

Incident ID	NRM2002160255
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?	<u><50 ft</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

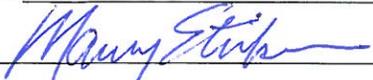
If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods,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

Oil Conservation Division

Incident ID	NRM2002160255
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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: Maury Sticker Title: Environmental Director

Signature:  Date: 1/22/2020

email: msticker@keyenergy.com Telephone: 713-651-2461

OCD Only

Received by: Cristina Eads Date: 03/17/2020

Incident ID	NRM2002160255
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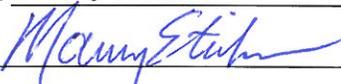
Closure

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

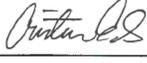
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public 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: Maury Sticker Title: Environmental Director
 Signature:  Date: 1/22/2020
 email: msticker@keyenergy.com Telephone: 713-651-2461

OCD Only

Received by: Cristina Eads Date: 03/17/2020

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: 03/17/2020
 Printed Name: Cristina Eads Title: Environmental Specialist

Remediation Summary and Soil Closure Request

Key Energy Services White's City Rd. Incident

Eddy County, New Mexico
Unit Letter "C", Section 8, Township 26 South, Range 28 East
Latitude 32.06398 North, Longitude 104.11151 West
NMOCD Reference No. 2RP-pending

Prepared By:

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



Daniel Dominguez



Joel W. Lowry



TABLE OF CONTENTS

	<i>Section</i>
PROJECT INFORMATION.....	1.0
SITE CHARACTERIZATION.....	2.0
CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE.....	3.0
REMEDIATION ACTIVITIES SUMMARY.....	4.0
RESTORATION, RECLAMATION AND RE-VEGETATION PLAN.....	5.0
SOIL CLOSURE REQUEST.....	6.0
LIMITATIONS.....	7.0
DISTRIBUTION.....	8.0

FIGURES

- Figure 1 - Topographic Map
- Figure 2 - Aerial Proximity Map
- Figure 3 - Site & Sample Location Map

TABLES

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

APPENDICES

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

1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of Key Energy Services, has prepared this Remediation Summary and Soil Closure Request for the Release Site known as the White's City Rd. Incident. Details of the release are summarized below:

Location of Release Source				
Latitude: <u>32.06398</u>		Longitude: <u>-104.11151</u>		
Provided GPS are in WGS84 format.				
Site Name: <u>White's City Rd. Incident</u>		Site Type: <u>Right-of-Way</u>		
Date Release Discovered: <u>11/17/2019</u>		API # (if applicable):		
Unit Letter	Section	Township	Range	County
"C"	8	26S	28E	Eddy
Surface Owner: <input checked="" type="checkbox"/> State <input type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Private (Name _____)				
Nature and Volume of Release				
<input type="checkbox"/> Crude Oil	Volume Released (bbls)		Volume Recovered (bbls)	
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <u>120</u>		Volume Recovered (bbls) <u>3</u>	
	Is the concentration of total dissolved solids (TDS) in the produced water > 10,000 mg/L?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<input type="checkbox"/> Condensate	Volume Released (bbls)		Volume Recovered (bbls)	
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)		Volume Recovered (Mcf)	
<input type="checkbox"/> Other (describe)	Volume/Weight Released		Volume/Weight Recovered	
Cause of Release: The release was a result of a water transport truck being involved in single vehicle traffic accident.				
Initial Response				
<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Release materials have been contained via the use of berms or dikes, absorbent pad, or other containment devices <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.				

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

2.0 SITE CHARACTERIZATION

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 Ft.	
Did the release impact groundwater or surface water?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of any occupied permanent residence, school, hospital, institution or church?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within the incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production or storage site?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

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

3.0 CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE

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

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

4.0 REMEDIATION ACTIVITIES SUMMARY

On **November 20, 2019**, Etech conducted an initial site assessment. During the initial site assessment, a series of hand-augered soil bores (**SP1 through SP3**) were advanced within the release margins in an effort to determine the vertical extent of soil impacts. In addition, hand-augered soil bores were advanced at the inferred edges of the affected area in an effort to determine the horizontal extent of soil impacts. During the advancement of the hand-augered soil bores, field soil samples were collected and field-screened for concentrations of chloride utilizing a Hach Quantab® chloride test kit. A "Site & Sample Location Map" is provided as Figure 3. Field data and soil profile logs, if applicable, are provided as Appendix B.

Based on field observations and field test data, **eighteen (18)** delineation soil samples (**SP1 @ S, SP1 @ 1', SP2 @ S, SP2 @ 3', SP3 @ S, SP3 @ 3', EH1 @ S, EH1 @ 1', NH1 @ S, NH1 @ 1', NH2 @ S, NH2 @ 1', SH1 @ S, SH1 @ 1', SH2 @ S and SH2 @ 1'**) were submitted to the laboratory for analysis of BTEX, TPH and/or Chloride. Based on laboratory analytical results, soil was not affected above the NMOCD Closure Criteria beyond 1 Ft. to 4 Ft bgs and the horizontal extent of affected soil impacted above the NMOCD Closure Criteria was adequately defined.

On **December 9, 2019**, remediation activities commenced at the Site. In accordance with the NMOCD, impacted soil affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standard was excavated and transported to an NMOCD-approved surface waste facility for disposal. The floor and sidewalls of the excavation were advanced until field observations and test results suggested BTEX, TPH and chloride concentrations were below the applicable NMOCD Closure Criteria and/or NMOCD Reclamation Standard.

On **December 12, 2019**, Etech collected **eighteen (18)** excavation confirmation soil samples (**FL-1 through FL-8, MW-1 through MW-6, SW-1, SW-5, SW-6 and WW**) from the floor and sidewalls of the excavated area. The collected soil samples were submitted to a certified commercial laboratory for analysis of BTEX, TPH and chloride. Laboratory analytical results indicated BTEX, TPH and chloride concentrations were below the applicable NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in each of the submitted soil samples with the exception of soil samples FL-3, FL-4, FL-7, MW-4, SW-1, SW-5 and WW which exhibited chloride concentrations of 1,850 mg/kg, 1,700 mg/kg, 1,120 mg/kg, 958 mg/kg, 4,070 mg/kg, 1,190 mg/kg and 797 mg/kg, respectively. The floor and sidewalls of the excavation was advanced in the areas characterized by soil samples FL-3, FL-4, FL-7, MW-4, SW-1, SW-5 and WW.

On **December 16, 2019**, Etech collected **fourteen (14)** excavation confirmation soil samples (**FL-9 through FL-17 and NW-7 through NW-11**) from the floor and sidewalls of the excavated area. The collected soil samples were submitted to a certified commercial laboratory for analysis of BTEX, TPH and chloride. Laboratory analytical results indicated BTEX, TPH and chloride concentrations were below the applicable NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in each of the submitted soil samples with the exception of soil sample FL-9 which exhibited a chloride concentration of 616 mg/kg. The floor of the excavation was advanced in the area characterized by soil sample FL-9.

On **December 17, 2019**, Etech collected **ten (10)** excavation confirmation soil samples (**FL-18, FL-19, SW-2 through SW-4, SW-7 through SW-10 and EW**) from the floor and sidewalls of the excavated area. The collected soil samples were submitted to a certified commercial laboratory for analysis of BTEX, TPH and chloride. Laboratory analytical results indicated BTEX, TPH and chloride concentrations were below the applicable NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in each of the submitted soil samples.

On **January 3, 2020**, Etech collected **eight (8)** excavation confirmation soil samples (**FL-3B, FL-4B, FL-7B, FL-9B, NW-4B, SW-1B, SW-5B, WW-B**) from the floor and sidewalls of the excavated area. The collected soil samples were submitted to a certified commercial laboratory for analysis of BTEX, TPH and chloride. Laboratory analytical results indicated BTEX, TPH and chloride concentrations were below the applicable NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in each of the submitted soil samples.

A "Site & Sample Location Map" is provided as Figure 3. A "Soil Chemistry Table" is provided as Table 1. Laboratory Analytical Reports are provided in Appendix C. Field data and soil profile logs, if applicable, are provided as Appendix B.

The final dimensions of the excavated area were 290 Ft. in length, 3 to 25 Ft in width and ranged from 2 to 4 Ft. in depth. During the course of remediation activities approximately **618 cubic yards** of impacted soil were transported to an NMOCD-approved surface waste facility for disposal.

5.0 RESTORATION, RECLAMATION AND RE-VEGETATION PLAN

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. The affected area was contoured and/or compacted to achieve erosion control, stability and preservation of surface water flow to the extent practicable. Affected areas not on production pads and/or lease roads will be reseeded with an agency-approved seed mixture free of noxious weeds during the first favorable growing season following closure of the site.

6.0 SOIL CLOSURE 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 and transported to an NMOCD-approved disposal facility. Laboratory analytical results from excavation confirmation soil samples indicated concentrations of BTEX, TPH and chloride are below the NMOCD Closure Criteria and/or NMOCD Reclamation Standard.

Based on laboratory analytical results and field activities conducted to date, Etech is submitting this Remediation Summary and Soil Closure Request on behalf of Key Energy Services and requesting closure be granted to the White's City Rd. incident Site.

7.0 LIMITATIONS

Etech Environmental & Safety Solutions, Inc., has prepared this Site Assessment Report and Proposed Remediation Workplan 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. Basis 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 Key Energy Services. Use of the information contained in this report is prohibited within the consent of Etech and/or Key Energy Services.

8.0 DISTRIBUTION

Key Energy Services

1301 McKinney St., Suite 1800

Houston, TX 77010

New Mexico Energy, Minerals and Natural Resources Department

Oil Conservation Division, District 2

811 S. First Street

Artesia, NM 88210

Hobbs Field Office

New Mexico State Land Office

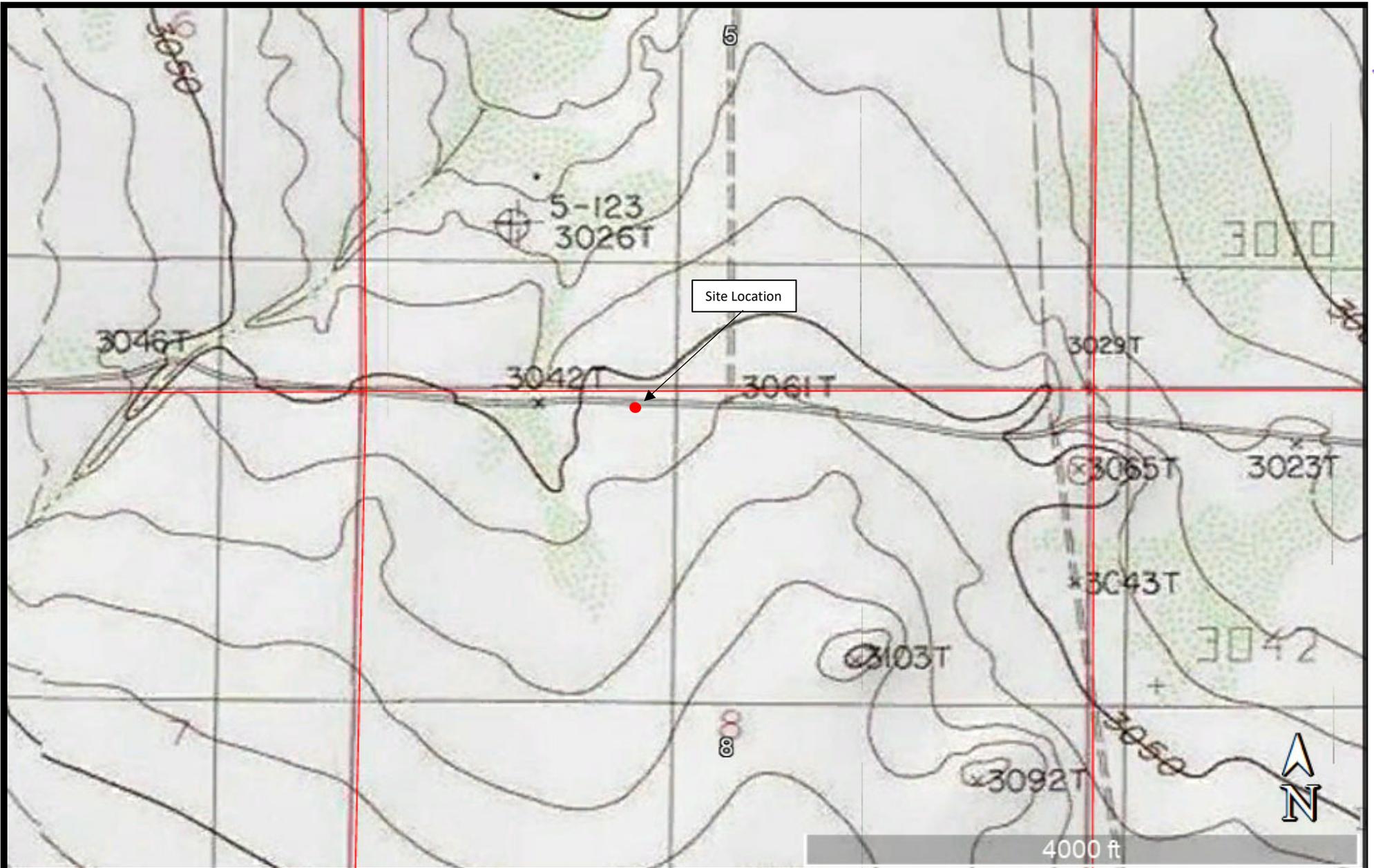
2827 North Dal Paso Street

Suite 117

Hobbs, NM 88240

(Electronic Submission)

Figure 1 Topographic Map



Legend:

- Site Location

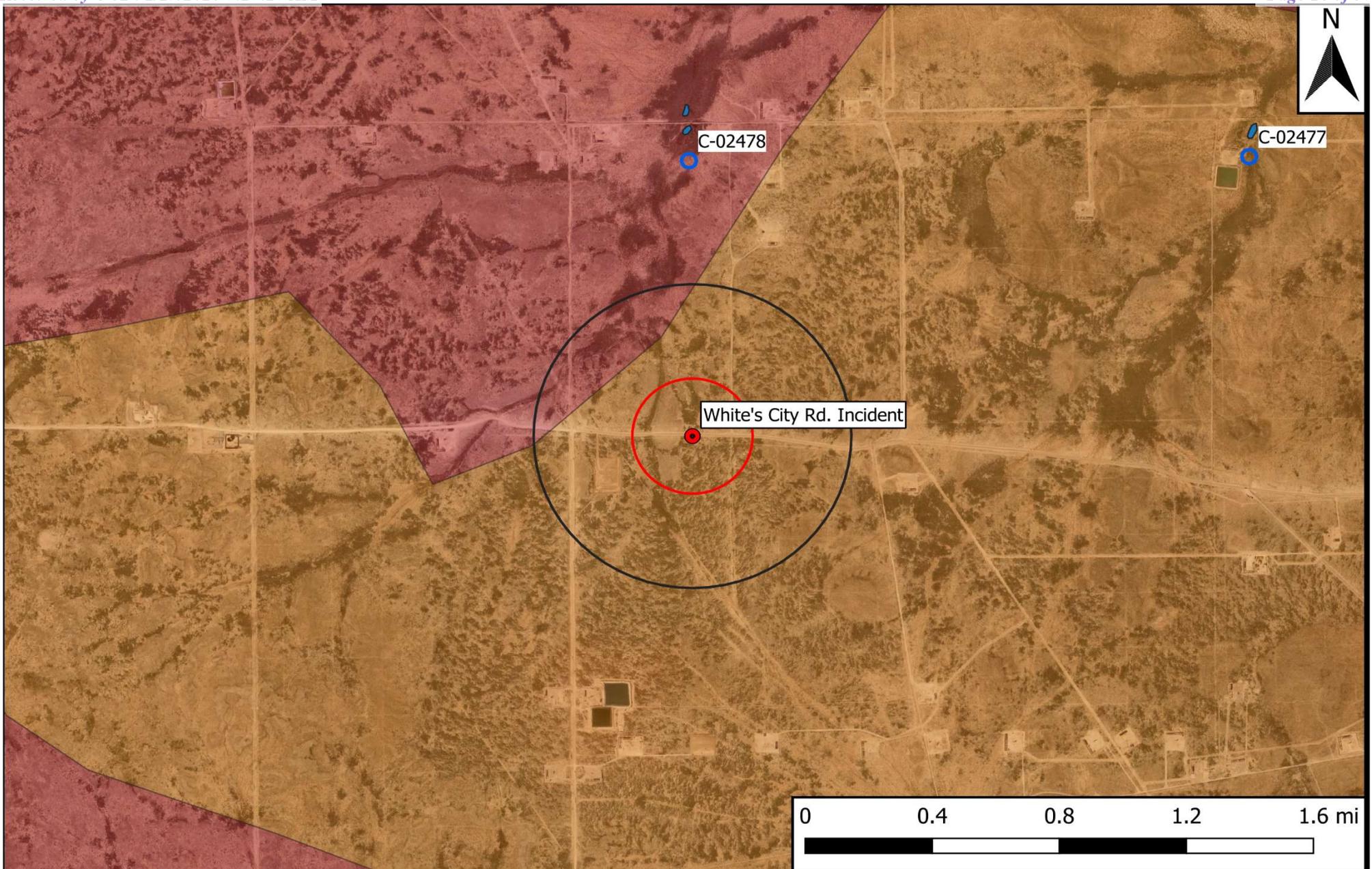
Figure 1
 Topographic Map
 Key Energy Services
 White's City Rd. Incident
 GPS: 32.06398, -104.11151
 Eddy County

eTECH 
 Environmental & Safety Solutions, Inc.

