to fully describe water right sought.

John R. D Antonio, Jr., P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 323372
File Nbr: C 3152

February 10, 2005

HAROLD JOHNSON
U.S. DEPT OF ENERGY
CARLSBAD FIELD OFFICE, WIPP
P.O. BOX 3090
CARLSBAD, NM 88221-3090

Greetings:

Enclosed is your copy of the Exploratory / Monitoring Permit which has been approved. Your attention is called to the Specific and General Conditions of Approval of this permit.

In accordance with General Condition C, a well record shall be filed in this office ten days after completion of drilling. The well record is proof of completion of well. IT IS YOUR RESPONSIBILITY TO ASSURE THAT THE WELL LOG BE FILED WITHIN 10 DAYS OF DRILLING OF THE WELL.

This permit will expire on or before 02/28/06, unless the well has been drilled and the well log filed in this office.

Sincerely,

Mike Stapleton
(505)622-6467

Enclosure

cc: Santa Fe Office

explore

UNIQUE #	DOE U#	DATE RECVD	ADDRESSEE
85061	546700	FEB 14 2005	N Johnson w/ orig. att.

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

2 The well shall be constructed to artesian well specifications and the State Engineer shall be notified before casing is landed or cemented

4 No water shall be appropriated and beneficially used under this permit.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

C Driller's well record must be filed with the State Engineer within 10 days after the well is drilled or driven. Well record forms will be provided by the State Engineer upon request.

C1 A complete and properly executed Well Record on the form provided by the State Engineer shall be filed not later than ten (10) days after completion of the well.
Test data shall be filed not later than ten (10) days after completion of the test(s).

LOG The Point of Diversion C 03152 must be completed and the Well Log filed on or before 02/28/2006.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd: Date Rcvd. Corrected:
Formal Application Rcvd: 02/07/2005 Pub. of Notice Ordered:
Date Returned - Correction: Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 10 day of Feb A.D., 2005

John R. D'Antonio, Jr., P.E., State Engineer

By: _____
Art Mason

Trn Desc: C 3152 File Number: C 03152
Trn Number: 323372

page: 1

United States Department of the Interior

Bureau of Land Management
Carlsbad Field Office
620 E. Greene Street
Carlsbad, NM 88220
www.nm.blm.gov

IN REPLY REFER TO:
NM-108365
2805(520)owl

MAR 16 2005

U. S. Dept. of Energy, Carlsbad Field Office
P. O. Box 3090
Carlsbad, NM 88221-3090

RIGHT-OF-WAY RESERVATION AMENDMENT

KNOW ALL MEN BY THESE PRESENTS, that in accordance with section 507 of the Federal Land Policy and Management Act of 1976 (90 Stat. 2781, 43 U.S.C. 1767) that the United States of America acting by and through the U. S. Department of the Interior, Bureau of Land Management, does hereby issue and reserve to the U. S. Department of Energy, Carlsbad Field Office, Waste Isolation Pilot Plant (WIPP), a right-of-way amendment for three additional well pads, and access roads for the expressed purpose of conducting groundwater investigations in support of the WIPP, over the following described real property situated in the Counties of Lea and Eddy, State of New Mexico to wit:

SNL – 6	SNL-8	SNL-15
T. 21 S., R. 32 E., NMPM	T. 22 S., R. 31 E., NMPM	T. 22 S., R. 31 E., NMPM
Sec. 7: Lot 4, and SE¼SW¼, SE¼.	Sec. 14: SE¼SE¼.	Sec. 26: SE¼SE¼.

The well site locations contain approximately 1.551 acres (approximately 150' X 150') and the linear features (roads) contain approximately 6408 feet length, 20 feet width, for 2.975 acres. The combined acreage of the site locations and roads are 4.526 acres.

A plat showing the reservation amendment described above is attached hereto as Exhibit A and made a part hereof.

The right-of-way herein granted and reserved is for the full use of the above described property by the U. S. Department of the Energy, Carlsbad Field Office, WIPP, subject to reasonable rules and regulations of the Secretary of the Interior, and to the following terms and conditions:

1. The facility will be constructed, operated, and maintained in accordance with the details specified in the application submitted February 18, 2005.

2. The Bureau of Land Management retains the right to occupy and use the right-of-way, provided such occupancy and use will not unreasonably interfere with the rights granted herein. The Bureau of Land Management may, if the Department of Energy, Carlsbad Field Office, WIPP concurs, grant rights and privileges for the use of the right-of-way to other compatible users including members of the public and other Government Departments and Agencies, States, and local subdivisions thereof.

3. Department of Energy, Carlsbad Field Office, WIPP, will be responsible for the security and day-to-day operation of the facility.

4. Any resources on lands within the right-of-way shall remain under the jurisdiction of the Bureau of Land Management and may be severed or extracted or disposed of only in accordance with applicable law and regulation of the Secretary of the Interior. The extraction, severance, and disposal of any such resources shall be subject to such stipulations, if any, that the Bureau of Land Management and Department of Energy, Carlsbad Field Office, WIPP, agree are needed to avoid unreasonable interference with the use of the land.

5. When and if the Department of Energy, Carlsbad Field Office, WIPP, no longer needs this amended reservation, if jurisdiction is not transferred to another entity, the Department of Energy, Carlsbad Field Office, WIPP, will rehabilitate the land according to the following specifications.