Drafted: Checked: jwl Date: 1/22/20

Figure 2

Aerial Proximity Map



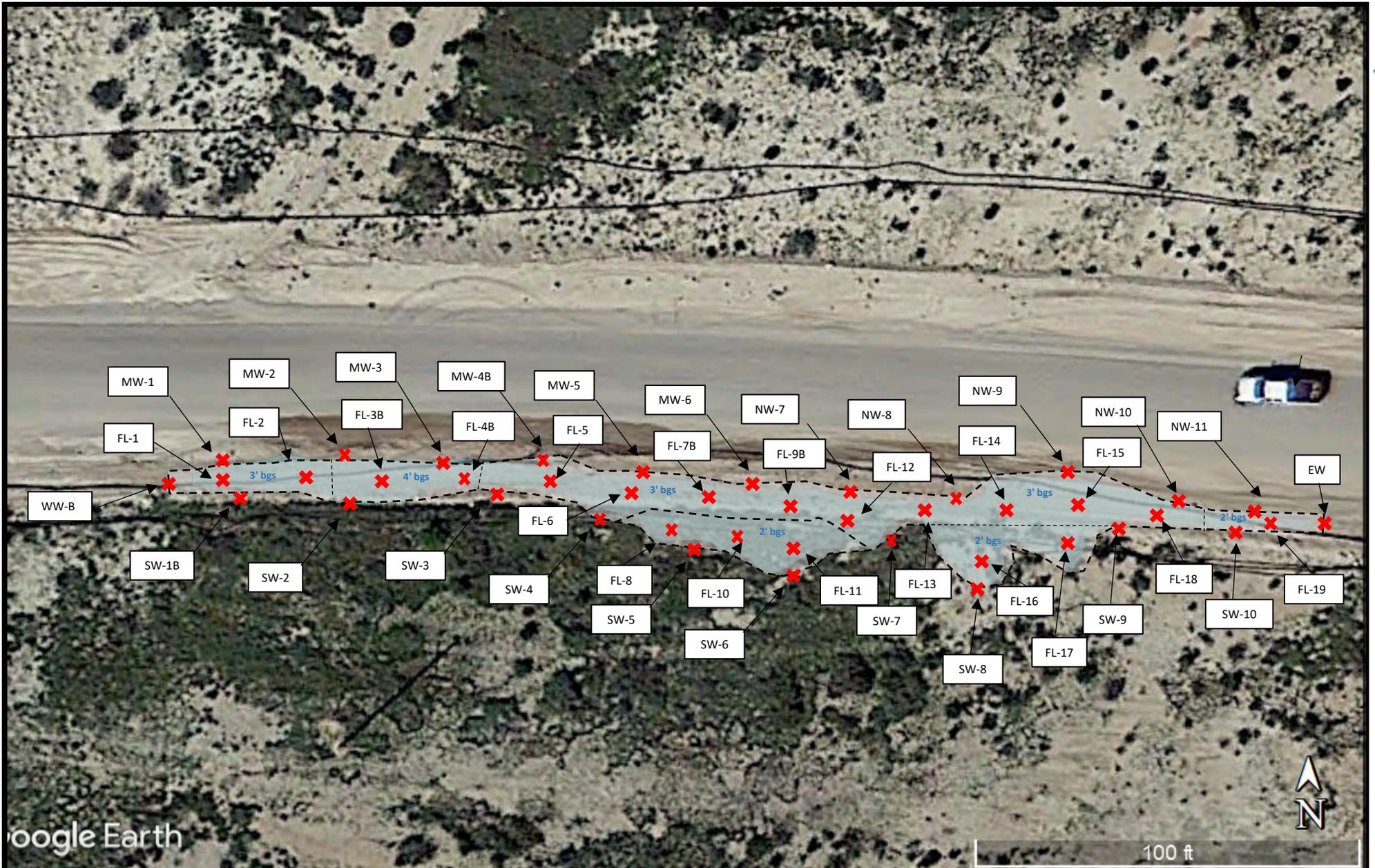
Legend	
	Site Location
	0.5 Mi Radius
	1000 Ft Radius
	1% Annual Flood Chance
	Surface Water
	Well - USGS
	Well - NMOSE
	High Karst
	Medium Karst
	Potash Mine Workings

Figure 2
 Aerial Map
 Key Energy Services
 White's City Rd. Incident
 GPS: 32.06398, -104.11151
 Eddy County

eTECH 
Environmental & Safety Solutions, Inc.

Drafted: mag Checked: jwl Date: 1/23/20

Figure 3
Site and Sample Location Map



Legend:

	Composite Soil Sample Location
	Affected Area

Figure 3
 Site and Sample Location Map
 Key Energy Services
 White's City Rd. Incident
 GPS: 32.06398, -104.11151
 Eddy County



Environmental & Safety Solutions, Inc.

Drafted: Checked: jwl Date: 1/22/20

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

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX TPH AND CHLORIDE IN SOIL
Key Energy Services
White's City Rd. Incident
NMOCD Ref. No. 2RP-Pending

Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
SP1 @ S	11/20/2019	Surf.	Excavated	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	13,400
SP1 @ 1'	11/20/2019	1'	Excavated	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
SP2 @ S	11/20/2019	Surf.	Excavated	<0.050	0.496	19.60	41.30	60.90	<10.0	60.90	20,800
SP2 @ 3'	11/20/2019	3'	In-situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SP3 @ S	11/20/2019	Surf.	Excavated	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	18,400
SP3 @ 3'	11/20/2019	3'	Excavated	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	640
EH1 @ S	11/20/2019	Surf.	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
EH1 @ 1'	11/20/2019	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
WH1 @ S	11/20/2019	Surf.	In-Situ	<0.050	<0.300	<10.0	14.4	14.4	<10.0	14.4	128
WH1 @ 1'	11/20/2019	1'	In-Situ	<0.050	<0.300	<10.0	11.2	11.2	<10.0	11.2	112
NH1 @ S	11/20/2019	Surf.	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
NH1 @ 1'	11/20/2019	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
NH2 @ S	11/20/2019	Surf.	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
NH2 @ 1'	11/20/2019	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
SH1 @ S	11/20/2019	Surf.	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SH1 @ 1'	11/20/2019	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SH2 @ S	11/20/2019	Surf.	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SH2 @ 1'	11/20/2019	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FL-1	12/12/2019	3'	In-Situ	ND	ND	ND	1.68 ^J	1.68 ^J	ND	1.68 ^J	273
FL-2	12/12/2019	3'	In-Situ	ND	ND	ND	2.69 ^J	2.69 ^J	ND	2.69 ^J	129
FL-3	12/12/2019	3'	Excavated	ND	ND	ND	2.22 ^J	2.22 ^J	1.13 ^J	3.35 ^J	1,850
FL-3B	1/3/2020	4'	In-Situ	-	-	-	-	-	-	-	13.2
FL-4	12/12/2019	3'	Excavated	ND	ND	ND	1.41 ^J	1.41 ^J	ND	1.41 ^J	1,700
FL-4B	1/3/2020	4'	In-Situ	-	-	-	-	-	-	-	11.1
FL-5	12/12/2019	3'	In-Situ	ND	ND	ND	1.61 ^J	1.61 ^J	ND	1.61 ^J	145
FL-6	12/12/2019	3'	In-Situ	ND	ND	ND	2.28 ^J	2.28 ^J	ND	2.28 ^J	127
FL-7	12/12/2019	2'	Excavated	ND	ND	ND	4.83 ^J	4.83 ^J	1.80 ^J	6.63 ^J	1,120
FL-7B	1/3/2020	3'	In-Situ	-	-	-	-	-	-	-	16.2
FL-8	12/12/2019	2'	In-Situ	ND	ND	ND	3.62 ^J	3.62 ^J	ND	3.62 ^J	47.6
FL-9	12/16/2019	2'	Excavated	ND	ND	ND	0.865 ^J	0.865 ^J	ND	0.865 ^J	616
FL-9B	1/3/2020	3'	In-Situ	-	-	-	-	-	-	-	34.2
FL-10	12/16/2019	2'	In-Situ	ND	ND	4.34 ^J	1.66 ^J	6.00 ^J	ND	6.00 ^J	165
FL-11	12/16/2019	2'	In-Situ	ND	ND	ND	1.44 ^J	1.44 ^J	ND	1.44 ^J	192
FL-12	12/16/2019	3'	In-Situ	ND	ND	ND	2.49 ^J	2.49 ^J	ND	2.49 ^J	27.7
FL-13	12/16/2019	3'	In-Situ	ND	ND	ND	2.09 ^J	2.09 ^J	ND	2.09 ^J	26.8
FL-14	12/16/2019	3'	In-Situ	ND	ND	ND	1.50 ^J	1.50 ^J	ND	1.50 ^J	29.2
FL-15	12/16/2019	3'	In-Situ	ND	ND	ND	2.21 ^J	2.21 ^J	1.11 ^J	3.32 ^J	170
FL-16	12/16/2019	2'	In-Situ	ND	ND	ND	0.979 ^J	0.979 ^J	ND	0.979 ^J	299
FL-17	12/16/2019	2'	In-Situ	ND	ND	ND	1.18 ^J	1.18 ^J	ND	1.18 ^J	374
FL-18	12/17/2019	8'	In-Situ	ND	ND	ND	1.21 ^J	1.21 ^J	ND	1.21 ^J	298
FL-19	12/17/2019	2'	In-Situ	ND	ND	ND	1.40 ^J	1.40 ^J	ND	1.40 ^J	156
Closure Criteria				10	50	-	-	-	-	100	600

NOTES:

- = Not analyzed for that constituent.

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria

J = estimated value

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX TPH AND CHLORIDE IN SOIL
Key Energy Services
White's City Rd. Incident
NMOCD Ref. No. 2RP-Pending

Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
MW-1	12/12/2019	NA	In-Situ	ND	ND	ND	2.55 ^J	2.55 ^J	1.51 ^J	4.06 ^J	281
MW-2	12/12/2019	NA	In-Situ	ND	ND	ND	2.20 ^J	2.20 ^J	ND	2.20 ^J	169
MW-3	12/12/2019	NA	In-Situ	ND	ND	ND	8.99 ^J	8.99 ^J	2.74 ^J	11.73 ^J	424
MW-4	12/12/2019	NA	Excavated	ND	ND	ND	3.33 ^J	3.33 ^J	2.05 ^J	5.38 ^J	958
NW-4B	1/3/2020	NA	In-Situ	-	-	-	-	-	-	-	11.9
MW-5	12/12/2019	NA	In-Situ	ND	ND	ND	1.82 ^J	1.82 ^J	ND	1.82 ^J	22.3
MW-6	12/12/2019	NA	In-Situ	ND	ND	ND	2.02 ^J	2.02 ^J	ND	2.02 ^J	96.1
NW-7	12/16/2019	NA	In-Situ	ND	ND	7.87 ^J	2.16 ^J	10.03 ^J	1.33 ^J	11.36 ^J	502
NW-8	12/16/2019	NA	In-Situ	ND	ND	5.47 ^J	2.48 ^J	7.95 ^J	ND	7.95 ^J	38.9
NW-9	12/16/2019	NA	In-Situ	ND	ND	ND	2.60 ^J	2.60 ^J	2.31 ^J	4.91 ^J	50.1
NW-10	12/16/2019	NA	In-Situ	ND	ND	ND	2.16 ^J	2.16 ^J	1.70 ^J	3.86 ^J	55.6
NW-11	12/16/2019	NA	In-Situ	ND	ND	3.33 ^J	1.56 ^J	4.89 ^J	1.46 ^J	6.35 ^J	101
SW-1	12/12/2019	NA	Excavated	ND	ND	ND	3.27 ^J	3.27 ^J	2.13 ^J	5.40 ^J	4,070
SW-1B	1/3/2020	NA	In-Situ	-	-	-	-	-	-	-	12.1
SW-2	12/17/2019	NA	In-Situ	ND	ND	ND	1.16 ^J	1.16 ^J	ND	1.16 ^J	18.8
SW-3	12/17/2019	NA	In-Situ	ND	ND	ND	2.61 ^J	2.61 ^J	9.92 ^J	12.53 ^J	13.6
SW-4	12/17/2019	NA	In-Situ	ND	ND	ND	1.08 ^J	1.08 ^J	ND	1.08 ^J	23.1
SW-5	12/12/2019	NA	Excavated	ND	ND	ND	1.19 ^J	1.19 ^J	ND	1.19 ^J	1,190
SW-5B	1/3/2020	NA	In-Situ	-	-	-	-	-	-	-	12.0
SW-6	12/12/2019	NA	In-Situ	ND	ND	ND	3.84 ^J	3.84 ^J	ND	3.84 ^J	297
SW-7	12/17/2019	NA	In-Situ	ND	ND	ND	1.78 ^J	1.78 ^J	ND	1.78 ^J	47.3
SW-8	12/17/2019	NA	In-Situ	ND	ND	ND	1.22 ^J	1.22 ^J	ND	1.22 ^J	564
SW-9	12/17/2019	NA	In-Situ	ND	ND	ND	1.66 ^J	1.66 ^J	ND	1.66 ^J	18.6
SW-10	12/17/2019	NA	In-Situ	ND	ND	6.10 ^J	1.11 ^J	7.21 ^J	ND	7.21 ^J	14.7
WW	12/12/2019	NA	Excavated	ND	ND	ND	4.85 ^J	4.85 ^J	1.99 ^J	6.84 ^J	797
WW-B	1/3/2020	NA	In-Situ	-	-	-	-	-	-	-	17.9
EW	12/17/2019	NA	In-Situ	ND	ND	ND	3.58 ^J	3.58 ^J	ND	3.58 ^J	38.8
Closure Criteria				10	50	-	-	-	-	100	600

NOTES:

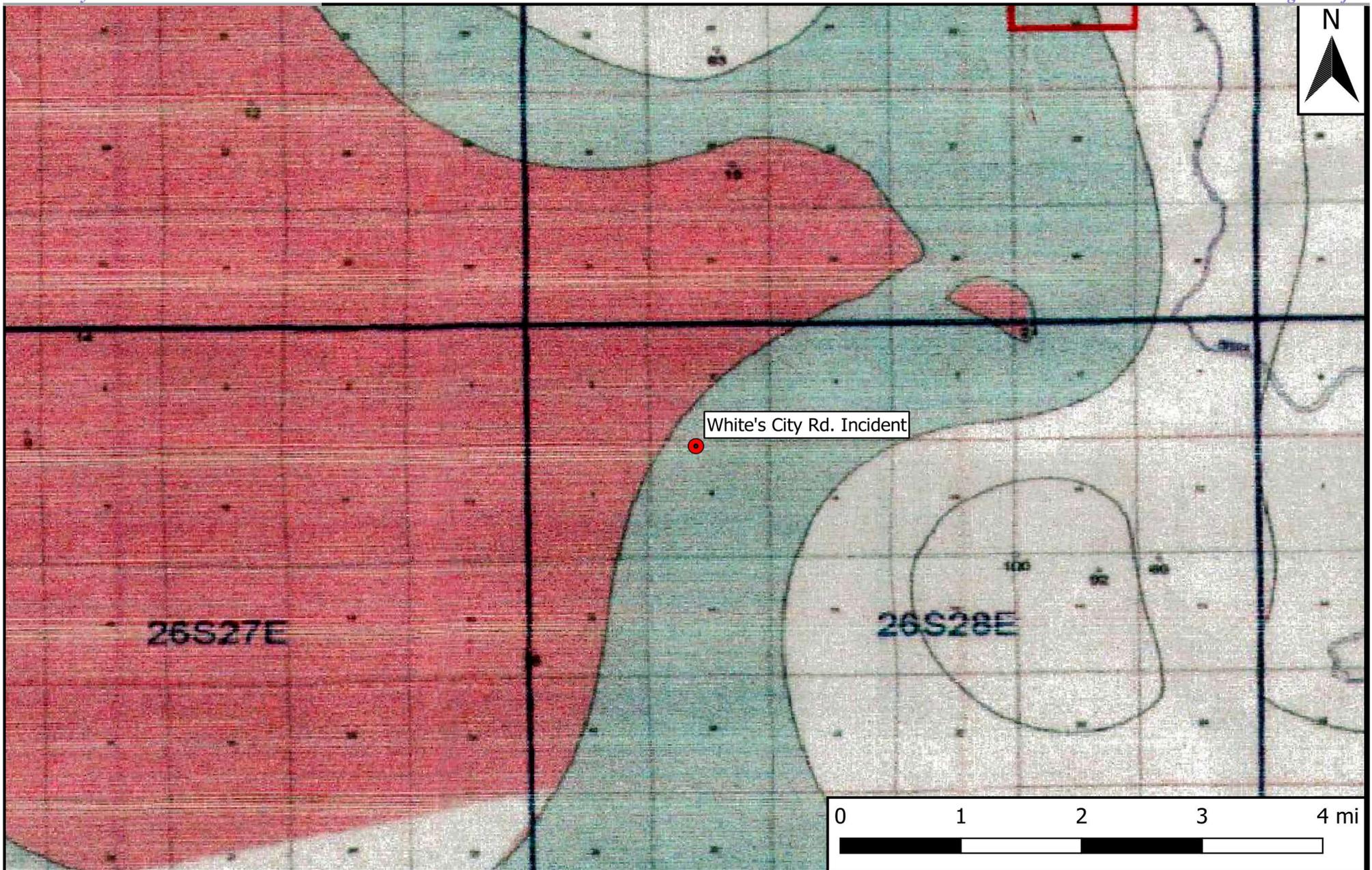
- = Not analyzed for that constituent.