A. All structures, improvements, debris, etc., will be removed.

B. The land will be returned to the original contour.

C. All disturbed surfaces will be reseeded with a seed mixture conducive with Lesser Prairie Chicken habitat.

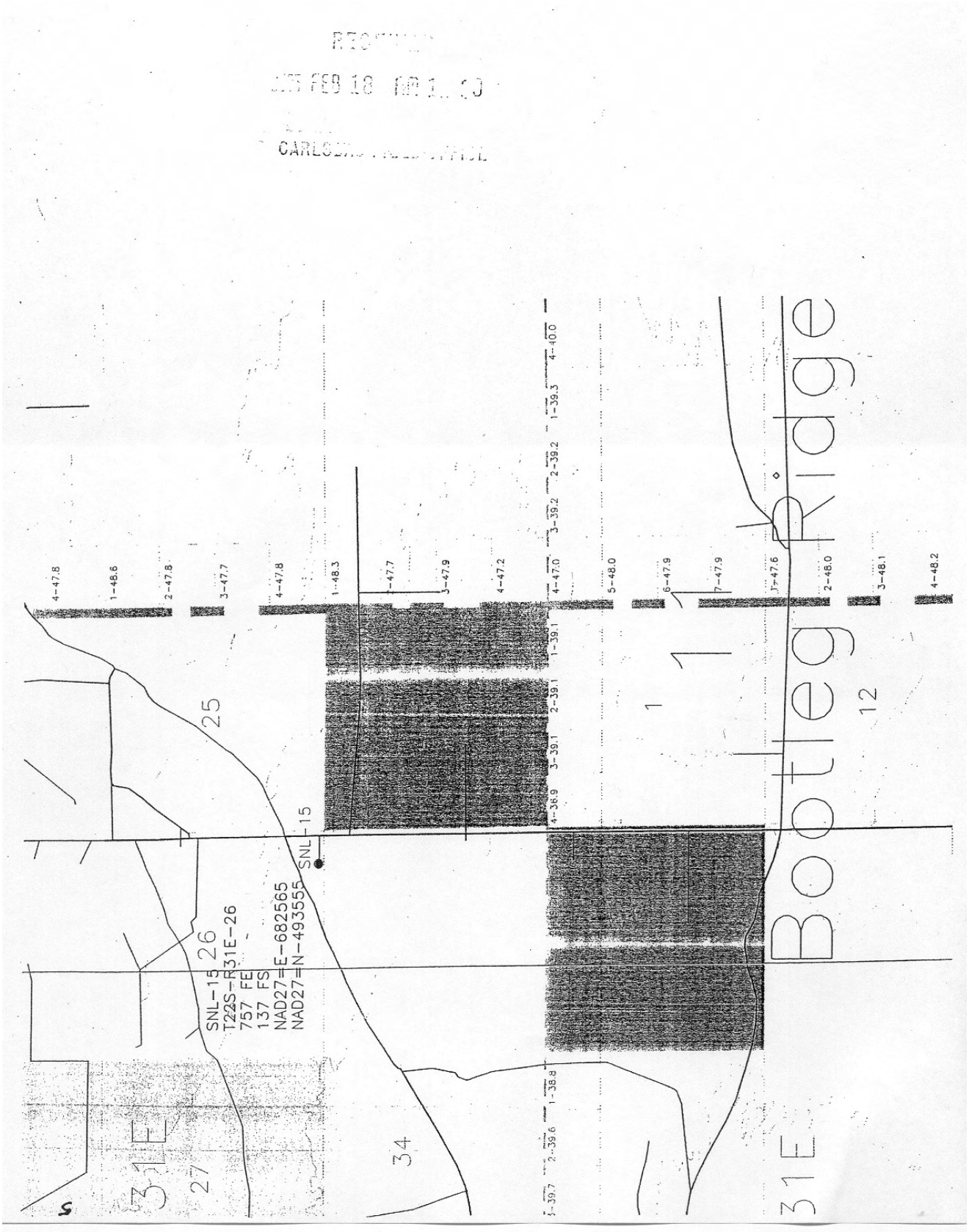
D. Attached are Special Stipulations for Site Reclamation.

6. The reservation being amended has a 30-year term, commencing on August 30, 2002.

Tony J. Herrell

Tony J. Herrell, Field Manager
Carlsbad Field Office, BLM

3-15-05
Date


SNL-15
T22S-R31E-26
757 FE
137 FS
NAD27=E-682565
NAD27=N-493555
SNL-15
25
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1
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12
Bootleg Ridge
31E
31E