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria

J = estimated value

Appendix A

Depth to Groundwater Information



Legend
● Site Location

Figure 4
Inferred Depth to Groundwater Trend Map
Key Energy Services
White's City Rd. Incident
GPS: 32.06398, -104.11151
Eddy County





New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 583865.78 **Northing (Y):** 3547872.65 **Radius:** 804.67

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

1/23/20 9:51 AM

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

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

(In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
C 02478	CUB	ED		2	1	05	26S	28E		583848	3549325*	1452	100		
C 02477	CUB	ED		1	1	03	26S	28E		586687	3549347*	3183	150		

Average Depth to Water: --
 Minimum Depth: --
 Maximum Depth: --

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 583865.78 **Northing (Y):** 3547872.65 **Radius:** 3220

*UTM location was derived from PLSS - see Help

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1/23/20 9:53 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	02477	1	1	03	26S	28E	586687	3549347*	

Driller License:		Driller Company:		
Driller Name: HEPLER BROS				
Drill Start Date:	Drill Finish Date:	12/31/1912	Plug Date:	
Log File Date:	PCW Rcv Date:	Source:		
Pump Type:	Pipe Discharge Size:	Estimated Yield: 6 GPM		
Casing Size: 6.00	Depth Well:	150 feet	Depth Water:	

*UTM location was derived from PLSS - see Help

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

1/23/20 9:53 AM

POINT OF DIVERSION SUMMARY



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	02478	2	1	05	26S	28E	583848	3549325*	

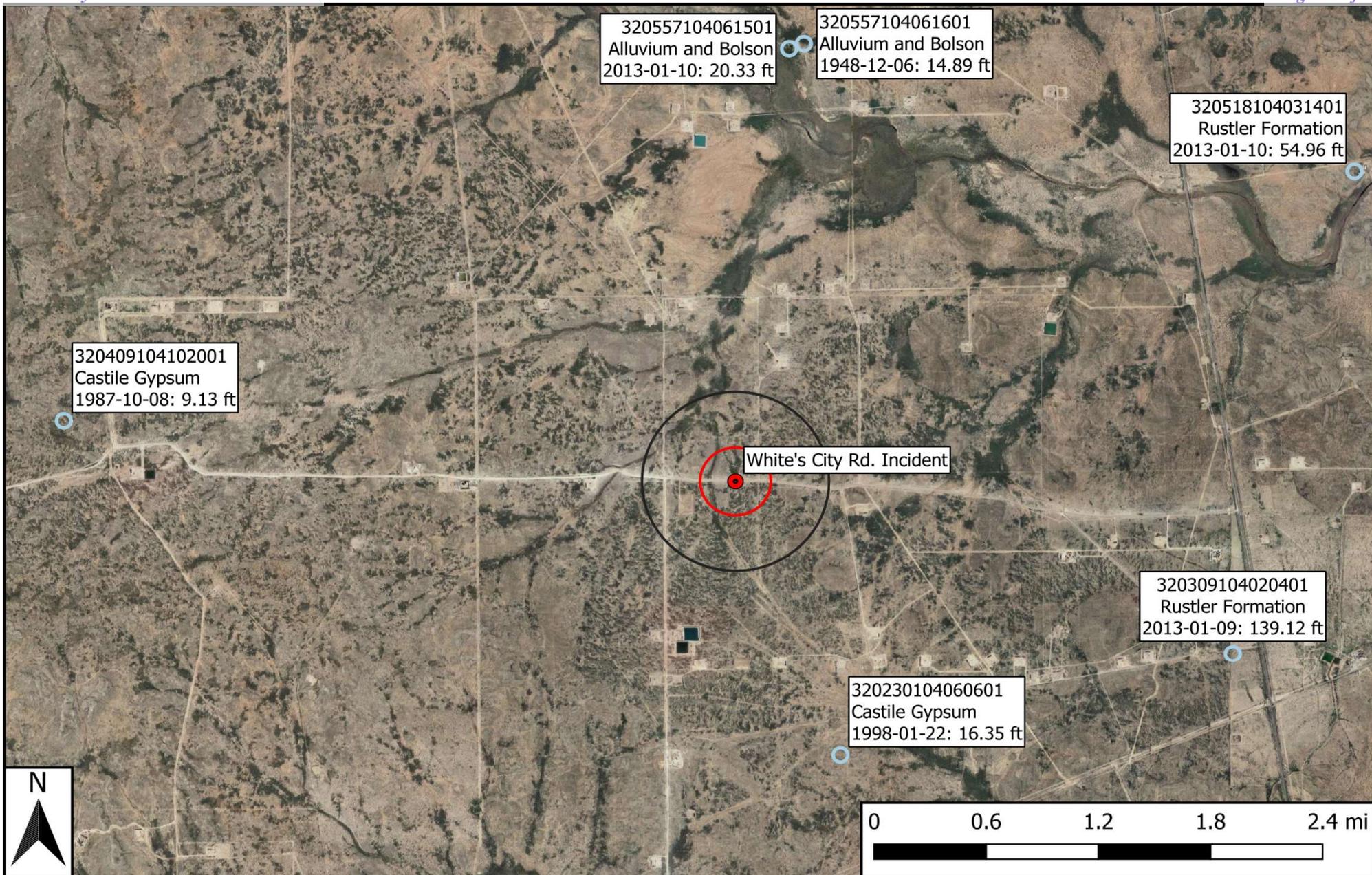
Driller License:		Driller Company:		
Driller Name: HEPLER BROS				
Drill Start Date:	Drill Finish Date:	12/31/1916	Plug Date:	
Log File Date:	PCW Rcv Date:		Source:	
Pump Type:	Pipe Discharge Size:		Estimated Yield: 5 GPM	
Casing Size: 6.00	Depth Well:	100 feet	Depth Water:	

*UTM location was derived from PLSS - see Help

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

1/23/20 9:52 AM

POINT OF DIVERSION SUMMARY



- Legend
- Site Location
 - Well - USGS
 - 0.5 Mi Radius
 - 1000 Ft Radius

Figure 5
 USGS Well Proximity Map
 Key Energy Services
 White's City Rd. Incident
 GPS: 32.06398, -104.11151
 Eddy County





National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

GO

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 320230104060601

Minimum number of levels = 1

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

USGS 320230104060601 26S.28E.18.33111

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13070002

Latitude 32°02'30", Longitude 104°06'06" NAD27

Land-surface elevation 3,070 feet above NAVD88

This well is completed in the Castile Gypsum (312CSTL) local aquifer.

Output formats

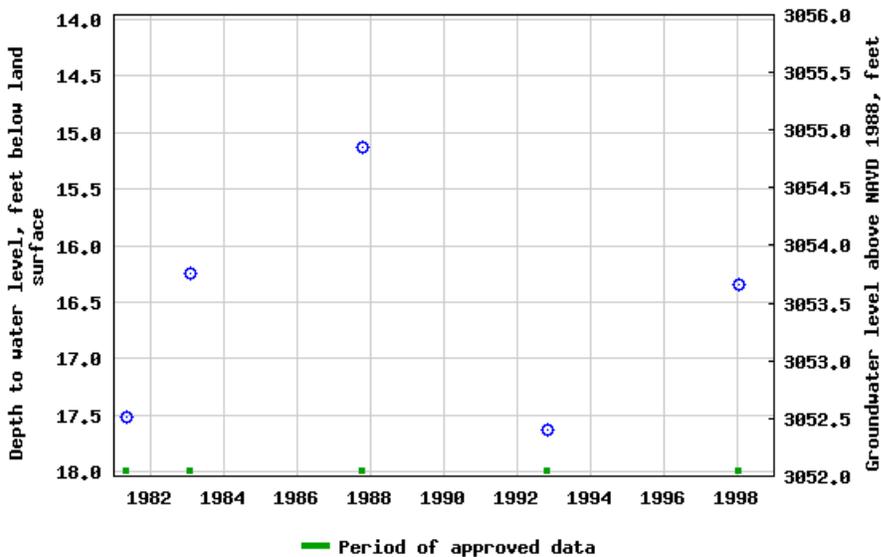
[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

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Title: Groundwater for USA: Water Levels

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



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0.5 0.42 nadww02



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 site_no list =
 • 320309104020401

Minimum number of levels = 1

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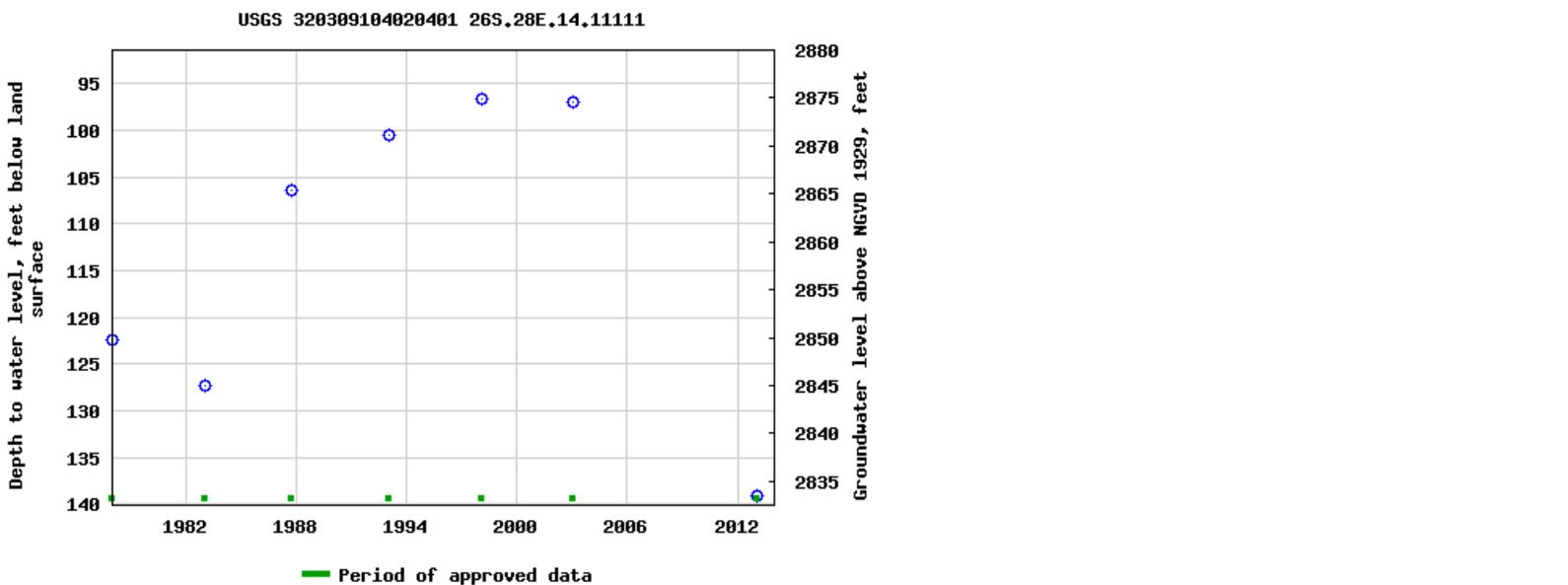
USGS 320309104020401 26S.28E.14.11111

Available data for this site

Eddy County, New Mexico
 Hydrologic Unit Code 13060011
 Latitude 32°02'59.0", Longitude 104°03'58.7" NAD83
 Land-surface elevation 2,972.00 feet above NGVD29
 This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

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



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0.67 0.47 nadww01



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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
 site_no list =
 • 320409104102001

Minimum number of levels = 1

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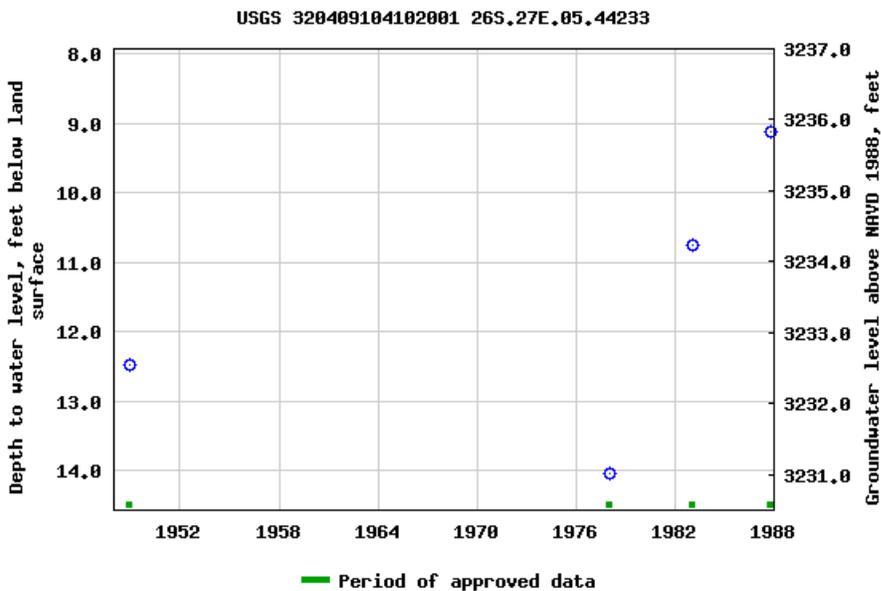
USGS 320409104102001 26S.27E.05.44233

Available data for this site

Eddy County, New Mexico
 Hydrologic Unit Code 13060011
 Latitude 32°04'09", Longitude 104°10'20" NAD27
 Land-surface elevation 3,245 feet above NAVD88
 This well is completed in the Castile Gypsum (312CSTL) local aquifer.

Output formats

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



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0.52 0.45 nadww01



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Agency code = usgs

site_no list =
• 320518104031401

Minimum number of levels = 1

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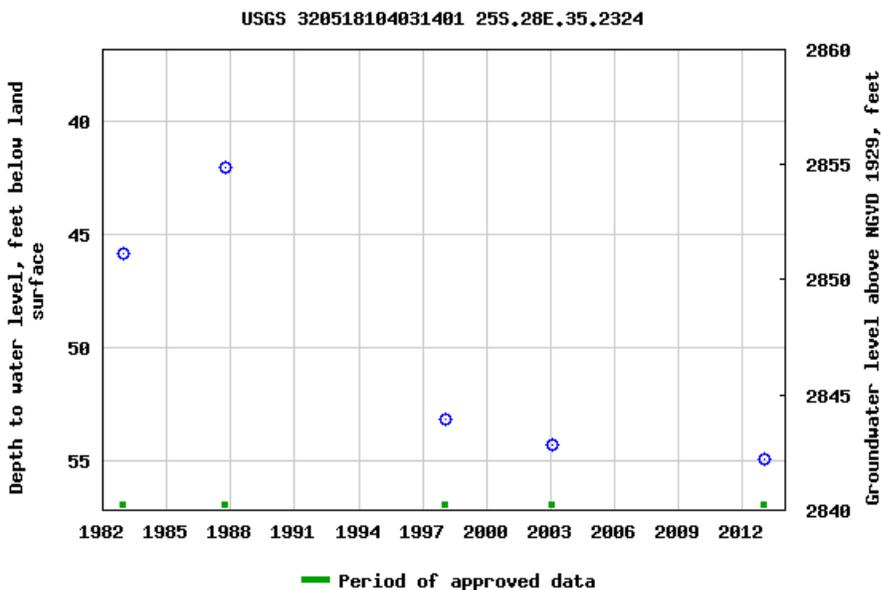
USGS 320518104031401 25S.28E.35.2324

Available data for this site

Eddy County, New Mexico
 Hydrologic Unit Code 13060011
 Latitude 32°05'19.0", Longitude 104°03'17.3" NAD83
 Land-surface elevation 2,897 feet above NGVD29
 The depth of the well is 180 feet below land surface.
 This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

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



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0.6 0.44 nadww01



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Agency code = usgs

site_no list =
• 320557104061501

Minimum number of levels = 1

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USGS 320557104061501 25S.28E.29.41243A

Available data for this site

Eddy County, New Mexico

Hydrologic Unit Code 13060011

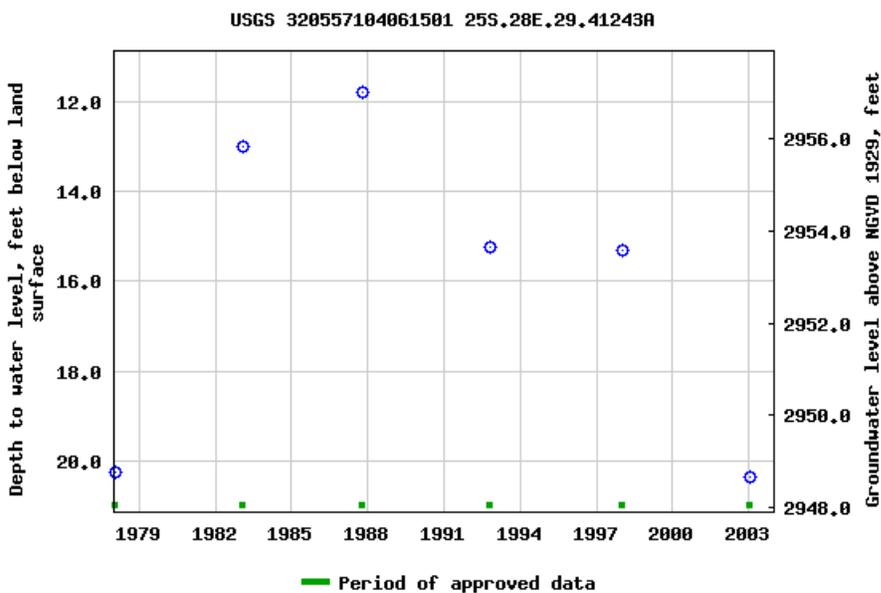
Latitude 32°05'56.0", Longitude 104°06'22.6" NAD83

Land-surface elevation 2,968.90 feet above NGVD29

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

Output formats

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



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

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0.56 0.45 nadww01



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Agency code = usgs
 site_no list =

- 320557104061601

Minimum number of levels = 1

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USGS 320557104061601 25S.28E.29.41243

Available data for this site

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°05'57", Longitude 104°06'16" NAD27

Land-surface elevation 2,968 feet above NAVD88

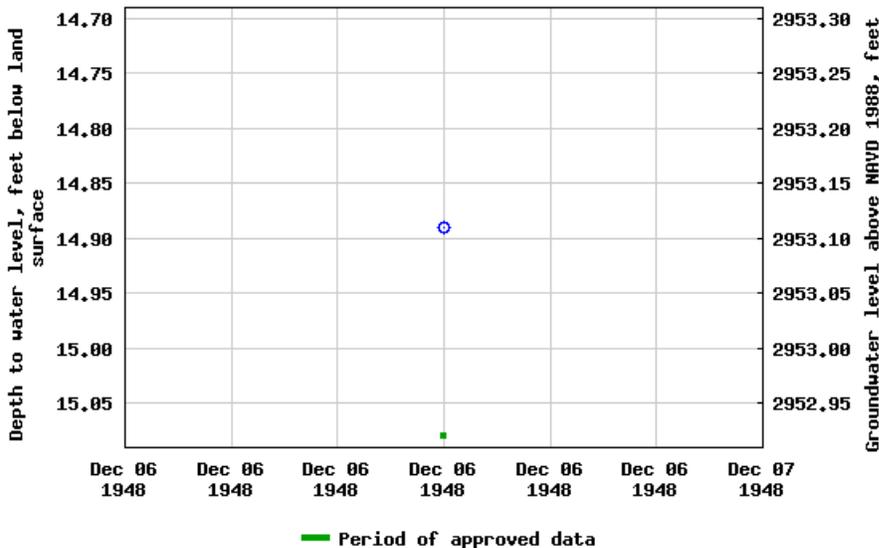
The depth of the well is 60 feet below land surface.