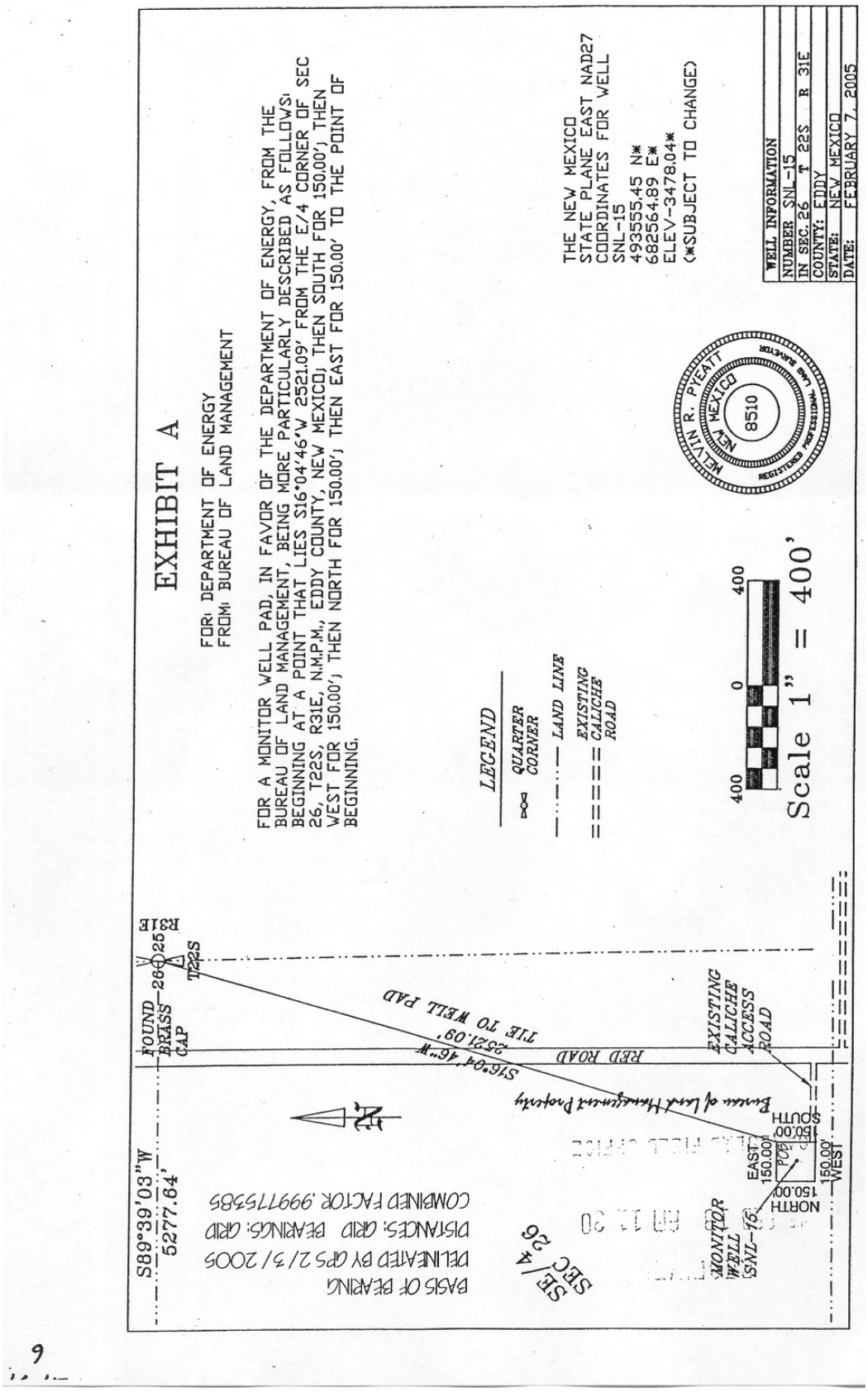


EXHIBIT A
FOR: DEPARTMENT OF ENERGY
FROM: BUREAU OF LAND MANAGEMENT
FOR A MONITOR WELL PAD, IN FAVOR OF THE DEPARTMENT OF ENERGY, FROM THE BUREAU OF LAND MANAGEMENT, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A POINT THAT LIES S16°04'46"W 2521.09' FROM THE E/4 CORNER OF SEC 26, T22S, R31E, N.M.P.M., EDDY COUNTY, NEW MEXICO; THEN SOUTH FOR 150.00'; THEN WEST FOR 150.00'; THEN NORTH FOR 150.00'; THEN EAST FOR 150.00' TO THE POINT OF BEGINNING.
THE NEW MEXICO STATE PLANE EAST NAD27 COORDINATES FOR WELL SNL-15
493555.45 N*
682564.89 E*
ELEV-3478.04*
(*SUBJECT TO CHANGE)
WELL INFORMATION
NUMBER SNL-15
IN SEC. 26 T 22S R 31E
COUNTY: EDDY
STATE: NEW MEXICO
DATE: FEBRUARY 7, 2005
NEW MEXICO 8510 REGISTERED PROFESSIONAL LAND SURVEYOR
WELLS R. PYEATT
LEGEND
QUARTER CORNER
LAND LINE
EXISTING CALICHE ROAD
Scale 1" = 400'
400 0 400
EXISTING CALICHE ACCESS ROAD
RED ROAD
S16°04'46"W 2521.09' TIE TO WELL PAD
FOUND BRASS CAP
T22S
R31E
S89°39'03"W 5277.64'
BASIS OF BEARING
DELINEATED BY GPS 2/3/2005
DISTANCES, GRID BEARINGS, GRID
COMBINED FACTOR .99977585
SEC 26
SE/4
MONITOR WELL SNL-15
NORTH 150.00'
SOUTH 150.00'
EAST 150.00'
WEST 150.00'
POB

EXHIBIT B
March 15, 2005
NM-108365

STIPULATIONS FOR FLPMA SITES

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this right-of-way.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, *et. seq.*) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, *etc.*) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seq.*) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the site any pollutant should be discharged from site facilities, or from containers, or vehicles impacting public lands, the control and total removal, disposal, and cleanup of such pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting public lands, or to repair all damages to public lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

5. Sites shall be maintained in an orderly, sanitary condition at all times. Waste materials, both liquid and solid, shall be disposed of promptly at an appropriate, authorized waste disposal facility in accordance with all applicable State and Federal laws. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, and equipment.

6. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this project is Shale Green, Munsell Soil Color Chart Number 5Y 4/2.

7. The holder shall post a sign designating the BLM serial number assigned to this right-of-way grant in a permanent, conspicuous location on the site where the sign will be visible from the entry to the site. This sign will be maintained in a legible condition for the term of the right-of-way.

8. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

9. Should the holder require a base of mineral material, a sales contract for removal of mineral material (caliche, sand, gravel, fill dirt) from an authorized pit, site, or on location must be obtained from the BLM prior to commencing construction. There are several options available for purchasing mineral material: contact the BLM office.

10. The area will be kept free of the following plant species: Malta starthistle, African rue, Scotch thistle, and saltcedar.

Special Stipulations:

The Authorized Officer will be contacted for the well pads and access road restoration instructions when the wells are ready for final abandonment procedures. At that time full restoration of the sites (150' X 150') will be addressed.

EXHIBIT C

BLM Serial No.: NM-108365
Company Reference:

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A
**Four-winged Saltbush	5lbs/A

* This can be used around well pads and other areas where caliche cannot be removed.

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

SENM-S-22

PRAIRIE CHICKENS

No surface use is allowed during the following time periods; unless otherwise specified, this stipulation does not apply to operation and maintenance of production facilities.

On the following lands:

T. 21 S., R. 32 E., NMPM
Sec. 7: All

T. 22 S., R. 31 E., NMPM
Sec. 14: All
Sec. 26: All

For the purpose of: Protecting Prairie Chickens:

Drilling for oil and gas, and 3-D geophysical exploration operations will not be allowed in Lesser Prairie Chicken Habitat during the period of March 15 through June 15, each year. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 a.m. and 9:00 a.m. The 3:00 a.m. and 9:00 a.m. restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during the period. Additionally, no new drilling will be allowed within up to 200 meters of leks know at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Bureau of Land Management
Carlsbad Field Office

SENM-S-22
December 1997

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well WASHINGTON TRU SOLUTIONS Owner's Well No. SNL-15

Street or Post Office Address P.O. BOX 2078

City and State CARLSBAD, NEW MEXICO 88221

Well was drilled under Permit No. C 3152 and is located in the:

a. SE ¼ SE ¼ ¼ ¼ of Section 26 Township 22S Range 31E N.M.P.M.

b. Tract No. N/A of Map No. N/A of the CARLSBAD DISTRICT

c. Lot No. _____ of Block No. _____ of the _____

Subdivision, recorded in EDDY County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor WEST TEXAS WATER WELL SERVICE License No. WD1184

Address 3410 MANKINS ODESSA, TEXAS 79764

Drilling Began 6-1-05 Completed 6-7-05 Type tools MUD ROTARY Size of hole 7-7/8 in.

Elevation of land surface or _____ at well is 3478 ft. Total depth of well 938 ft.

Completed well is ☐ shallow ☒ artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
902	932	30	BROWN DOLOMITE CULEBRA	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
8-5/8	22.38	Welded	3' AGL	40	43			
2-1/2 FIBERGLASS	1.75	4	2-1/2' AGL	935	937-1/2		902	.070 SCREEN 928.5

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
938	935	7-7/8 2-1/2 CSG	1 BAG HOLE PLUG		
950	938	7-7/8	4-1/2 BAGS HOLE PLUG		TOP LOAD
0	891	7-7/8 2-1/2 CSG		270	TRIMMIE

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____ State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

From	To	Thickness in Feet	Color and Type of Material Encountered
0	10	10	CONSTRUCTION FILL & DUNE SAND
10	20	10	WHITE CALICHE & CALCAREOUS SAND (SANTA ROSA)
20	86	66	WEAK RED SANDSTONE & LAMINATED CLAYSTONE (TRIASSIC SANTA ROSA FORMATION)
86	624	538	RED TO REDDISH BROWN SANDY SILTSTONE, SILTY CLAYSTONE & FINE SANDSTONE (PERMOTRIASSIC DEWEY LAKE FORMATION)
624	698	74	GRAY ANHYDRITE BEDS WITH INTERMEDIATE HALITE & REDDISH BROWN ARGILLACEOUS HALITE (FORTY-NINER MEMBER OF RUSTLER FORMATION)
698	724	26	LIGHT OLIVE GRAY TO WHITE GYPSIFEROUS DOLOMITE (MAGENTA DOLOMITE MEMBER OF RUSTLER FORMATION)
724	902	178	GRAY ANHYDRITE & GYPSUM BEDS WITH INTERMEDIATE HALITE, POLYHALITE & GRAY TO REDDISH BROWN SILTY HALITE (TAMARISK MEMBER OF RUSTLER FORI
902	932	30	BROWN DOLOMITE W/ANHYDRITE NODULES & HALITE FRACTURE & PORE FILLINGS (CULEBRA DOLOMITE MEMBER OF THE RUSTLER FORMATION)
932	935	3	DARK GRAY GYPSIFEROUS CLAYSTONE & SILTSTONE (UPPERMOST LOS MEDANOS MEMBER OF THE RUSTLER FORMATION)
935	951.5	16.5	CLEAR, COARSE HALITE & REDDISH BROWN ARGILLACEOUS TO SILTY HALITE (UPPER LOS MEDANOS MEMBER OF THE RUSTLER FORMATION)

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Tommy Keith
Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Appendix E
Archeological Clearance Report

The report from Mesa Field Services on the following three pages was converted from an original Word document to an
The original signed document is maintained by the land management coordinator, Washington Regulatory and Environmental Services, for the WIPP Project.