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

Output formats

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

USGS 320557104061601 25S.28E.29.41243



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



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0.53 0.48 nadww01

Appendix B

Field Data and Soil Profile Logs

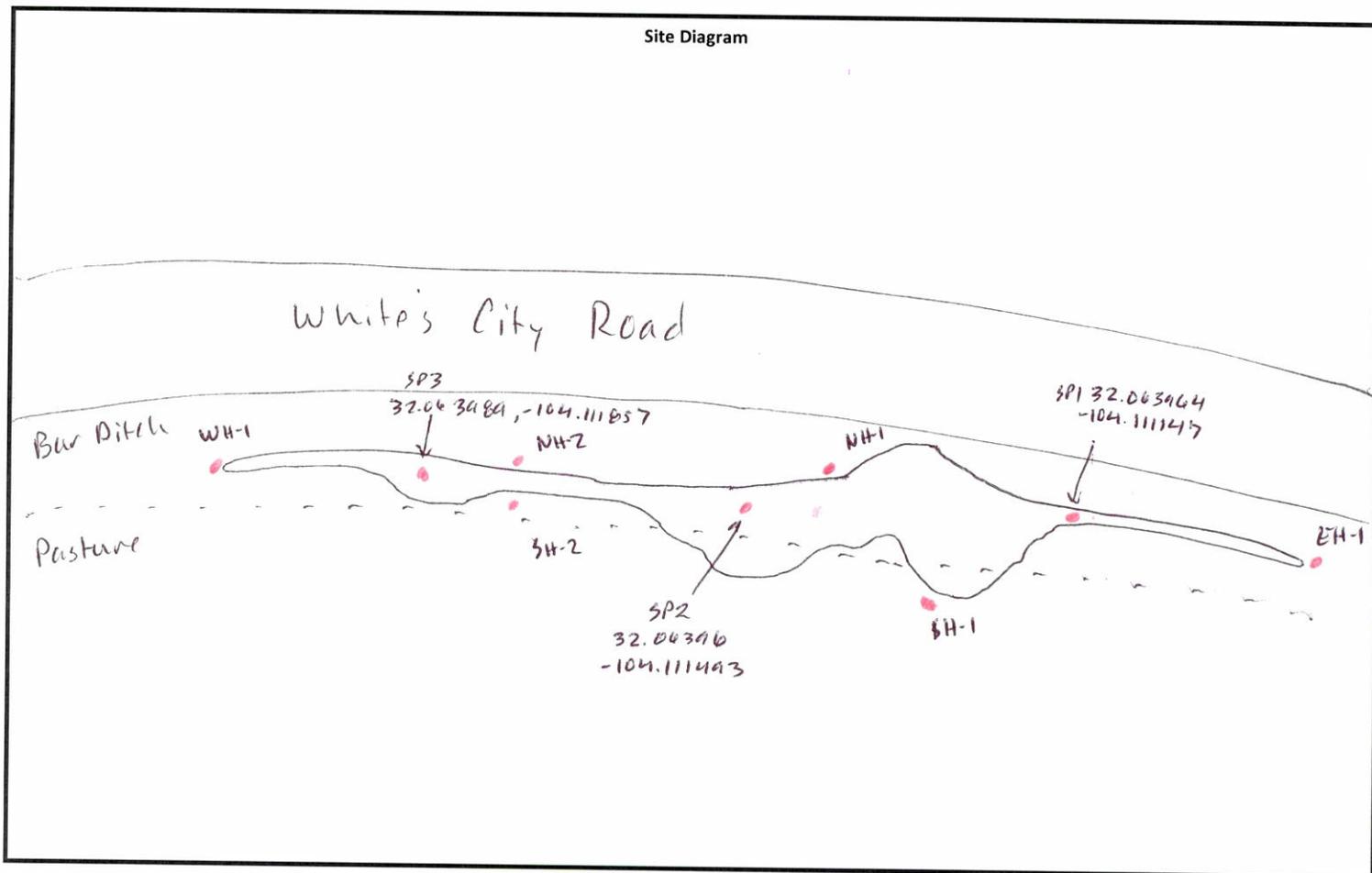
Initial Release Assessment Form

Project: White's City Rd. Incident
Project Number: 11543

Clean Up Level:
Latitude: 32.06398

Date: 11/7/19
600 mg/kg Cl-, 100 mg/kg TPH
Longitude: -104.11151

Site Diagram



Notes: Conduct initial release assessment
Map site
bet Vertical: Horizontal delineation w/ Auger

~Length: 290' ~Width: 2-25' ~Area: ~3200

~Depth: 1-3 Ft

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

Yes No

Necessary Samples Field Screened and on Ice?

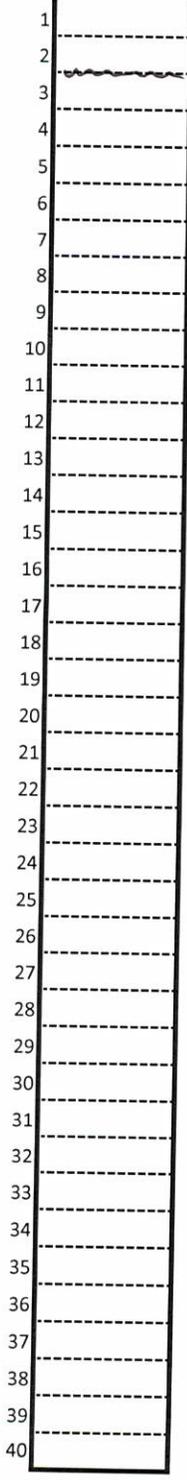
Sample and Field Screen Data Entered on Sample Log?

Was horizontal and vertical delineation achieved?

Soil Profile

Project: White's City Rd Empty Project Date: 1/7/2020
 Project Number: 011543 Latitude: 32.063980 Longitude: -104.111510

Depth (ft. bgs)



Description

Light Brown Top Soil

Salt white Caliche

Appendix C

Laboratory Analytical Reports



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

November 26, 2019

JOEL LOWRY

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: WHITE'S CITY RD. INCIDENT

Enclosed are the results of analyses for samples received by the laboratory on 11/21/19 16:15.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder". The signature is fluid and cursive.

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: SP 1 @ SURFACE (H903961-01)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/23/2019	ND	1.71	85.4	2.00	1.98		
Toluene*	<0.050	0.050	11/23/2019	ND	1.66	83.2	2.00	1.78		
Ethylbenzene*	<0.050	0.050	11/23/2019	ND	1.70	84.8	2.00	2.11		
Total Xylenes*	<0.150	0.150	11/23/2019	ND	5.11	85.1	6.00	2.45		
Total BTEX	<0.300	0.300	11/23/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	13400	16.0	11/25/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	212	106	200	0.750		
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	203	101	200	3.28		
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND						

Surrogate: 1-Chlorooctane 93.3 % 41-142

Surrogate: 1-Chlorooctadecane 97.6 % 37.6-147

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* = Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: SP 1 @ 1' (H903961-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/22/2019	ND	1.67	83.4	2.00	2.52	
Toluene*	<0.050	0.050	11/22/2019	ND	1.66	82.9	2.00	4.81	
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	84.0	2.00	5.19	
Total Xylenes*	<0.150	0.150	11/22/2019	ND	5.20	86.7	6.00	8.07	
Total BTEX	<0.300	0.300	11/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	11/25/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	212	106	200	0.750	
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	203	101	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND					

Surrogate: 1-Chlorooctane 97.9 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: SP 2 @ SURFACE (H903961-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/22/2019	ND	1.67	83.4	2.00	2.52	
Toluene*	0.080	0.050	11/22/2019	ND	1.66	82.9	2.00	4.81	
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	84.0	2.00	5.19	
Total Xylenes*	0.415	0.150	11/22/2019	ND	5.20	86.7	6.00	8.07	
Total BTEX	0.496	0.300	11/22/2019	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	20800	16.0	11/25/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	19.6	10.0	11/22/2019	ND	212	106	200	0.750	
DRO >C10-C28*	41.3	10.0	11/22/2019	ND	203	101	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND					

Surrogate: 1-Chlorooctane 94.6 % 41-142

Surrogate: 1-Chlorooctadecane 96.3 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: SP 2 @ 3' (H903961-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/22/2019	ND	1.67	83.4	2.00	2.52	
Toluene*	<0.050	0.050	11/22/2019	ND	1.66	82.9	2.00	4.81	
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	84.0	2.00	5.19	
Total Xylenes*	<0.150	0.150	11/22/2019	ND	5.20	86.7	6.00	8.07	
Total BTEX	<0.300	0.300	11/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	11/25/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	212	106	200	0.750	
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	203	101	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND					

Surrogate: 1-Chlorooctane 98.1 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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 Fax To: (575) 396-1429

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: SP 3 @ SURFACE (H903961-05)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/22/2019	ND	1.67	83.4	2.00	2.52	
Toluene*	<0.050	0.050	11/22/2019	ND	1.66	82.9	2.00	4.81	
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	84.0	2.00	5.19	
Total Xylenes*	<0.150	0.150	11/22/2019	ND	5.20	86.7	6.00	8.07	
Total BTEX	<0.300	0.300	11/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	18400	16.0	11/25/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	212	106	200	0.750	
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	203	101	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND					

Surrogate: 1-Chlorooctane 92.6 % 41-142

Surrogate: 1-Chlorooctadecane 94.8 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: SP 3 @ 3' (H903961-06)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/22/2019	ND	1.73	86.6	2.00	6.14	
Toluene*	<0.050	0.050	11/22/2019	ND	1.70	85.2	2.00	7.48	
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	83.8	2.00	5.89	
Total Xylenes*	<0.150	0.150	11/22/2019	ND	4.92	82.1	6.00	5.59	
Total BTEX	<0.300	0.300	11/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	11/25/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	212	106	200	0.750	
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	203	101	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND					

Surrogate: 1-Chlorooctane 91.5 % 41-142

Surrogate: 1-Chlorooctadecane 95.3 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: EH 1 @ SURFACE (H903961-07)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/22/2019	ND	1.73	86.6	2.00	6.14	
Toluene*	<0.050	0.050	11/22/2019	ND	1.70	85.2	2.00	7.48	
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	83.8	2.00	5.89	
Total Xylenes*	<0.150	0.150	11/22/2019	ND	4.92	82.1	6.00	5.59	
Total BTEX	<0.300	0.300	11/22/2019	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	11/25/2019	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	212	106	200	0.750	
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	203	101	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND					

Surrogate: 1-Chlorooctane 81.0 % 41-142

Surrogate: 1-Chlorooctadecane 83.5 % 37.6-147

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Analytical Results For:

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 Fax To: (575) 396-1429

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: EH 1 @ 1' (H903961-08)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/22/2019	ND	1.73	86.6	2.00	6.14		
Toluene*	<0.050	0.050	11/22/2019	ND	1.70	85.2	2.00	7.48		
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	83.8	2.00	5.89		
Total Xylenes*	<0.150	0.150	11/22/2019	ND	4.92	82.1	6.00	5.59		
Total BTEX	<0.300	0.300	11/22/2019	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	11/25/2019	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	212	106	200	0.750		
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	203	101	200	3.28		
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND						

Surrogate: 1-Chlorooctane 91.3 % 41-142

Surrogate: 1-Chlorooctadecane 94.4 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: WH 1 @ SURFACE (H903961-09)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/22/2019	ND	1.73	86.6	2.00	6.14		
Toluene*	<0.050	0.050	11/22/2019	ND	1.70	85.2	2.00	7.48		
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	83.8	2.00	5.89		
Total Xylenes*	<0.150	0.150	11/22/2019	ND	4.92	82.1	6.00	5.59		
Total BTEX	<0.300	0.300	11/22/2019	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	11/25/2019	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	216	108	200	0.352		
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	208	104	200	0.732		
EXT DRO >C28-C36	14.4	10.0	11/22/2019	ND						

Surrogate: 1-Chlorooctane 75.8 % 41-142

Surrogate: 1-Chlorooctadecane 76.2 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: WH 1 @ 1' (H903961-10)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/22/2019	ND	1.73	86.6	2.00	6.14	
Toluene*	<0.050	0.050	11/22/2019	ND	1.70	85.2	2.00	7.48	
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	83.8	2.00	5.89	
Total Xylenes*	<0.150	0.150	11/22/2019	ND	4.92	82.1	6.00	5.59	
Total BTEX	<0.300	0.300	11/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	11/25/2019	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	216	108	200	0.352	
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	208	104	200	0.732	
EXT DRO >C28-C36	11.2	10.0	11/22/2019	ND					

Surrogate: 1-Chlorooctane 76.3 % 41-142

Surrogate: 1-Chlorooctadecane 79.5 % 37.6-147

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Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: NH 1 @ SURFACE (H903961-11)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/22/2019	ND	1.73	86.6	2.00	6.14		
Toluene*	<0.050	0.050	11/22/2019	ND	1.70	85.2	2.00	7.48		
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	83.8	2.00	5.89		
Total Xylenes*	<0.150	0.150	11/22/2019	ND	4.92	82.1	6.00	5.59		
Total BTEX	<0.300	0.300	11/22/2019	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	11/25/2019	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	216	108	200	0.352		
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	208	104	200	0.732		
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND						

Surrogate: 1-Chlorooctane 71.4 % 41-142

Surrogate: 1-Chlorooctadecane 72.6 % 37.6-147

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Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: NH 1 @ 1' (H903961-12)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/22/2019	ND	1.73	86.6	2.00	6.14		
Toluene*	<0.050	0.050	11/22/2019	ND	1.70	85.2	2.00	7.48		
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	83.8	2.00	5.89		
Total Xylenes*	<0.150	0.150	11/22/2019	ND	4.92	82.1	6.00	5.59		
Total BTEX	<0.300	0.300	11/22/2019	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	11/25/2019	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	216	108	200	0.352		
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	208	104	200	0.732		
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND						

Surrogate: 1-Chlorooctane 81.4 % 41-142

Surrogate: 1-Chlorooctadecane 83.5 % 37.6-147

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Analytical Results For:

Etech Environmental & Safety Solutions
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 Fax To: (575) 396-1429

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: NH 2 @ SURFACE (H903961-13)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/22/2019	ND	1.73	86.6	2.00	6.14		
Toluene*	<0.050	0.050	11/22/2019	ND	1.70	85.2	2.00	7.48		
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	83.8	2.00	5.89		
Total Xylenes*	<0.150	0.150	11/22/2019	ND	4.92	82.1	6.00	5.59		
Total BTEX	<0.300	0.300	11/22/2019	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	11/25/2019	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	216	108	200	0.352		
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	208	104	200	0.732		
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND						

Surrogate: 1-Chlorooctane 80.0 % 41-142

Surrogate: 1-Chlorooctadecane 81.2 % 37.6-147

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Analytical Results For:

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 Fax To: (575) 396-1429

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: NH 2 @ 1' (H903961-14)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/22/2019	ND	1.73	86.6	2.00	6.14		
Toluene*	<0.050	0.050	11/22/2019	ND	1.70	85.2	2.00	7.48		
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	83.8	2.00	5.89		
Total Xylenes*	<0.150	0.150	11/22/2019	ND	4.92	82.1	6.00	5.59		
Total BTEX	<0.300	0.300	11/22/2019	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	11/25/2019	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	216	108	200	0.352		
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	208	104	200	0.732		
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND						

Surrogate: 1-Chlorooctane 80.0 % 41-142

Surrogate: 1-Chlorooctadecane 80.6 % 37.6-147

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Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: SH 1 @ SURFACE (H903961-15)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/22/2019	ND	1.73	86.6	2.00	6.14		
Toluene*	<0.050	0.050	11/22/2019	ND	1.70	85.2	2.00	7.48		
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	83.8	2.00	5.89		
Total Xylenes*	<0.150	0.150	11/22/2019	ND	4.92	82.1	6.00	5.59		
Total BTEX	<0.300	0.300	11/22/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/25/2019	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	216	108	200	0.352		
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	208	104	200	0.732		
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND						

Surrogate: 1-Chlorooctane 82.8 % 41-142

Surrogate: 1-Chlorooctadecane 84.5 % 37.6-147

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Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: SH 1 @ 1' (H903961-16)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/22/2019	ND	1.73	86.6	2.00	6.14		
Toluene*	<0.050	0.050	11/22/2019	ND	1.70	85.2	2.00	7.48		
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	83.8	2.00	5.89		
Total Xylenes*	<0.150	0.150	11/22/2019	ND	4.92	82.1	6.00	5.59		
Total BTEX	<0.300	0.300	11/22/2019	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	11/25/2019	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	216	108	200	0.352		
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	208	104	200	0.732		
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND						

Surrogate: 1-Chlorooctane 74.0 % 41-142

Surrogate: 1-Chlorooctadecane 75.4 % 37.6-147

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Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: SH 2 @ SURFACE (H903961-17)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/22/2019	ND	1.73	86.6	2.00	6.14		
Toluene*	<0.050	0.050	11/22/2019	ND	1.70	85.2	2.00	7.48		
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	83.8	2.00	5.89		
Total Xylenes*	<0.150	0.150	11/22/2019	ND	4.92	82.1	6.00	5.59		
Total BTEX	<0.300	0.300	11/22/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	11/25/2019	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	216	108	200	0.352		
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	208	104	200	0.732		
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND						

Surrogate: 1-Chlorooctane 58.7 % 41-142

Surrogate: 1-Chlorooctadecane 58.0 % 37.6-147

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

Analytical Results For:

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

Received:	11/21/2019	Sampling Date:	11/20/2019
Reported:	11/26/2019	Sampling Type:	Soil
Project Name:	WHITE'S CITY RD. INCIDENT	Sampling Condition:	Cool & Intact
Project Number:	11543	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

Sample ID: SH 2 @ 1' (H903961-18)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/22/2019	ND	1.73	86.6	2.00	6.14		
Toluene*	<0.050	0.050	11/22/2019	ND	1.70	85.2	2.00	7.48		
Ethylbenzene*	<0.050	0.050	11/22/2019	ND	1.68	83.8	2.00	5.89		
Total Xylenes*	<0.150	0.150	11/22/2019	ND	4.92	82.1	6.00	5.59		
Total BTEX	<0.300	0.300	11/22/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/25/2019	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	11/22/2019	ND	216	108	200	0.352		
DRO >C10-C28*	<10.0	10.0	11/22/2019	ND	208	104	200	0.732		
EXT DRO >C28-C36	<10.0	10.0	11/22/2019	ND						

Surrogate: 1-Chlorooctane 75.6 % 41-142

Surrogate: 1-Chlorooctadecane 77.1 % 37.6-147

Cardinal Laboratories

* = Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



Houston, TX

01/02/20

The results set forth herein are provided by SGS North America Inc.

*e-Hardcopy 2.0
Automated Report*

Technical Report for

Key Energy

ETECH:New Mexico

Whites City Rd. Incident

SGS Job Number: TD48965

Sampling Date: 12/12/19



Report to:

**Key Energy
1301 McKinney Street
Houston, TX 77010
msticker@keyenergy.com; jbest@keyenergy.com

ATTN: Maury Sticker**

Total number of pages in report: 120



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

**John Watson
Technical Director**

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-19-34) AR (14-016-0) AZ (AZ0769) FL (E87628)
KS (E-10366) LA (85695/04004) NJ (TX010) OK (2018-129) VA (10171)

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Test results relate only to samples analyzed.





Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Summary of Hits	5
Section 3: Sample Results	8
3.1: TD48965-1: FL-1	9
3.2: TD48965-2: FL-2	13
3.3: TD48965-3: FL-3	17
3.4: TD48965-4: FL-4	21
3.5: TD48965-5: FL-5	25
3.6: TD48965-6: FL-6	29
3.7: TD48965-7: MW-1	33
3.8: TD48965-8: MW-2	37
3.9: TD48965-9: MW-3	41
3.10: TD48965-10: MW-4	45
3.11: TD48965-11: MW-5	49
3.12: TD48965-12: MW-6	53
3.13: TD48965-13: SW-1	57
3.14: TD48965-14: SW-5	61
3.15: TD48965-15: SW-6	65
3.16: TD48965-16: WW	69
3.17: TD48965-17: FL-8	73
3.18: TD48965-18: FL-7	77
Section 4: Misc. Forms	81
4.1: Chain of Custody	82
Section 5: MS Volatiles - QC Data Summaries	89
5.1: Method Blank Summary	90
5.2: Blank Spike Summary	93
5.3: Matrix Spike/Matrix Spike Duplicate Summary	96
Section 6: General Chemistry - QC Data Summaries	99
6.1: Method Blank and Spike Results Summary	100
6.2: Duplicate Results Summary	101
6.3: Matrix Spike Results Summary	102
Section 7: Misc. Forms (SGS Scott, LA)	103
7.1: Chain of Custody	104
Section 8: GC Volatiles - QC Data (SGS Scott, LA)	107
8.1: Method Blank Summary	108
8.2: Blank Spike/Blank Spike Duplicate Summary	110
8.3: Matrix Spike/Matrix Spike Duplicate Summary	112
Section 9: GC/LC Semi-volatiles - QC Data (SGS Scott, LA)	114
9.1: Method Blank Summary	115
9.2: Blank Spike/Blank Spike Duplicate Summary	117

SGS North America Inc.

Sample Summary

Key Energy

Job No: TD48965

ETECH:New Mexico
Project No: Whites City Rd. Incident

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
---------------	----------------	---------	----------	-------------	------	------------------

This report contains results reported as ND = Not detected. The following applies:

Organics ND = Not detected above the MDL

TD48965-1	12/12/19	14:30	12/17/19	SO	Soil	FL-1
TD48965-2	12/12/19	14:35	12/17/19	SO	Soil	FL-2
TD48965-3	12/12/19	14:40	12/17/19	SO	Soil	FL-3
TD48965-4	12/12/19	14:45	12/17/19	SO	Soil	FL-4
TD48965-5	12/12/19	14:50	12/17/19	SO	Soil	FL-5
TD48965-6	12/12/19	14:55	12/17/19	SO	Soil	FL-6
TD48965-7	12/12/19	15:00	12/17/19	SO	Soil	MW-1
TD48965-8	12/12/19	15:05	12/17/19	SO	Soil	MW-2
TD48965-9	12/12/19	15:10	12/17/19	SO	Soil	MW-3
TD48965-10	12/12/19	15:15	12/17/19	SO	Soil	MW-4
TD48965-11	12/12/19	15:20	12/17/19	SO	Soil	MW-5
TD48965-12	12/12/19	15:25	12/17/19	SO	Soil	MW-6

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SGS North America Inc.

Sample Summary

(continued)

Key Energy

Job No: TD48965

ETECH:New Mexico

Project No: Whites City Rd. Incident

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
TD48965-13	12/12/19	15:30	12/17/19	SO	Soil	SW-1
TD48965-14	12/12/19	15:50	12/17/19	SO	Soil	SW-5
TD48965-15	12/12/19	15:55	12/17/19	SO	Soil	SW-6
TD48965-16	12/12/19	16:00	12/17/19	SO	Soil	WW
TD48965-17	12/12/19	16:05	12/17/19	SO	Soil	FL-8
TD48965-18	12/12/19	16:05	12/17/19	SO	Soil	FL-7

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Page 1 of 3

Job Number: TD48965
Account: Key Energy
Project: ETECH:New Mexico
Collected: 12/12/19

Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
TD48965-1	FL-1					
TPH-DRO (C10-C28) ^a		1.68 J	5.7	0.49	mg/kg	SW846 8015C
Chloride		273	29		mg/kg	EPA 300.0
TD48965-2	FL-2					
TPH-DRO (C10-C28) ^a		2.69 J	6.0	0.51	mg/kg	SW846 8015C
Chloride		129	12		mg/kg	EPA 300.0
TD48965-3	FL-3					
TPH-DRO (C10-C28) ^a		2.22 J	5.8	0.50	mg/kg	SW846 8015C
TPH-ORO (> C28-C40) ^a		1.13 J	5.8	1.1	mg/kg	SW846 8015C
Chloride		1850	120		mg/kg	EPA 300.0
TD48965-4	FL-4					
TPH-DRO (C10-C28) ^a		1.41 J	6.0	0.52	mg/kg	SW846 8015C
Chloride		1700	120		mg/kg	EPA 300.0
TD48965-5	FL-5					
TPH-DRO (C10-C28) ^a		1.61 J	5.6	0.48	mg/kg	SW846 8015C
Chloride		145	11		mg/kg	EPA 300.0
TD48965-6	FL-6					
TPH-DRO (C10-C28) ^a		2.28 J	5.7	0.49	mg/kg	SW846 8015C
Chloride		127	11		mg/kg	EPA 300.0
TD48965-7	MW-1					
TPH-DRO (C10-C28) ^a		2.55 J	5.6	0.49	mg/kg	SW846 8015C
TPH-ORO (> C28-C40) ^a		1.51 J	5.6	1.0	mg/kg	SW846 8015C
Chloride		281	28		mg/kg	EPA 300.0
TD48965-8	MW-2					
TPH-DRO (C10-C28) ^a		2.20 J	5.4	0.47	mg/kg	SW846 8015C
Chloride		169	11		mg/kg	EPA 300.0
TD48965-9	MW-3					
TPH-DRO (C10-C28) ^a		8.99	5.6	0.49	mg/kg	SW846 8015C

Summary of Hits

Page 2 of 3

Job Number: TD48965
Account: Key Energy
Project: ETECH:New Mexico
Collected: 12/12/19

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TPH-ORO (> C28-C40) Chloride	^a	2.74 J 424	5.6 28	1.0	mg/kg mg/kg	SW846 8015C EPA 300.0
TD48965-10 MW-4						
TPH-DRO (C10-C28) TPH-ORO (> C28-C40) Chloride	^a ^a	3.33 J 2.05 J 958	5.7 5.7 120	0.49 1.1	mg/kg mg/kg mg/kg	SW846 8015C SW846 8015C EPA 300.0
TD48965-11 MW-5						
TPH-DRO (C10-C28) Chloride	^a	1.82 J 22.3	5.6 5.6	0.48	mg/kg mg/kg	SW846 8015C EPA 300.0
TD48965-12 MW-6						
TPH-DRO (C10-C28) Chloride	^a	2.02 J 96.1	5.7 11	0.49	mg/kg mg/kg	SW846 8015C EPA 300.0
TD48965-13 SW-1						
TPH-DRO (C10-C28) TPH-ORO (> C28-C40) Chloride	^a ^a	3.27 J 2.13 J 4070	5.9 5.9 580	0.51 1.1	mg/kg mg/kg mg/kg	SW846 8015C SW846 8015C EPA 300.0
TD48965-14 SW-5						
TPH-DRO (C10-C28) Chloride	^a	1.19 J 1190	5.9 120	0.51	mg/kg mg/kg	SW846 8015C EPA 300.0
TD48965-15 SW-6						
TPH-DRO (C10-C28) Chloride	^a	3.84 J 297	5.8 29	0.50	mg/kg mg/kg	SW846 8015C EPA 300.0
TD48965-16 WW						
TPH-DRO (C10-C28) TPH-ORO (> C28-C40) Chloride	^a ^a	4.85 J 1.99 J 767	5.7 5.7 56	0.49 1.0	mg/kg mg/kg mg/kg	SW846 8015C SW846 8015C EPA 300.0
TD48965-17 FL-8						
TPH-DRO (C10-C28) Chloride	^a	3.62 J 47.6	5.7 5.8	0.49	mg/kg mg/kg	SW846 8015C EPA 300.0

Summary of Hits

Job Number: TD48965
Account: Key Energy
Project: ETECH:New Mexico
Collected: 12/12/19

2

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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TD48965-18 **FL-7**

TPH-DRO (C10-C28) ^a	4.83 J	5.7	0.49	mg/kg	SW846 8015C
TPH-ORO (> C28-C40) ^a	1.80 J	5.7	1.1	mg/kg	SW846 8015C
Chloride	1120	58		mg/kg	EPA 300.0

(a) Analysis performed at SGS Scott, LA.



Houston, TX

Section 3



Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Page 1 of 1

31
3

Client Sample ID: FL-1		
Lab Sample ID: TD48965-1		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 85.8
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Y1109900.D	1	12/19/19 12:50	SC	12/18/19 10:20	n/a	VY5254
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.08 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00057	0.00040	mg/kg	
108-88-3	Toluene	ND	0.0046	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0046	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0046	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		59-126%
2037-26-5	Toluene-D8	101%		70-139%
460-00-4	4-Bromofluorobenzene	97%		63-138%
17060-07-0	1,2-Dichloroethane-D4	104%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

31
3

Client Sample ID: FL-1		Date Sampled: 12/12/19
Lab Sample ID: TD48965-1		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 85.8
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356781.D	1	12/26/19 16:21	ALA	n/a	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.70 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	7.0	3.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	99%		63-139%		
540-36-3	1,4-Difluorobenzene	96%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

31
3

Client Sample ID: FL-1		
Lab Sample ID: TD48965-1		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8015C SW846 3546		Percent Solids: 85.8
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002342.D	1	12/21/19 16:49	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1.68	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.7	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	54%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

31
3

Client Sample ID: FL-1	Date Sampled: 12/12/19
Lab Sample ID: TD48965-1	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 85.8
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	273	29	mg/kg	5	12/19/19 23:12	PK	EPA 300.0
Solids, Percent	85.8		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

32
3

Client Sample ID: FL-2		Date Sampled: 12/12/19
Lab Sample ID: TD48965-2		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 83.4
Method: SW846 8260C SW846 5030A		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	R03487753.D	1	12/19/19 14:38	SC	12/18/19 10:20	n/a	VR2353
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.07 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00059	0.00041	mg/kg	
108-88-3	Toluene	ND	0.0047	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0047	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0047	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		59-126%
2037-26-5	Toluene-D8	96%		70-139%
460-00-4	4-Bromofluorobenzene	100%		63-138%
17060-07-0	1,2-Dichloroethane-D4	108%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

32
3

Client Sample ID: FL-2		Date Sampled: 12/12/19
Lab Sample ID: TD48965-2		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 83.4
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356783.D	1	12/26/19 16:44	ALA	n/a	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.20 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.8	3.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	97%		63-139%		
540-36-3	1,4-Difluorobenzene	95%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

32
3

Client Sample ID: FL-2		
Lab Sample ID: TD48965-2		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8015C SW846 3546		Percent Solids: 83.4
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002343.D	1	12/21/19 17:11	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.69	6.0	0.51	mg/kg	J
	TPH-ORO (> C28-C40)	ND	6.0	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	63%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-2	Date Sampled: 12/12/19
Lab Sample ID: TD48965-2	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 83.4
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	129	12	mg/kg	2	12/19/19 17:00	PK	EPA 300.0
Solids, Percent	83.4		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

32
3

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-3		
Lab Sample ID: TD48965-3		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 84.5
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Y1109904.D	1	12/19/19 15:33	SC	12/18/19 10:20	n/a	VY5254
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.03 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00059	0.00041	mg/kg	
108-88-3	Toluene	ND	0.0047	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0047	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0047	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		59-126%
2037-26-5	Toluene-D8	103%		70-139%
460-00-4	4-Bromofluorobenzene	94%		63-138%
17060-07-0	1,2-Dichloroethane-D4	107%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-3		Date Sampled: 12/12/19
Lab Sample ID: TD48965-3		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 84.5
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356785.D	1	12/26/19 17:06	ALA	n/a	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.80 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	7.1	3.5	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	97%		63-139%		
540-36-3	1,4-Difluorobenzene	96%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-3		
Lab Sample ID: TD48965-3		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8015C SW846 3546		Percent Solids: 84.5
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002344.D	1	12/21/19 17:34	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.22	5.8	0.50	mg/kg	J
	TPH-ORO (> C28-C40)	1.13	5.8	1.1	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	55%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-3	Date Sampled: 12/12/19
Lab Sample ID: TD48965-3	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 84.5
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	1850	120	mg/kg	20	12/19/19 17:17	PK	EPA 300.0
Solids, Percent	84.5		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

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Report of Analysis

Page 1 of 1

34
3

Client Sample ID: FL-4		
Lab Sample ID: TD48965-4		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 82.5
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Y1109906.D	1	12/19/19 15:59	SC	12/18/19 10:20	n/a	VY5254
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.09 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00060	0.00042	mg/kg	
108-88-3	Toluene	ND	0.0048	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0048	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0048	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		59-126%
2037-26-5	Toluene-D8	103%		70-139%
460-00-4	4-Bromofluorobenzene	95%		63-138%
17060-07-0	1,2-Dichloroethane-D4	105%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.4
3

Client Sample ID: FL-4		Date Sampled: 12/12/19
Lab Sample ID: TD48965-4		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 82.5
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356787.D	1	12/26/19 17:29	ALA	n/a	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.30 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.8	3.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	97%		63-139%		
540-36-3	1,4-Difluorobenzene	95%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.4
3

Client Sample ID: FL-4		Date Sampled: 12/12/19
Lab Sample ID: TD48965-4		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 82.5
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002345.D	1	12/21/19 17:57	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1.41	6.0	0.52	mg/kg	J
	TPH-ORO (> C28-C40)	ND	6.0	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	47%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

34
3

Client Sample ID: FL-4	Date Sampled: 12/12/19
Lab Sample ID: TD48965-4	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 82.5
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	1700	120	mg/kg	20	12/19/19 17:34	PK	EPA 300.0
Solids, Percent	82.5		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

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Report of Analysis

Page 1 of 1

Client Sample ID: FL-5		
Lab Sample ID: TD48965-5		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 87.4
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Y1109907.D	1	12/19/19 16:26	SC	12/18/19 10:20	n/a	VY5254
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.08 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00056	0.00039	mg/kg	
108-88-3	Toluene	ND	0.0045	0.0010	mg/kg	
100-41-4	Ethylbenzene	ND	0.0045	0.0011	mg/kg	
1330-20-7	Xylene (total)	ND	0.0045	0.0010	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		59-126%
2037-26-5	Toluene-D8	102%		70-139%
460-00-4	4-Bromofluorobenzene	96%		63-138%
17060-07-0	1,2-Dichloroethane-D4	105%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.5
3

Client Sample ID: FL-5		
Lab Sample ID: TD48965-5		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8015C		Percent Solids: 87.4
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356789.D	1	12/26/19 17:52	ALA	n/a	n/a	L:GLA2844
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.6	3.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	98%		63-139%		
540-36-3	1,4-Difluorobenzene	95%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.5
3

Client Sample ID: FL-5		
Lab Sample ID: TD48965-5		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8015C SW846 3546		Percent Solids: 87.4
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002349.D	1	12/21/19 19:27	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1.61	5.6	0.48	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.6	1.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	53%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-5	Date Sampled: 12/12/19
Lab Sample ID: TD48965-5	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 87.4
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	145	11	mg/kg	2	12/19/19 18:25	PK	EPA 300.0
Solids, Percent	87.4		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

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Report of Analysis

Page 1 of 1

Client Sample ID: FL-6		
Lab Sample ID: TD48965-6		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 87.0
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Y1109908.D	1	12/19/19 16:52	SC	12/18/19 10:20	n/a	VY5254
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.04 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00057	0.00040	mg/kg	
108-88-3	Toluene	ND	0.0046	0.0010	mg/kg	
100-41-4	Ethylbenzene	ND	0.0046	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0046	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		59-126%
2037-26-5	Toluene-D8	100%		70-139%
460-00-4	4-Bromofluorobenzene	96%		63-138%
17060-07-0	1,2-Dichloroethane-D4	105%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

3.6
3

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.6
3

Client Sample ID: FL-6		Date Sampled: 12/12/19
Lab Sample ID: TD48965-6		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 87.0
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356791.D	1	12/26/19 18:15	ALA	n/a	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.5	3.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	97%		63-139%		
540-36-3	1,4-Difluorobenzene	94%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.6
3

Client Sample ID: FL-6		
Lab Sample ID: TD48965-6		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8015C SW846 3546		Percent Solids: 87.0
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002350.D	1	12/21/19 19:51	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.28	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.7	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	66%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-6	Date Sampled: 12/12/19
Lab Sample ID: TD48965-6	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 87.0
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	127	11	mg/kg	2	12/19/19 18:41	PK	EPA 300.0
Solids, Percent	87		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

37
3

Client Sample ID: MW-1		
Lab Sample ID: TD48965-7		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 88.5
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Y1109909.D	1	12/19/19 17:18	SC	12/18/19 10:20	n/a	VY5254
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.02 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00056	0.00039	mg/kg	
108-88-3	Toluene	ND	0.0045	0.0010	mg/kg	
100-41-4	Ethylbenzene	ND	0.0045	0.0011	mg/kg	
1330-20-7	Xylene (total)	ND	0.0045	0.0010	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		59-126%
2037-26-5	Toluene-D8	101%		70-139%
460-00-4	4-Bromofluorobenzene	97%		63-138%
17060-07-0	1,2-Dichloroethane-D4	110%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

37
3

Client Sample ID: MW-1		Date Sampled: 12/12/19
Lab Sample ID: TD48965-7		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 88.5
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356793.D	1	12/26/19 18:37	ALA	n/a	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.4	3.1	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	98%		63-139%		
540-36-3	1,4-Difluorobenzene	96%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

37
3

Client Sample ID: MW-1		Date Sampled: 12/12/19
Lab Sample ID: TD48965-7		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 88.5
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002351.D	1	12/21/19 20:13	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.55	5.6	0.49	mg/kg	J
	TPH-ORO (> C28-C40)	1.51	5.6	1.0	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	56%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

37
3

Client Sample ID: MW-1	Date Sampled: 12/12/19
Lab Sample ID: TD48965-7	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 88.5
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	281	28	mg/kg	5	12/19/19 18:58	PK	EPA 300.0
Solids, Percent	88.5		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

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Report of Analysis

Page 1 of 1

Client Sample ID: MW-2		
Lab Sample ID: TD48965-8		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 90.6
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Y1109910.D	1	12/19/19 17:44	SC	12/18/19 10:20	n/a	VY5254
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.01 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00055	0.00039	mg/kg	
108-88-3	Toluene	ND	0.0044	0.0010	mg/kg	
100-41-4	Ethylbenzene	ND	0.0044	0.0011	mg/kg	
1330-20-7	Xylene (total)	ND	0.0044	0.0010	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		59-126%
2037-26-5	Toluene-D8	101%		70-139%
460-00-4	4-Bromofluorobenzene	97%		63-138%
17060-07-0	1,2-Dichloroethane-D4	109%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
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 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: MW-2		Date Sampled: 12/12/19
Lab Sample ID: TD48965-8		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 90.6
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356797.D	1	12/26/19 19:23	ALA	n/a	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.2	3.0	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	99%		63-139%		
540-36-3	1,4-Difluorobenzene	96%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: MW-2		
Lab Sample ID: TD48965-8		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8015C SW846 3546		Percent Solids: 90.6
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002352.D	1	12/21/19 20:34	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.20	5.4	0.47	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.4	1.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	51%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: MW-2	Date Sampled: 12/12/19
Lab Sample ID: TD48965-8	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 90.6
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	169	11	mg/kg	2	12/19/19 19:15	PK	EPA 300.0
Solids, Percent	90.6		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: MW-3		
Lab Sample ID: TD48965-9		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 88.1
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Y1109911.D	1	12/19/19 18:10	SC	12/18/19 10:20	n/a	VY5254
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.03 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00056	0.00039	mg/kg	
108-88-3	Toluene	ND	0.0045	0.0010	mg/kg	
100-41-4	Ethylbenzene	ND	0.0045	0.0011	mg/kg	
1330-20-7	Xylene (total)	ND	0.0045	0.0010	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		59-126%
2037-26-5	Toluene-D8	103%		70-139%
460-00-4	4-Bromofluorobenzene	96%		63-138%
17060-07-0	1,2-Dichloroethane-D4	109%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.9
3

Client Sample ID: MW-3		Date Sampled: 12/12/19
Lab Sample ID: TD48965-9		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 88.1
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356799.D	1	12/26/19 19:46	ALA	n/a	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.80 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.6	3.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	98%		63-139%		
540-36-3	1,4-Difluorobenzene	95%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.9
3

Client Sample ID: MW-3		Date Sampled: 12/12/19
Lab Sample ID: TD48965-9		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 88.1
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002353.D	1	12/21/19 20:56	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	8.99	5.6	0.49	mg/kg	
	TPH-ORO (> C28-C40)	2.74	5.6	1.0	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	48%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: MW-3	Date Sampled: 12/12/19
Lab Sample ID: TD48965-9	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 88.1
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	424	28	mg/kg	5	12/19/19 19:32	PK	EPA 300.0
Solids, Percent	88.1		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.10
3

Client Sample ID: MW-4		
Lab Sample ID: TD48965-10		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 85.7
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Y1109912.D	1	12/19/19 18:36	SC	12/18/19 10:20	n/a	VY5254
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.00 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00058	0.00041	mg/kg	
108-88-3	Toluene	ND	0.0047	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0047	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0047	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		59-126%
2037-26-5	Toluene-D8	101%		70-139%
460-00-4	4-Bromofluorobenzene	97%		63-138%
17060-07-0	1,2-Dichloroethane-D4	107%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.10
3

Client Sample ID: MW-4		Date Sampled: 12/12/19
Lab Sample ID: TD48965-10		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 85.7
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356801.D	1	12/26/19 20:08	ALA	n/a	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.80 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.9	3.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	98%		63-139%		
540-36-3	1,4-Difluorobenzene	95%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.10
3

Client Sample ID: MW-4		Date Sampled: 12/12/19
Lab Sample ID: TD48965-10		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 85.7
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002354.D	1	12/21/19 21:17	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	3.33	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40)	2.05	5.7	1.1	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	54%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

3.10
3

Client Sample ID: MW-4	Date Sampled: 12/12/19
Lab Sample ID: TD48965-10	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 85.7
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	958	120	mg/kg	20	12/19/19 19:49	PK	EPA 300.0
Solids, Percent	85.7		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

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Report of Analysis

Page 1 of 1

3.11
3

Client Sample ID: MW-5		
Lab Sample ID: TD48965-11		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 88.5
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Y1109913.D	1	12/19/19 19:02	SC	12/18/19 10:20	n/a	VY5254
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.03 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00056	0.00039	mg/kg	
108-88-3	Toluene	ND	0.0045	0.0010	mg/kg	
100-41-4	Ethylbenzene	ND	0.0045	0.0011	mg/kg	
1330-20-7	Xylene (total)	ND	0.0045	0.0010	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		59-126%
2037-26-5	Toluene-D8	101%		70-139%
460-00-4	4-Bromofluorobenzene	96%		63-138%
17060-07-0	1,2-Dichloroethane-D4	109%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.11

3

Client Sample ID: MW-5		Date Sampled: 12/12/19
Lab Sample ID: TD48965-11		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 88.5
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356803.D	1	12/26/19 20:31	ALA	n/a	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.4	3.1	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	97%		63-139%		
540-36-3	1,4-Difluorobenzene	94%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
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 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.11
3

Client Sample ID: MW-5		Date Sampled: 12/12/19
Lab Sample ID: TD48965-11		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 88.5
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002355.D	1	12/21/19 21:39	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1.82	5.6	0.48	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.6	1.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	45%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.11
3

Client Sample ID: MW-5	Date Sampled: 12/12/19
Lab Sample ID: TD48965-11	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 88.5
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	22.3	5.6	mg/kg	1	12/19/19 20:06	PK	EPA 300.0
Solids, Percent	88.5		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.12
3

Client Sample ID: MW-6		
Lab Sample ID: TD48965-12		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 87.6
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	Y1109914.D	1	12/19/19 19:28	SC	12/18/19 10:20	n/a	VY5254
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.03 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00057	0.00040	mg/kg	
108-88-3	Toluene	ND	0.0045	0.0010	mg/kg	
100-41-4	Ethylbenzene	ND	0.0045	0.0011	mg/kg	
1330-20-7	Xylene (total)	ND	0.0045	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		59-126%
2037-26-5	Toluene-D8	102%		70-139%
460-00-4	4-Bromofluorobenzene	96%		63-138%
17060-07-0	1,2-Dichloroethane-D4	107%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

3.12
3

Client Sample ID: MW-6		Date Sampled: 12/12/19
Lab Sample ID: TD48965-12		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 87.6
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356805.D	1	12/26/19 20:54	ALA	n/a	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.4	3.1	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	98%		63-139%		
540-36-3	1,4-Difluorobenzene	96%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.12
3

Client Sample ID: MW-6		Date Sampled: 12/12/19
Lab Sample ID: TD48965-12		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 87.6
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002356.D	1	12/21/19 22:00	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.02	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.7	1.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	42%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.12
3

Client Sample ID: MW-6	Date Sampled: 12/12/19
Lab Sample ID: TD48965-12	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 87.6
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	96.1	11	mg/kg	2	12/19/19 20:23	PK	EPA 300.0
Solids, Percent	87.6		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

313
3

Client Sample ID: SW-1		
Lab Sample ID: TD48965-13		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 85.3
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	R03487786.D	1	12/20/19 13:23	SC	12/18/19 10:20	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.00 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00059	0.00041	mg/kg	
108-88-3	Toluene	ND	0.0047	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0047	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0047	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		59-126%
2037-26-5	Toluene-D8	91%		70-139%
460-00-4	4-Bromofluorobenzene	97%		63-138%
17060-07-0	1,2-Dichloroethane-D4	108%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.13
3

Client Sample ID: SW-1		Date Sampled: 12/12/19
Lab Sample ID: TD48965-13		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 85.3
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LE366773.D	1	12/26/19 18:44	ALA	n/a	n/a	L:GLE1951
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.8	3.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	93%		63-139%		
540-36-3	1,4-Difluorobenzene	90%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.13
3

Client Sample ID: SW-1		Date Sampled: 12/12/19
Lab Sample ID: TD48965-13		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 85.3
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002357.D	1	12/21/19 22:22	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	3.27	5.9	0.51	mg/kg	J
	TPH-ORO (> C28-C40)	2.13	5.9	1.1	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	53%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.13
3

Client Sample ID: SW-1	Date Sampled: 12/12/19
Lab Sample ID: TD48965-13	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 85.3
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	4070	580	mg/kg	100	12/19/19 20:40	PK	EPA 300.0
Solids, Percent	85.3		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.14
3

Client Sample ID: SW-5		
Lab Sample ID: TD48965-14		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 84.1
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	R03487787.D	1	12/20/19 13:50	SC	12/18/19 10:20	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.03 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00059	0.00041	mg/kg	
108-88-3	Toluene	ND	0.0047	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0047	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0047	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		59-126%
2037-26-5	Toluene-D8	91%		70-139%
460-00-4	4-Bromofluorobenzene	98%		63-138%
17060-07-0	1,2-Dichloroethane-D4	107%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.14
3

Client Sample ID: SW-5		Date Sampled: 12/12/19
Lab Sample ID: TD48965-14		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 84.1
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LE366774.D	1	12/26/19 19:11	ALA	n/a	n/a	L:GLE1951
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.9	3.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	92%		63-139%		
540-36-3	1,4-Difluorobenzene	91%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.14
3

Client Sample ID: SW-5		
Lab Sample ID: TD48965-14		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8015C SW846 3546		Percent Solids: 84.1
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002358.D	1	12/21/19 22:43	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1.19	5.9	0.51	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.9	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	37%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.14

3

Client Sample ID: SW-5	Date Sampled: 12/12/19
Lab Sample ID: TD48965-14	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 84.1
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	1190	120	mg/kg	20	12/19/19 20:57	PK	EPA 300.0
Solids, Percent	84.1		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.15
3

Client Sample ID: SW-6		
Lab Sample ID: TD48965-15		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 86.0
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	R03487788.D	1	12/20/19 14:17	SC	12/18/19 10:20	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.02 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00058	0.00041	mg/kg	
108-88-3	Toluene	ND	0.0046	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0046	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0046	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		59-126%
2037-26-5	Toluene-D8	91%		70-139%
460-00-4	4-Bromofluorobenzene	98%		63-138%
17060-07-0	1,2-Dichloroethane-D4	109%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.15
3

Client Sample ID: SW-6		Date Sampled: 12/12/19
Lab Sample ID: TD48965-15		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 86.0
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LE366775.D	1	12/26/19 19:39	ALA	n/a	n/a	L:GLE1951
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.6	3.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	92%		63-139%		
540-36-3	1,4-Difluorobenzene	91%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.15
3

Client Sample ID: SW-6		Date Sampled: 12/12/19
Lab Sample ID: TD48965-15		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 86.0
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002362.D	1	12/22/19 00:09	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	3.84	5.8	0.50	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.8	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	54%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.15
3

Client Sample ID: SW-6	Date Sampled: 12/12/19
Lab Sample ID: TD48965-15	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 86.0
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	297	29	mg/kg	5	12/19/19 21:48	PK	EPA 300.0
Solids, Percent	86		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.16
3

Client Sample ID: WW		
Lab Sample ID: TD48965-16		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 88.2
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	R03487789.D	1	12/20/19 14:44	SC	12/18/19 10:20	n/a	VR2354
Run #2							

	Initial Weight	Final Volume
Run #1	5.05 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00056	0.00039	mg/kg	
108-88-3	Toluene	ND	0.0045	0.0010	mg/kg	
100-41-4	Ethylbenzene	ND	0.0045	0.0011	mg/kg	
1330-20-7	Xylene (total)	ND	0.0045	0.0010	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		59-126%
2037-26-5	Toluene-D8	90%		70-139%
460-00-4	4-Bromofluorobenzene	98%		63-138%
17060-07-0	1,2-Dichloroethane-D4	109%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.16
3

Client Sample ID: WW							
Lab Sample ID: TD48965-16					Date Sampled: 12/12/19		
Matrix: SO - Soil					Date Received: 12/17/19		
Method: SW846 8015C					Percent Solids: 88.2		
Project: ETECH:New Mexico							

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LE366776.D	1	12/26/19 20:07	ALA	n/a	n/a	L:GLE1951
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.80 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.6	3.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	92%		63-139%		
540-36-3	1,4-Difluorobenzene	90%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.16
3

Client Sample ID: WW		
Lab Sample ID: TD48965-16		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8015C SW846 3546		Percent Solids: 88.2
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002363.D	1	12/22/19 00:31	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	4.85	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40)	1.99	5.7	1.0	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	53%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.16
3

Client Sample ID: WW	Date Sampled: 12/12/19
Lab Sample ID: TD48965-16	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 88.2
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	767	56	mg/kg	10	12/19/19 22:04	PK	EPA 300.0
Solids, Percent	88.2		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.17
3

Client Sample ID: FL-8		Date Sampled: 12/12/19
Lab Sample ID: TD48965-17		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 86.2
Method: SW846 8260C SW846 5030A		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	R03487790.D	1	12/20/19 15:11	SC	12/18/19 10:20	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.02 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00058	0.00040	mg/kg	
108-88-3	Toluene	ND	0.0046	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0046	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0046	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		59-126%
2037-26-5	Toluene-D8	89%		70-139%
460-00-4	4-Bromofluorobenzene	98%		63-138%
17060-07-0	1,2-Dichloroethane-D4	110%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.17
3

Client Sample ID: FL-8		Date Sampled: 12/12/19
Lab Sample ID: TD48965-17		Date Received: 12/17/19
Matrix: SO - Soil		Percent Solids: 86.2
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LE366777.D	1	12/26/19 20:34	ALA	n/a	n/a	L:GLE1951
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.7	3.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	94%		63-139%		
540-36-3	1,4-Difluorobenzene	92%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.17
3

Client Sample ID: FL-8		
Lab Sample ID: TD48965-17		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8015C SW846 3546		Percent Solids: 86.2
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002364.D	1	12/22/19 00:53	ALA	12/20/19 02:00	L:OP15900	L:GLG913
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	3.62	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.7	1.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	49%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.17
3

Client Sample ID: FL-8	Date Sampled: 12/12/19
Lab Sample ID: TD48965-17	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 86.2
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	47.6	5.8	mg/kg	1	12/19/19 22:21	PK	EPA 300.0
Solids, Percent	86.2		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.18
3

Client Sample ID: FL-7		
Lab Sample ID: TD48965-18		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8260C SW846 5030A		Percent Solids: 85.6
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	R03487791.D	1	12/20/19 15:38	SC	12/18/19 10:20	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.00 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00058	0.00041	mg/kg	
108-88-3	Toluene	ND	0.0047	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0047	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0047	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		59-126%
2037-26-5	Toluene-D8	90%		70-139%
460-00-4	4-Bromofluorobenzene	96%		63-138%
17060-07-0	1,2-Dichloroethane-D4	107%		54-123%

(a) Sample collected in bulk. All results are considered estimated values.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.18
3

Client Sample ID: FL-7							
Lab Sample ID: TD48965-18						Date Sampled: 12/12/19	
Matrix: SO - Soil						Date Received: 12/17/19	
Method: SW846 8015C						Percent Solids: 85.6	
Project: ETECH:New Mexico							

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LE366778.D	1	12/26/19 21:02	ALA	n/a	n/a	L:GLE1951
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.10 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.6	3.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	92%		63-139%		
540-36-3	1,4-Difluorobenzene	90%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.18
3

Client Sample ID: FL-7		
Lab Sample ID: TD48965-18		Date Sampled: 12/12/19
Matrix: SO - Soil		Date Received: 12/17/19
Method: SW846 8015C SW846 3546		Percent Solids: 85.6
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002458.D	1	12/24/19 19:53	ALA	12/23/19 12:00	L:OP15919	L:GLG917
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	4.83	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40)	1.80	5.7	1.1	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	69%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.18
3

Client Sample ID: FL-7	Date Sampled: 12/12/19
Lab Sample ID: TD48965-18	Date Received: 12/17/19
Matrix: SO - Soil	Percent Solids: 85.6
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	1120	58	mg/kg	10	12/19/19 22:55	PK	EPA 300.0
Solids, Percent	85.6		%	1	12/19/19	LC	SM 2540 G

RL = Reporting Limit



Houston, TX

Section 4

4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SGS Sample Receipt Summary

Job Number: TD48965 **Client:** ENTECH **Project:** WHILES CITY RD
Date / Time Received: 12/17/2019 11:55:00 AM **Delv Method:** FEDEX **Airbill #'s:** 493390069707,493390069660
of Coolers: 2 **Therm ID:** IR-3; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (0.6/0.6); #2: (2.3/2.3);

Test Strip Lot #s: **pH 1-12:** _____ **pH 12+:** _____ **Other: (Specify)** _____

Cooler Information

	Y	or	N	N/A
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
3. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information

	Y	or	N	N/A
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Type Of TB Received	W	or	S	N/A
	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Misc. Information

Number of terracores: _____ Number of Lab Filtered Metals: _____
 Number of 5035 Field Kits: _____
 Residual Chlorine Test Strip Lot #: _____

Sample Information

	Y	or	N	N/A
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
6. Dates/Times/IDs on COC match Sample Label	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
7. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
8. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
9. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
11. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
12. Special Instructions (compositing/filtering) clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. Voa Soil Kits/Jars received past 48hrs?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
14. % Solids Jar received?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
15. Residual Chlorine Present?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Comments

4.1
4

TD48965: Chain of Custody

Page 3 of 7

Sample Receipt Log

Job #: TD48965 Date / Time Received: 12/17/2019 11:55:00 AM Initials: BELINDG
 Client: ENTECH

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD48965-1	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-1	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-1	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-1	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-2	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-2	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-2	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-2	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-3	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-3	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-3	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-3	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-4	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-4	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-4	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-4	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-5	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-5	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-5	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-5	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-6	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-6	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-6	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6

4.1
4

TD48965: Chain of Custody

Page 4 of 7

Sample Receipt Log

Job #: TD48965 Date / Time Received: 12/17/2019 11:55:00 AM Initials: BELINDG
 Client: ENTECH

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD48965-6	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-7	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-7	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-7	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-7	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-8	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-8	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-8	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-8	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-9	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-9	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-9	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-9	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-10	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-10	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-10	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-10	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-11	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-11	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-11	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
1	TD48965-11	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	0.6	0	0.6
2	TD48965-12	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-12	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3

4.1
4

TD48965: Chain of Custody

Page 5 of 7

Sample Receipt Log

Job #: TD48965 Date / Time Received: 12/17/2019 11:55:00 AM Initials: BELINDG
 Client: ENTECH

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
2	TD48965-12	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-12	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-13	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-13	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-13	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-13	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-14	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-14	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-14	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-14	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-15	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-15	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-15	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-15	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-16	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-16	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-16	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-16	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-17	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-17	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-17	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-17	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-18	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3