Appendix E Archeological Clearance Report

1. (For BLM Use) **BLM Report No.**	**2. (For BLM Use)** **Reviewer's Initials/Date_____** **Accepted ( ) Rejected ( )**	**3. NMCRIS Number:** 91630
4. Type of Report: **Negative (X)** **Positive ( )**		
5. Title of Report: A Cultural Resource Survey for the SNL-6, SNL-8, and SNL-15 Well Pads **Author(s):** Theresa Straight		**6. Fieldwork Date(s):** February 2, 2005 **7. Report Date:** February 2, 2005
8. Consultant Name/Address: Mesa Field Services **Direct Charge:** Theresa Straight **Field Personnel Names:** Sean Simpson **Address:** P.O. Box 3072 Carlsbad, New Mexico 88221-3072 **Phone (**505**)** 628-8885		**9. Cultural Resource Permit No.:** 153-2920-03-N **10. Consultant Report No.:** MFS-1122
11. Customer Name: Westinghouse TRU Solutions, LLC **Responsible Individual:** Ron Richardson **Address:** P.O. Box 2078 Carlsbad, NM 88221 **Phone:** (505) 234-8395		**12. Customer Project No.:** P.O. 107596

13. Land Status	**BLM**	**State**	**Private**	**Other**	**Total**
a. Area Surveyed (acres)	8.44				8.44
b. Area of Effect (acres)	1.55				1.55

14. Linear **Length** N/A **Width** N/A
Block **Length** 350 ft **Width** 350 ft (each)

15. Location (Map[s] Attached):

a. State: New Mexico

b. County: Eddy and Lea Counties

c. BLM Office: Carlsbad Field Office

d. Nearest City or Town: Loving, NM

e. Legal Description: T21S, R32E, Section 7: N½ SE¼(SNL-6)
T22S, R31E, Section 14: SE¼ SE¼, Section 13: SW¼ SW¼ (SNL-8)
T22S, R31E, Section 26: SE¼ SE¼, Section 35: NE¼ NE¼ (SNL-15)

f. Well Pad Footages: approx. 1,750 ft FSL; 1,400 ft FEL Sec. 7, T21S, R32E (SNL-6)
approx. 900 ft FSL; 100 ft FEL Sec. 14, T22S, R31E (SNL-8)
approx 50 ft FSL; 700 ft FEL Sec. 26, T22S, R31E (SNL-15)

g. USGS 7.5' Map Name(s), Date(s), and Code(s): The Divide, NM 1984 (32103-D6)
Bootleg Ridge, NM 1984 (32103-C6)

16. Project Data:

a. Records Search: **Date(s) of BLM File Review:** February 1, 2005 **Name of Reviewer(s):** Theresa Straight
Date(s) of ARMS Data Review February 1, 2005 **Name of Reviewer(s):** Theresa Straight
Findings (see Field Office requirements to determine area to be reviewed during records search): One previously recorded site, LA 30766, is within 500 ft of the SNL-6 well pad. This site was not encountered during the survey. No other sites are within 0.25 mile of any of the well locations.

b. Description of Undertaking: Westinghouse TRU Solutions plans to build three monitoring wells. They are the SNL-6, SNL-8, and SNL-15. No plat sheets were provided; however, UTM grid coordinates were given for each location. They are as follows: SNL-6 (NAD 27; Zone 13) 621250 E/ 3595385 N, SNL-8 (NAD 27, Zone 13) 618524 E/ 3583795 N, and SNL-15 (NAD 27, Zone 13) 618359 E/ 3580335 N. Each well location will be 150 ft square, yet a 350 ft square was surveyed to ensure the protection of cultural resources. The project totaled 8.44 acres, all of which is located on land owned and administered by the BLM-CFO.

c. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.): The project area is located east of Livingston Ridge. The terrain is relatively flat, varying from a grade of 0.8 percent to a grade of 1.4 percent. The elevation varies from 3,480 ft to 3,640 ft above mean sea level. The soils area of the Kermit-Berino and Pyote-Maljamar-Kermit associations as defined by the Soil Conservation Service of the U.S. Department of Agriculture. Local vegetation is typical of Chihuahuan Desert Scrub and includes mesquite, grasses, and yucca. Due to this vegetative cover, ground surface visibility averaged 85 percent at the time of the survey.