4.1
4

TD48965: Chain of Custody

Page 6 of 7

Sample Receipt Log

Job #: TD48965 Date / Time Received: 12/17/2019 11:55:00 AM Initials: BELINDG
 Client: ENTECH

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
2	TD48965-18	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-18	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3
2	TD48965-18	4oz	4	2-101	N/P	Note #2 - Preservative check not applicable.	IR-3	2.3	0	2.3

4.1
4

TD48965: Chain of Custody

Page 7 of 7



Houston, TX

Section 5

MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD48965
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY5254-MB	Y1109899.D	1	12/19/19	SC	n/a	n/a	VY5254

The QC reported here applies to the following samples:

Method: SW846 8260C

TD48965-1, TD48965-3, TD48965-4, TD48965-5, TD48965-6, TD48965-7, TD48965-8, TD48965-9, TD48965-10, TD48965-11, TD48965-12

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.35	ug/kg	
100-41-4	Ethylbenzene	ND	4.0	1.0	ug/kg	
108-88-3	Toluene	ND	4.0	0.92	ug/kg	
1330-20-7	Xylene (total)	ND	4.0	0.93	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	92%	59-126%
2037-26-5	Toluene-D8	102%	70-139%
460-00-4	4-Bromofluorobenzene	96%	63-138%
17060-07-0	1,2-Dichloroethane-D4	96%	54-123%

5.1.1
5

Method Blank Summary

Job Number: TD48965
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR2353-MB	R03487752.D	1	12/19/19	SC	n/a	n/a	VR2353

The QC reported here applies to the following samples:

Method: SW846 8260C

TD48965-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.35	ug/kg	
100-41-4	Ethylbenzene	ND	4.0	1.0	ug/kg	
108-88-3	Toluene	ND	4.0	0.92	ug/kg	
1330-20-7	Xylene (total)	ND	4.0	0.93	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	110%	59-126%
2037-26-5	Toluene-D8	96%	70-139%
460-00-4	4-Bromofluorobenzene	97%	63-138%
17060-07-0	1,2-Dichloroethane-D4	106%	54-123%

5.1.2
5

Method Blank Summary

Job Number: TD48965
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR2354-MB	R03487781.D	1	12/20/19	SC	n/a	n/a	VR2354

The QC reported here applies to the following samples:

Method: SW846 8260C

TD48965-13, TD48965-14, TD48965-15, TD48965-16, TD48965-17, TD48965-18

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.35	ug/kg	
100-41-4	Ethylbenzene	ND	4.0	1.0	ug/kg	
108-88-3	Toluene	ND	4.0	0.92	ug/kg	
1330-20-7	Xylene (total)	ND	4.0	0.93	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	104%	59-126%
2037-26-5	Toluene-D8	91%	70-139%
460-00-4	4-Bromofluorobenzene	96%	63-138%
17060-07-0	1,2-Dichloroethane-D4	102%	54-123%

5.1.3
5

Blank Spike Summary

Page 1 of 1

Job Number: TD48965
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY5254-BS	Y1109897.D	1	12/19/19	SC	n/a	n/a	VY5254

The QC reported here applies to the following samples:

Method: SW846 8260C

TD48965-1, TD48965-3, TD48965-4, TD48965-5, TD48965-6, TD48965-7, TD48965-8, TD48965-9, TD48965-10, TD48965-11, TD48965-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	33.0	66	58-124
100-41-4	Ethylbenzene	50	35.9	72	57-124
108-88-3	Toluene	50	35.1	70	67-119
1330-20-7	Xylene (total)	150	109	73	62-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	59-126%
2037-26-5	Toluene-D8	98%	70-139%
460-00-4	4-Bromofluorobenzene	101%	63-138%
17060-07-0	1,2-Dichloroethane-D4	100%	54-123%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: TD48965
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR2353-BS	R03487749.D	1	12/19/19	SC	n/a	n/a	VR2353

The QC reported here applies to the following samples:

Method: SW846 8260C

TD48965-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	41.7	83	58-124
100-41-4	Ethylbenzene	50	42.5	85	57-124
108-88-3	Toluene	50	42.3	85	67-119
1330-20-7	Xylene (total)	150	128	85	62-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	115%	59-126%
2037-26-5	Toluene-D8	97%	70-139%
460-00-4	4-Bromofluorobenzene	98%	63-138%
17060-07-0	1,2-Dichloroethane-D4	105%	54-123%

* = Outside of Control Limits.

5.2.2
5

Blank Spike Summary

Job Number: TD48965
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR2354-BS	R03487779.D	1	12/20/19	SC	n/a	n/a	VR2354

The QC reported here applies to the following samples:

Method: SW846 8260C

TD48965-13, TD48965-14, TD48965-15, TD48965-16, TD48965-17, TD48965-18

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	37.4	75	58-124
100-41-4	Ethylbenzene	50	35.5	71	57-124
108-88-3	Toluene	50	35.6	71	67-119
1330-20-7	Xylene (total)	150	108	72	62-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	109%	59-126%
2037-26-5	Toluene-D8	92%	70-139%
460-00-4	4-Bromofluorobenzene	99%	63-138%
17060-07-0	1,2-Dichloroethane-D4	102%	54-123%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: TD48965
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD48965-1MS	Y1109901.D	1	12/19/19	SC	n/a	n/a	VY5254
TD48965-1MSD	Y1109902.D	1	12/19/19	SC	n/a	n/a	VY5254
TD48965-1 ^a	Y1109900.D	1	12/19/19	SC	n/a	n/a	VY5254

The QC reported here applies to the following samples:

Method: SW846 8260C

TD48965-1, TD48965-3, TD48965-4, TD48965-5, TD48965-6, TD48965-7, TD48965-8, TD48965-9, TD48965-10, TD48965-11, TD48965-12

CAS No.	Compound	TD48965-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	57.4	33.2	58	57.7	32.8	57*	1	58-124/26
100-41-4	Ethylbenzene	ND	57.4	34.1	59	57.7	32.4	56*	5	57-124/29
108-88-3	Toluene	ND	57.4	36.4	63*	57.7	34.4	60*	6	67-119/28
1330-20-7	Xylene (total)	ND	172	103	60*	173	96.4	56*	7	62-120/27

CAS No.	Surrogate Recoveries	MS	MSD	TD48965-1	Limits
1868-53-7	Dibromofluoromethane	95%	101%	99%	59-126%
2037-26-5	Toluene-D8	101%	99%	101%	70-139%
460-00-4	4-Bromofluorobenzene	98%	99%	97%	63-138%
17060-07-0	1,2-Dichloroethane-D4	100%	107%	104%	54-123%

(a) Sample collected in bulk. All results are considered estimated values.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: TD48965
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD48974-1MS	R03487755.D	10	12/19/19	SC	n/a	n/a	VR2353
TD48974-1MSD	R03487756.D	10	12/19/19	SC	n/a	n/a	VR2353
TD48974-1 ^a	R03487754.D	10	12/19/19	SC	n/a	n/a	VR2353

The QC reported here applies to the following samples:

Method: SW846 8260C

TD48965-2

CAS No.	Compound	TD48974-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	400 U	39900	33700	84	39900	34400	86	2	58-124/26
100-41-4	Ethylbenzene	3200 U	39900	34300	86	39900	35000	88	2	57-124/29
108-88-3	Toluene	3200 U	39900	34100	85	39900	34600	87	1	67-119/28
1330-20-7	Xylene (total)	3200 U	120000	104000	87	120000	106000	89	2	62-120/27

CAS No.	Surrogate Recoveries	MS	MSD	TD48974-1	Limits
1868-53-7	Dibromofluoromethane	109%	107%	106%	59-126%
2037-26-5	Toluene-D8	96%	95%	95%	70-139%
460-00-4	4-Bromofluorobenzene	100%	99%	97%	63-138%
17060-07-0	1,2-Dichloroethane-D4	101%	100%	101%	54-123%

(a) Sample collected in bulk. All results are considered estimated values.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: TD48965
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD48974-2MS	R03487784.D	200	12/20/19	SC	n/a	n/a	VR2354
TD48974-2MSD	R03487785.D	200	12/20/19	SC	n/a	n/a	VR2354
TD48974-2	R03487782.D	200	12/20/19	SC	n/a	n/a	VR2354

The QC reported here applies to the following samples:

Method: SW846 8260C

TD48965-13, TD48965-14, TD48965-15, TD48965-16, TD48965-17, TD48965-18

CAS No.	Compound	TD48974-2 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	8000 U	801000	671000	84	801000	644000	80	4	58-124/26
100-41-4	Ethylbenzene	64000 U	801000	644000	80	801000	621000	78	4	57-124/29
108-88-3	Toluene	64000 U	801000	640000	80	801000	617000	77	4	67-119/28
1330-20-7	Xylene (total)	64000 U	2400000	1950000	81	2400000	1900000	79	3	62-120/27

CAS No.	Surrogate Recoveries	MS	MSD	TD48974-2	Limits
1868-53-7	Dibromofluoromethane	104%	107%	104%	59-126%
2037-26-5	Toluene-D8	91%	92%	92%	70-139%
460-00-4	4-Bromofluorobenzene	99%	98%	96%	63-138%
17060-07-0	1,2-Dichloroethane-D4	100%	99%	101%	54-123%

* = Outside of Control Limits.



Houston, TX

Section 6

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD48965
Account: KEYENTXH - Key Energy
Project: ETECH:New Mexico

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP56083/GN3291	5.0	0.0	mg/kg	100	93.5	93.5	90-110%

Associated Samples:

Batch GP56083: TD48965-1, TD48965-2, TD48965-3, TD48965-4, TD48965-5, TD48965-6, TD48965-7, TD48965-8, TD48965-9, TD48965-10, TD48965-11, TD48965-12, TD48965-13, TD48965-14, TD48965-15, TD48965-16, TD48965-17, TD48965-18

(*) Outside of QC limits

6.1
6

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD48965
Account: KEYENTXH - Key Energy
Project: ETECH:New Mexico

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP56083/GN3291	TD48965-1	mg/kg	273	270	1.1	0-20%
Solids, Percent	GN3261	TD48965-1	%	85.8	85.5	0.4	0-5%

Associated Samples:

Batch GN3261: TD48965-1, TD48965-2, TD48965-3, TD48965-4, TD48965-5, TD48965-6, TD48965-7, TD48965-8, TD48965-9, TD48965-10, TD48965-11, TD48965-12, TD48965-13, TD48965-14, TD48965-15, TD48965-16, TD48965-17, TD48965-18
 Batch GP56083: TD48965-1, TD48965-2, TD48965-3, TD48965-4, TD48965-5, TD48965-6, TD48965-7, TD48965-8, TD48965-9, TD48965-10, TD48965-11, TD48965-12, TD48965-13, TD48965-14, TD48965-15, TD48965-16, TD48965-17, TD48965-18
 (*) Outside of QC limits

62
6

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD48965
Account: KEYENTXH - Key Energy
Project: ETECH:New Mexico

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP56083/GN3291	TD48965-1	mg/kg	273	116	377	89.8	80-120%

Associated Samples:

Batch GP56083: TD48965-1, TD48965-2, TD48965-3, TD48965-4, TD48965-5, TD48965-6, TD48965-7, TD48965-8, TD48965-9, TD48965-10, TD48965-11, TD48965-12, TD48965-13, TD48965-14, TD48965-15, TD48965-16, TD48965-17, TD48965-18

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

6.3
6



Houston, TX

Section 7

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

7

SGS Sample Receipt Summary

Job Number: TD48965 Client: SGS NORTH AMERICA Project: NEW MEXICO

Date / Time Received: 12/19/2019 7:00:00 AM Delivery Method: Accutest Courier Airbill #'s: _____

Cooler Temps (Initial/Adjusted): #1: (1.8/1.8); #2: (2.4/2.4); DV439

<u>Cooler Security</u>	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. SmpI Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Thermometer ID:	<u>DV439;</u>		
3. Cooler media:	<u>Ice (direct contact)</u>		
4. No. Coolers:	<u>2</u>		

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	<u>Intact</u>		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

TD48965: Chain of Custody

Page 3 of 3

7.1
7



Houston, TX

Section 8

GC Volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary

Page 1 of 1

Job Number: TD48965
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLA2844-MB1	LA356761.D	1	12/26/19	NN	n/a	n/a	GLA2844

The QC reported here applies to the following samples:

Method: SW846 8015C

TD48965-1, TD48965-2, TD48965-3, TD48965-4, TD48965-5, TD48965-6, TD48965-7, TD48965-8, TD48965-9, TD48965-10, TD48965-11, TD48965-12

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	2.75	5.0	2.4	mg/kg	J

CAS No.	Surrogate Recoveries	Limits	
460-00-4	4-Bromofluorobenzene	94%	63-139%
540-36-3	1,4-Difluorobenzene	98%	52-140%

8.1.1

8

Method Blank Summary

Job Number: TD48965
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLE1951-MB1	LE366772.D	1	12/26/19	NN	n/a	n/a	GLE1951

The QC reported here applies to the following samples: Method: SW846 8015C

TD48965-13, TD48965-14, TD48965-15, TD48965-16, TD48965-17, TD48965-18

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	3.78	5.0	2.4	mg/kg	J

CAS No.	Surrogate Recoveries	Limits	
460-00-4	4-Bromofluorobenzene	92%	63-139%
540-36-3	1,4-Difluorobenzene	92%	52-140%

8.1.2
8

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD48965
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLA2844-BS2	LA356807.D	1	12/26/19	NN	n/a	n/a	GLA2844
GLA2844-BSD2	LA356809.D	1	12/26/19	NN	n/a	n/a	GLA2844

The QC reported here applies to the following samples:

Method: SW846 8015C

TD48965-1, TD48965-2, TD48965-3, TD48965-4, TD48965-5, TD48965-6, TD48965-7, TD48965-8, TD48965-9, TD48965-10, TD48965-11, TD48965-12

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	50	46.9	94	46.2	92	2	79-121/6

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	98%	96%	63-139%
540-36-3	1,4-Difluorobenzene	98%	98%	52-140%

8.2.1
8

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD48965
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLE1951-BS1	LE366782.D	1	12/26/19	NN	n/a	n/a	GLE1951
GLE1951-BSD1	LE366783.D	1	12/26/19	NN	n/a	n/a	GLE1951

The QC reported here applies to the following samples: Method: SW846 8015C

TD48965-13, TD48965-14, TD48965-15, TD48965-16, TD48965-17, TD48965-18

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	50	44.5	89	44.2	88	1	79-121/6

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	101%	99%	63-139%
540-36-3	1,4-Difluorobenzene	99%	97%	52-140%

8.2.2
8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD48965
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA60258-19MS	LE366789.D	1	12/27/19	NN	n/a	n/a	GLE1951
LA60258-19MSD	LE366790.D	1	12/27/19	NN	n/a	n/a	GLE1951
LA60258-19	LE366793.D	1	12/27/19	NN	n/a	n/a	GLE1951

The QC reported here applies to the following samples: **Method:** SW846 8015C

TD48965-13, TD48965-14, TD48965-15, TD48965-16, TD48965-17, TD48965-18

CAS No.	Compound	LA60258-19 Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD	
	TPH-GRO (C6-C10)	ND	96.2	83.0	86	96.2	82.4	86	1	79-121/6

CAS No.	Surrogate Recoveries	MS	MSD	LA60258-19 Limits
460-00-4	4-Bromofluorobenzene	103%	102%	91% 63-139%
540-36-3	1,4-Difluorobenzene	99%	98%	92% 52-140%

8.3.1
8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD48965
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

	Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
(a)	TD49110-4MS	LA356949.D	1	12/28/19	NN	n/a	n/a	GLA2844
(a)	TD49110-4MSD	LA356951.D	1	12/28/19	NN	n/a	n/a	GLA2844
	TD49110-4	LA356829.D	1	12/27/19	NN	n/a	n/a	GLA2844

The QC reported here applies to the following samples:

Method: SW846 8015C

TD48965-1, TD48965-2, TD48965-3, TD48965-4, TD48965-5, TD48965-6, TD48965-7, TD48965-8, TD48965-9, TD48965-10, TD48965-11, TD48965-12

CAS No.	Compound	TD49110-4 mg/kg	Spike Q	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	693	587	85	693	600	87	2	79-121/6

CAS No.	Surrogate Recoveries	MS	MSD	TD49110-4	Limits
460-00-4	4-Bromofluorobenzene	98%	99%	97%	63-139%
540-36-3	1,4-Difluorobenzene	100%	99%	95%	52-140%

(a) SAMPLE NOT YET APPROVED BY LAB. DO NOT REPORT.

* = Outside of Control Limits.





Houston, TX

Section 9

GC/LC Semi-volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD48965
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15900-MB	LG002336.D	1	12/21/19	PC	12/20/19	OP15900	GLG913

The QC reported here applies to the following samples:

Method: SW846 8015C

TD48965-1, TD48965-2, TD48965-3, TD48965-4, TD48965-5, TD48965-6, TD48965-7, TD48965-8, TD48965-9, TD48965-10, TD48965-11, TD48965-12, TD48965-13, TD48965-14, TD48965-15, TD48965-16, TD48965-17

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.671	5.0	0.43	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.0	0.92	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	69% 31-127%

9.1.1
9

Method Blank Summary

Page 1 of 1

Job Number: TD48965
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15919-MB	LG002453.D	1	12/24/19	PC	12/23/19	OP15919	GLG917

The QC reported here applies to the following samples:

Method: SW846 8015C

TD48965-18

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	5.0	0.43	mg/kg	
	TPH-ORO (> C28-C40)	ND	5.0	0.92	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	71% 31-127%

9.1.2
9

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD48965
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15900-BS1	LG002337.D	1	12/21/19	PC	12/20/19	OP15900	GLG913
OP15900-BSD1	LG002338.D	1	12/21/19	PC	12/20/19	OP15900	GLG913

The QC reported here applies to the following samples:

Method: SW846 8015C

TD48965-1, TD48965-2, TD48965-3, TD48965-4, TD48965-5, TD48965-6, TD48965-7, TD48965-8, TD48965-9, TD48965-10, TD48965-11, TD48965-12, TD48965-13, TD48965-14, TD48965-15, TD48965-16, TD48965-17

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	149	125	84	144	96	14	49-118/19

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	74%	84%	31-127%

9.2.1

9

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD48965
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15900-BS2	LG002339.D	1	12/21/19	PC	12/20/19	OP15900	GLG913
OP15900-BSD2	LG002340.D	1	12/21/19	PC	12/20/19	OP15900	GLG913

The QC reported here applies to the following samples:

Method: SW846 8015C

TD48965-1, TD48965-2, TD48965-3, TD48965-4, TD48965-5, TD48965-6, TD48965-7, TD48965-8, TD48965-9, TD48965-10, TD48965-11, TD48965-12, TD48965-13, TD48965-14, TD48965-15, TD48965-16, TD48965-17

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-ORO (> C28-C40)	59.4	57.0	96	63.2	106	10	60-127/10

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	68%	72%	31-127%

9.2.2
9

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD48965
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15919-BS1	LG002454.D	1	12/24/19	PC	12/23/19	OP15919	GLG917
OP15919-BSD1	LG002455.D	1	12/24/19	PC	12/23/19	OP15919	GLG917

The QC reported here applies to the following samples:

Method: SW846 8015C

TD48965-18

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	150	125	83	121	81	3	49-118/19

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	74%	72%	31-127%

9.2.3
9

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD48965
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15919-BS2	LG002456.D	1	12/24/19	PC	12/23/19	OP15919	GLG917
OP15919-BSD2	LG002457.D	1	12/24/19	PC	12/23/19	OP15919	GLG917

The QC reported here applies to the following samples:

Method: SW846 8015C

TD48965-18

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-ORO (> C28-C40)	59.1	58.9	100	57.9	97	2	60-127/10

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	72%	71%	31-127%

9.2.4
9

* = Outside of Control Limits.