Climatic information was obtained from the Western Regional Climate Center online database for the Waste Isolation Pilot Plant (WIPP). From 1986 to 2002 WIPP received an average annual precipitation of 12.68 inches. July through September were the wettest months while January through March were the driest. WIPP has an average annual high temperature of 80.1 degrees Fahrenheit and an average annual low temperature of 48.9 degrees (F). July is the warmest month with an average high of 98.0 degrees (F) and December is the coldest month with an average high of 60.0 degrees (F).

d. Field Methods (transect intervals; crew size; time in field; etc.): A crew of one spent 4 hours surveying the project area. A 15 m wide transect interval was used.

e. Artifacts Collected?: None

17. Cultural Resource Findings: No cultural material was encountered during the survey.

a. Location/Identification of Each Resource: N/A

b. Evaluation of Significance of Each Resource: N/A

18. Management Summary (Recommendations): Because no cultural material was encountered, archaeological clearance is recommended for the project as staked. If any cultural material is encountered during construction activities, work at that location should stop and archaeologists with the BLM-CFO should be notified.

19.

I certify the information provided above is correct and accurate and meets all applicable BLM standards.

Responsible Archaeologist_____ _____
Signature **Date**

THE ABOVE COMPLETES A NEGATIVE REPORT. IF ELIGIBLE OR POTENTIALLY ELIGIBLE PROPERTIES ARE INVOLEVED, THE ABOVE WILL BE THE TITLE PAGE AND ABSTRACT FOR A COMPLETE REPORT.

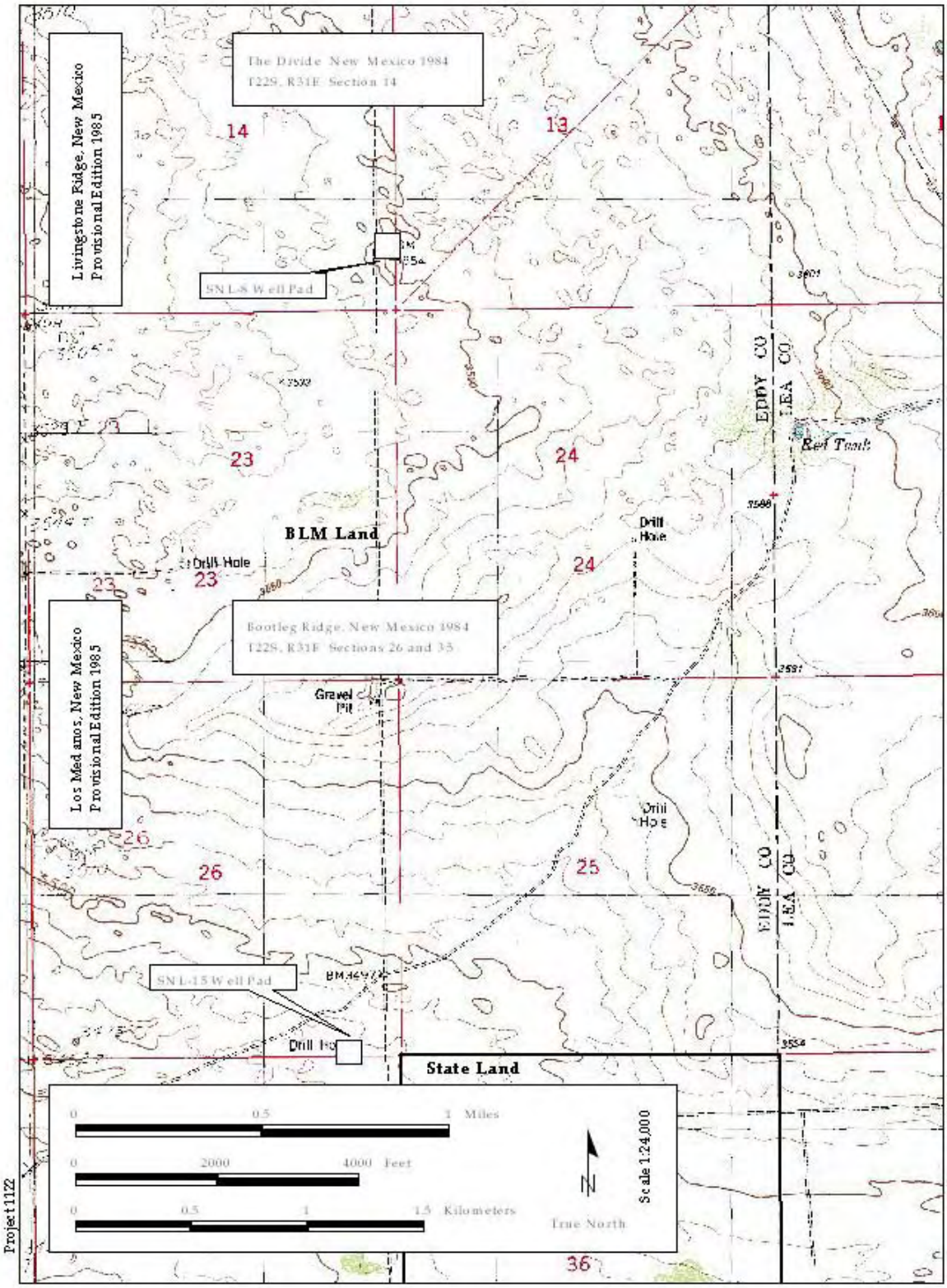


Figure 1. Project Area Map *Mesa Field Services*

Appendix F
Photograph Logs

Digital photographs were taken of the cores from SNL-13. A listing of consecutive photos, beginning with the lower Tamarisk Member of the Rustler Formation and ending with the upper Los Medaños Member of the Rustler Formation, has been compiled and is included here in Appendix F. . A CD-ROM with these images (jpeg format) is being archived, and a copy with photographic log is maintained by Geotechnical Engineering (Washington TRU Solutions LLC) with records of the cores stored for WIPP.

File	DATE	LOCATION	DESCRIPTION OF SUBJECT (includes individual/group names, direction, etc. as appropriate)	PHOTOGRAPHER (initials and dept.)
SNL-15_Core001.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Tamarisk Mbr core, 900.0 - 901.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core002.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Tamarisk Mbr core, 900.9 - 902.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core003.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Tamarisk Mbr core, 901.9 - 903.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core004.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Tamarisk Mbr core, 902.9 - 904.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core005.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Tamarisk Mbr core, 903.9 - 905.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core006.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Tamarisk/Culebra Dolomite Mbrs core, 904.9 - 906.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core007.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 905.9 - 907.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core008.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 906.9 - 908.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core009.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 907.9 - 909.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core010.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 908.9 - 910.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core011.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 909.9 - 911.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core012.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 911.1 - 912.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core013.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 911.9 - 913.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core014.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 912.9 - 914.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core015.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 913.9 - 915.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core016.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 914.9 - 916.1 ft bgl, with markings, scale	DW Powers Consultant to WTS

Camera: Nikon CoolPix 5700 **Resolution**: 2560 x 1920 **Page** 1 of 4

File	DATE	LOCATION	DESCRIPTION OF SUBJECT (includes individual/group names, direction, etc. as appropriate)	PHOTOGRAPHER (initials and dept.)
SNL-15_Core017.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 915.9 - 917.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core018.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 916.9 - 918.0 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core019.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 917.9 - 919.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core020.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 918.9 - 920.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core021.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 919.9 - 921.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core022.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 920.9 - 922.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core023.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 921.9 - 923.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core024.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 923.0 - 924.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core025.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 924.0 - 925.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core026.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 925.0 - 926.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core027.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 925.9 - 927.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core028.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 926.9 - 927.4 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core029.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 927.4 - 928.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core030.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 927.9 - 929.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core031.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 928.9 - 930.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core032.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 929.9 - 931.1 ft bgl, with markings, scale	DW Powers Consultant to WTS

File	DATE	LOCATION	DESCRIPTION OF SUBJECT (includes individual/group names, direction, etc. as appropriate)	PHOTOGRAPHER (initials and dept.)
SNL-15_Core033.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 930.9 - 932.1 ft bgl, with markings, scale; strap obscures part of photo	DW Powers Consultant to WTS
SNL-15_Core034.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 931.9 - 933.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core035.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 932.9 - 934.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core036.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite Mbr core, 933.9 - 935.0 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core037.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Culebra Dolomite/Los Medaños Mbrs core, 935.0 - 936.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core038.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 935.9 - 937.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core039.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 936.9 - 938.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core040.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 937.9 - 939.1ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core041.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 938.9 - 940.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core042.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 939.9 - 941.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core043.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 940.9 - 942.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core044.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 941.9 - 943.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core045.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 942.9 - 944.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core046.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 943.9 - 945.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core047.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 944.9 - 946.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core048.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 945.9 - 947.1 ft bgl, with markings, scale	DW Powers Consultant to WTS

File	DATE	LOCATION	DESCRIPTION OF SUBJECT (includes individual/group names, direction, etc. as appropriate)	PHOTOGRAPHER (initials and dept.)
SNL-15_Core049.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 946.9 - 948.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core050.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 947.9 - 949.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core051.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 948.9 - 950.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core052.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 949.9 - 951.1 ft bgl, with markings, scale	DW Powers Consultant to WTS
SNL-15_Core053.jpg	6/5/05	SNL-15 drillpad; T22S, R31E, sec 26	Close-up photo of Los Medaños Mbr core, 950.9 - 951.5 ft bgl, with markings, scale	DW Powers Consultant to WTS

Camera: Nikon CoolPix 5700 **Resolution**: 2560 x 1920 **Page** 4 of 4

Ronny Keith (r) of West Texas Water Well Service and John Wood (l) of Diamond Oil Well Drilling Company during coring of SNL-15. June 5, 2005. Photo by Dennis W. Powers.

Appendix G
Geophysical Logs

Geophysical logging of SNL-15 was conducted by Jet West Geophysical Services, LLC, 2550 La Plata Highway, Farmington, NM, 87499-3522, on June 6, 2005. The operator was Al Henderson. Copies of the logs are maintained by Washington Regulatory and Environmental Services, Environmental Monitoring and Hydrology Section, for the WIPP project. A CD-ROM is being retained that includes:

1) Electronic copies of the logs produced by Jet West Geophysical Logging Services using WellCAD vs 4.0,
2) WellCAD Reader to open the electronic logs, and
3) Electronic data in both .txt and .las formats.

The following geophysical logs were obtained:

- Caliper
- Natural gamma
- Density-porosity
- Induction resistivity
- Induction conductivity

SNL-15 had been cored and drilled to ~950 ft, plugged back to ~938 ft with bentonite, and reamed to 940 ft at the time of logging. A conductor casing had been placed to a depth of 39.5 ft bgl, with a stickup of 0.5 ft. There was no detectable brine in the drillhole at the time of logging. SNL-15 was drilled with air.

The caliper log was used for estimating material volume placed in the annulus between berglass reinforced plastic casing and the drillhole wall.

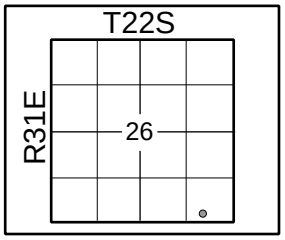
The reference point (0 ft depth) for geophysical logging is the top of the connector on the surface conductor casing and is ~ 0.5 ft above drill pad level. This point was assigned an elevation of 3,478 ft amsl on the logs, based on the predrilling survey of the well pad. A benchmark placed near the drillhole after completion has an elevation of 3,477.94 ft amsl (see Fig. 1-5 and Table 1-1 in the main text) based on a resurvey in 2006. [The benchmark from an earlier survey has not been replaced.] A rounded elevation of 3,478 ft amsl for the reference point used in the text is appropriate for the measurements based on geophysical logs.

Jet West Geophysical Services logging vehicle (right) set up and logging SNL-15 on June 6, 2005. The top of the connector (below) is the reference point (0 ft depth) for logging and setting casing. The photo below taken Septmeber 10, 2005, shows the

the connector.

Figure 2-1
Well Record SNL-15 (C-3152)

Company: Washington TRU Solutions LLC
Well: SNL-15 (C-3152)
Section: 26 Twp: T22S Rge: R31E
Location: 102 ft from south line (fsl)
807 ft from east line (fel)



Reference point
Log measured from: top of connector on conductor casing (gl)
Drilling measured from: gl
Permanent Datum: benchmark (resurveyed 2007)

Elevation
KB:
DF:
GL: 3478 ft amsl
(benchmark: 3477.94)

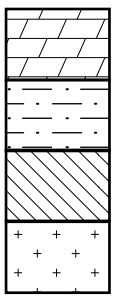
Drilling contractor: West Texas Well Water Service
Coring contractor: Diamond Oil Well Drilling Co.
Geophysical logs: Al Henderson
Jet West Geophysical Services, LLC (NM)
Geologist: Dennis W. Powers
Spud date: June 1, 2005
Completion date: June 7, 2005
Total depth (TD): 950 ft bgl (driller log)

Casing Record
Conductor: 40 ft
8.625 inch steel
Casing: 2.48 inch i.d.
fiberglass reinforced
plastic to 935 ft bgl
Screened interval:
928.5-902 ft bgl

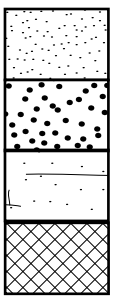
Geophysical Logs Date: June 6, 2005
Micro/Laterolog/Induction/SP: 0-936 ft
Gamma/Fluid: 0-936 ft
Caliper: 0-934 ft
Density/Neutron: 0-938 ft

Type fluid in hole: air
Res mud: n/a
Res mud filtrate:
n/a
Max. Rec. Temp.:
not recorded

General Lithologic Symbols Used

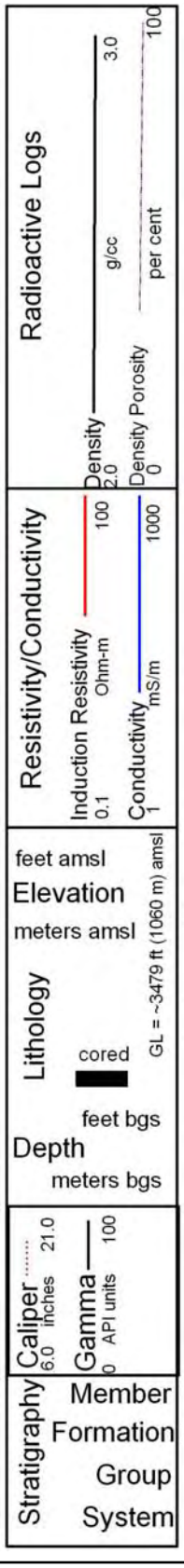


Dolomite
Mudstone/siltstone
Anhydrite
Halite



Fine sandstone & siltstone
Coarse sandstone
Sandstone w/caliche
Polyhalite

SNL-15 Well Log Headers



Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2035221813
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: Albert Ochoa Title: HSE Representative

Signature: Albert Ochoa Date: 02/05/2021

email: albertochoa@goodnightmidstream.com Telephone: (432)242-6629

OCD Only

Received by: Robert Hamlet Date: 6/14/2021

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

Signature: Robert Hamlet Date: 6/14/2021

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 17124

CONDITIONS

Operator: GOODNIGHT MIDSTREAM PERMIAN, LLC 5910 North Central Expressway Dallas, TX 75206	OGRID: 372311
	Action Number: 17124
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	Goodnight Midstream's deferral request to complete final remediation of soil sample location DEF 2, and all contaminants adjacent to and/or underneath the on-site storage tanks and/or associated pipes and appurtenances. Goodnight Midstream will complete final remediation during any future major deconstruction/alteration and/or abandonment, whichever occurs first. The closure sample will need to meet closure criteria set forth in OCD variance approval. At this time, OCD approves this request. The Deferral Request and C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue. This is a Federal site and will require like approval from BLM.	6/14/2021