Houston, TX

01/02/20

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Key Energy

ETECH:New Mexico

Whites City Rd. Incident

SGS Job Number: TD49110

Sampling Date: 12/16/19



Report to:

Key Energy
1301 McKinney Street
Houston, TX 77010
msticker@keyenergy.com; jbest@keyenergy.com

ATTN: Maury Sticker

Total number of pages in report: **77**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

John Watson
Technical Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-19-34) AR (14-016-0) AZ (AZ0769) FL (E87628)
KS (E-10366) LA (85695/04004) NJ (TX010) OK (2018-129) VA (10171)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.



Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Summary of Hits	4
Section 3: Sample Results	6
3.1: TD49110-1: NW-7	7
3.2: TD49110-2: NW-8	11
3.3: TD49110-3: NW-9	15
3.4: TD49110-4: NW-10	19
3.5: TD49110-5: NW-11	23
3.6: TD49110-6: FL-9	27
3.7: TD49110-7: FL-10	31
3.8: TD49110-8: FL-11	35
3.9: TD49110-9: FL-12	39
3.10: TD49110-10: FL-13	43
3.11: TD49110-11: FL-14	47
Section 4: Misc. Forms	51
4.1: Chain of Custody	52
Section 5: MS Volatiles - QC Data Summaries	56
5.1: Method Blank Summary	57
5.2: Blank Spike Summary	58
5.3: Matrix Spike/Matrix Spike Duplicate Summary	59
Section 6: General Chemistry - QC Data Summaries	60
6.1: Method Blank and Spike Results Summary	61
6.2: Duplicate Results Summary	62
6.3: Matrix Spike Results Summary	63
Section 7: Misc. Forms (SGS Scott, LA)	64
7.1: Chain of Custody	65
Section 8: GC Volatiles - QC Data (SGS Scott, LA)	67
8.1: Method Blank Summary	68
8.2: Blank Spike/Blank Spike Duplicate Summary	70
8.3: Matrix Spike/Matrix Spike Duplicate Summary	72
Section 9: GC/LC Semi-volatiles - QC Data (SGS Scott, LA)	74
9.1: Method Blank Summary	75
9.2: Blank Spike/Blank Spike Duplicate Summary	76



SGS North America Inc.

Sample Summary

Key Energy

Job No: TD49110

ETECH:New Mexico
 Project No: Whites City Rd. Incident

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
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This report contains results reported as ND = Not detected. The following applies:
 Organics ND = Not detected above the MDL

TD49110-1	12/16/19	10:00	12/19/19	SO	Soil	NW-7
TD49110-2	12/16/19	10:20	12/19/19	SO	Soil	NW-8
TD49110-3	12/16/19	10:40	12/19/19	SO	Soil	NW-9
TD49110-4	12/16/19	11:00	12/19/19	SO	Soil	NW-10
TD49110-5	12/16/19	11:20	12/19/19	SO	Soil	NW-11
TD49110-6	12/16/19	11:40	12/19/19	SO	Soil	FL-9
TD49110-7	12/16/19	12:00	12/19/19	SO	Soil	FL-10
TD49110-8	12/16/19	12:20	12/19/19	SO	Soil	FL-11
TD49110-9	12/16/19	12:40	12/19/19	SO	Soil	FL-12
TD49110-10	12/16/19	13:00	12/19/19	SO	Soil	FL-13
TD49110-11	12/16/19	13:20	12/19/19	SO	Soil	FL-14

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Page 1 of 2

Job Number: TD49110
Account: Key Energy
Project: ETECH:New Mexico
Collected: 12/16/19

Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method	
TD49110-1	NW-7						
		TPH-GRO (C6-C10) ^a	7.87	6.6	3.2	mg/kg	SW846 8015C
		TPH-DRO (C10-C28) ^a	2.16 J	5.7	0.49	mg/kg	SW846 8015C
		TPH-ORO (> C28-C40) ^a	1.33 J	5.7	1.1	mg/kg	SW846 8015C
		Chloride	502	57		mg/kg	EPA 300.0
TD49110-2	NW-8						
		TPH-GRO (C6-C10) ^a	5.47 J	6.2	3.0	mg/kg	SW846 8015C
		TPH-DRO (C10-C28) ^a	2.48 J	5.4	0.47	mg/kg	SW846 8015C
		Chloride	38.9	11		mg/kg	EPA 300.0
TD49110-3	NW-9						
		TPH-DRO (C10-C28) ^a	2.60 J	5.3	0.46	mg/kg	SW846 8015C
		TPH-ORO (> C28-C40) ^a	2.31 J	5.3	0.98	mg/kg	SW846 8015C
		Chloride	50.1	11		mg/kg	EPA 300.0
TD49110-4	NW-10						
		TPH-DRO (C10-C28) ^a	2.16 J	5.8	0.50	mg/kg	SW846 8015C
		TPH-ORO (> C28-C40) ^a	1.70 J	5.8	1.1	mg/kg	SW846 8015C
		Chloride	55.6	12		mg/kg	EPA 300.0
TD49110-5	NW-11						
		TPH-GRO (C6-C10) ^a	3.33 J	6.8	3.3	mg/kg	SW846 8015C
		TPH-DRO (C10-C28) ^a	1.56 J	5.9	0.51	mg/kg	SW846 8015C
		TPH-ORO (> C28-C40) ^a	1.46 J	5.9	1.1	mg/kg	SW846 8015C
		Chloride	101	12		mg/kg	EPA 300.0
TD49110-6	FL-9						
		TPH-DRO (C10-C28) ^a	0.865 J	5.3	0.45	mg/kg	SW846 8015C
		Chloride	616	52		mg/kg	EPA 300.0
TD49110-7	FL-10						
		TPH-GRO (C6-C10) ^a	4.34 J	6.6	3.2	mg/kg	SW846 8015C
		TPH-DRO (C10-C28) ^a	1.66 J	5.7	0.49	mg/kg	SW846 8015C
		Chloride	165	29		mg/kg	EPA 300.0

Summary of Hits

Page 2 of 2

Job Number: TD49110
Account: Key Energy
Project: ETECH:New Mexico
Collected: 12/16/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD49110-8	FL-11					
TPH-DRO (C10-C28) ^a		1.44 J	5.7	0.49	mg/kg	SW846 8015C
Chloride		192	29		mg/kg	EPA 300.0
TD49110-9	FL-12					
TPH-DRO (C10-C28) ^a		2.49 J	5.9	0.51	mg/kg	SW846 8015C
Chloride		27.7	12		mg/kg	EPA 300.0
TD49110-10	FL-13					
TPH-DRO (C10-C28) ^a		2.09 J	6.4	0.55	mg/kg	SW846 8015C
Chloride		26.8	6.3		mg/kg	EPA 300.0
TD49110-11	FL-14					
TPH-DRO (C10-C28) ^a		1.50 J	5.6	0.48	mg/kg	SW846 8015C
Chloride		29.2	5.6		mg/kg	EPA 300.0

(a) Analysis performed at SGS Scott, LA.



Houston, TX

Section 3



Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: NW-7		
Lab Sample ID: TD49110-1		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8260C SW846 5030A		Percent Solids: 87.4
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487792.D	1	12/20/19 16:05	SC	12/19/19 14:49	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.01 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00057	0.00040	mg/kg	
108-88-3	Toluene	ND	0.0046	0.0010	mg/kg	
100-41-4	Ethylbenzene	ND	0.0046	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0046	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		59-126%
2037-26-5	Toluene-D8	90%		70-139%
460-00-4	4-Bromofluorobenzene	98%		63-138%
17060-07-0	1,2-Dichloroethane-D4	110%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

31
3

SGS North America Inc.

Report of Analysis

Page 1 of 1

31
3

Client Sample ID: NW-7		Date Sampled: 12/16/19
Lab Sample ID: TD49110-1		Date Received: 12/19/19
Matrix: SO - Soil		Percent Solids: 87.4
Method: SW846 8015C SW846 5035		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356823.D	1	12/27/19 00:20	ALA	12/20/19 16:50	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	7.87	6.6	3.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	97%		63-139%		
540-36-3	1,4-Difluorobenzene	97%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

31
3

Client Sample ID: NW-7							
Lab Sample ID: TD49110-1						Date Sampled: 12/16/19	
Matrix: SO - Soil						Date Received: 12/19/19	
Method: SW846 8015C SW846 3546						Percent Solids: 87.4	
Project: ETECH:New Mexico							

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002384.D	1	12/22/19 15:36	ALA	12/21/19 10:00	L:OP15909	L:GLG914
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.16	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40)	1.33	5.7	1.1	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	66%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: NW-7	Date Sampled: 12/16/19
Lab Sample ID: TD49110-1	Date Received: 12/19/19
Matrix: SO - Soil	Percent Solids: 87.4
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	502	57	mg/kg	10	12/20/19 22:01	PK	EPA 300.0
Solids, Percent	87.4		%	1	12/20/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: NW-8		
Lab Sample ID: TD49110-2		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8260C SW846 5030A		Percent Solids: 90.4
Project: ETECH:New Mexico		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487793.D	1	12/20/19 16:33	SC	12/19/19 14:49	n/a	VR2354
Run #2							

Run #1	Initial Weight	Final Volume
Run #1	5.05 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00055	0.00038	mg/kg	
108-88-3	Toluene	ND	0.0044	0.0010	mg/kg	
100-41-4	Ethylbenzene	ND	0.0044	0.0011	mg/kg	
1330-20-7	Xylene (total)	ND	0.0044	0.0010	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		59-126%
2037-26-5	Toluene-D8	90%		70-139%
460-00-4	4-Bromofluorobenzene	98%		63-138%
17060-07-0	1,2-Dichloroethane-D4	112%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

32
3

Client Sample ID: NW-8		
Lab Sample ID: TD49110-2		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8015C SW846 5035		Percent Solids: 90.4
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356825.D	1	12/27/19 00:44	ALA	12/20/19 16:50	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	5.47	6.2	3.0	mg/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	97%		63-139%		
540-36-3	1,4-Difluorobenzene	96%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

32
3

Client Sample ID: NW-8		Date Sampled: 12/16/19
Lab Sample ID: TD49110-2		Date Received: 12/19/19
Matrix: SO - Soil		Percent Solids: 90.4
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002385.D	1	12/22/19 15:58	ALA	12/21/19 10:00	L:OP15909	L:GLG914
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.48	5.4	0.47	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.4	1.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	69%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: NW-8	Date Sampled: 12/16/19
Lab Sample ID: TD49110-2	Date Received: 12/19/19
Matrix: SO - Soil	Percent Solids: 90.4
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	38.9	11	mg/kg	2	12/20/19 22:52	PK	EPA 300.0
Solids, Percent	90.4		%	1	12/20/19	LC	SM 2540 G

RL = Reporting Limit

32
3

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: NW-9		
Lab Sample ID: TD49110-3		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8260C SW846 5030A		Percent Solids: 92.1
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487794.D	1	12/20/19 17:00	SC	12/19/19 14:49	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.02 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00054	0.00038	mg/kg	
108-88-3	Toluene	ND	0.0043	0.00099	mg/kg	
100-41-4	Ethylbenzene	ND	0.0043	0.0011	mg/kg	
1330-20-7	Xylene (total)	ND	0.0043	0.0010	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		59-126%
2037-26-5	Toluene-D8	90%		70-139%
460-00-4	4-Bromofluorobenzene	100%		63-138%
17060-07-0	1,2-Dichloroethane-D4	113%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: NW-9		Date Sampled: 12/16/19
Lab Sample ID: TD49110-3		Date Received: 12/19/19
Matrix: SO - Soil		Percent Solids: 92.1
Method: SW846 8015C SW846 5035		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356827.D	1	12/27/19 01:06	ALA	12/20/19 16:50	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.0	2.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	98%		63-139%		
540-36-3	1,4-Difluorobenzene	96%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: NW-9		Date Sampled: 12/16/19
Lab Sample ID: TD49110-3		Date Received: 12/19/19
Matrix: SO - Soil		Percent Solids: 92.1
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002386.D	1	12/22/19 16:21	ALA	12/21/19 10:00	L:OP15909	L:GLG914
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.60	5.3	0.46	mg/kg	J
	TPH-ORO (> C28-C40)	2.31	5.3	0.98	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	58%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: NW-9	Date Sampled: 12/16/19
Lab Sample ID: TD49110-3	Date Received: 12/19/19
Matrix: SO - Soil	Percent Solids: 92.1
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	50.1	11	mg/kg	2	12/20/19 23:09	PK	EPA 300.0
Solids, Percent	92.1		%	1	12/20/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

34
3

Client Sample ID: NW-10		Date Sampled: 12/16/19
Lab Sample ID: TD49110-4		Date Received: 12/19/19
Matrix: SO - Soil		Percent Solids: 85.6
Method: SW846 8260C SW846 5030A		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487795.D	1	12/20/19 17:27	SC	12/19/19 14:49	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.00 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00058	0.00041	mg/kg	
108-88-3	Toluene	ND	0.0047	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0047	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0047	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		59-126%
2037-26-5	Toluene-D8	89%		70-139%
460-00-4	4-Bromofluorobenzene	97%		63-138%
17060-07-0	1,2-Dichloroethane-D4	110%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.4
3

Client Sample ID: NW-10		Date Sampled: 12/16/19
Lab Sample ID: TD49110-4		Date Received: 12/19/19
Matrix: SO - Soil		Percent Solids: 85.6
Method: SW846 8015C SW846 5035		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356829.D	1	12/27/19 01:29	ALA	12/20/19 16:50	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.80 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.9	3.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	97%		63-139%		
540-36-3	1,4-Difluorobenzene	95%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

3.4
3

Client Sample ID: NW-10		
Lab Sample ID: TD49110-4		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8015C SW846 3546		Percent Solids: 85.6
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002387.D	1	12/22/19 16:43	ALA	12/21/19 10:00	L:OP15909	L:GLG914
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.16	5.8	0.50	mg/kg	J
	TPH-ORO (> C28-C40)	1.70	5.8	1.1	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	59%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

34
3

Client Sample ID: NW-10	Date Sampled: 12/16/19
Lab Sample ID: TD49110-4	Date Received: 12/19/19
Matrix: SO - Soil	Percent Solids: 85.6
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	55.6	12	mg/kg	2	12/20/19 23:25	PK	EPA 300.0
Solids, Percent	85.6		%	1	12/20/19	LC	SM 2540 G

RL = Reporting Limit

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Report of Analysis

Page 1 of 1

Client Sample ID: NW-11		
Lab Sample ID: TD49110-5		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8260C SW846 5030A		Percent Solids: 84.8
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487796.D	1	12/20/19 17:54	SC	12/19/19 14:49	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.04 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00058	0.00041	mg/kg	
108-88-3	Toluene	ND	0.0047	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0047	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0047	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		59-126%
2037-26-5	Toluene-D8	91%		70-139%
460-00-4	4-Bromofluorobenzene	97%		63-138%
17060-07-0	1,2-Dichloroethane-D4	110%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

3.5
3

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.5
3

Client Sample ID: NW-11		
Lab Sample ID: TD49110-5		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8015C SW846 5035		Percent Solids: 84.8
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356831.D	1	12/27/19 01:52	ALA	12/20/19 16:50	n/a	L:GLA2844
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	3.33	6.8	3.3	mg/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	96%		63-139%		
540-36-3	1,4-Difluorobenzene	96%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.5
3

Client Sample ID: NW-11		
Lab Sample ID: TD49110-5		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8015C SW846 3546		Percent Solids: 84.8
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002388.D	1	12/22/19 17:06	ALA	12/21/19 10:00	L:OP15909	L:GLG914
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1.56	5.9	0.51	mg/kg	J
	TPH-ORO (> C28-C40)	1.46	5.9	1.1	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	59%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: NW-11	Date Sampled: 12/16/19
Lab Sample ID: TD49110-5	Date Received: 12/19/19
Matrix: SO - Soil	Percent Solids: 84.8
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	101	12	mg/kg	2	12/20/19 23:42	PK	EPA 300.0
Solids, Percent	84.8		%	1	12/20/19	LC	SM 2540 G

RL = Reporting Limit

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Report of Analysis

Page 1 of 1

3.6
3

Client Sample ID: FL-9		
Lab Sample ID: TD49110-6		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8260C SW846 5030A		Percent Solids: 95.1
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487797.D	1	12/20/19 18:21	SC	12/19/19 14:49	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.10 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00052	0.00036	mg/kg	
108-88-3	Toluene	ND	0.0041	0.00095	mg/kg	
100-41-4	Ethylbenzene	ND	0.0041	0.0010	mg/kg	
1330-20-7	Xylene (total)	ND	0.0041	0.00096	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		59-126%
2037-26-5	Toluene-D8	90%		70-139%
460-00-4	4-Bromofluorobenzene	97%		63-138%
17060-07-0	1,2-Dichloroethane-D4	107%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

Client Sample ID: FL-9		
Lab Sample ID: TD49110-6		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8015C SW846 5035		Percent Solids: 95.1
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356833.D	1	12/27/19 02:14	ALA	12/20/19 16:50	n/a	L:GLA2844
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.6	2.7	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	96%		63-139%		
540-36-3	1,4-Difluorobenzene	95%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-9		
Lab Sample ID: TD49110-6		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8015C SW846 3546		Percent Solids: 95.1
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002392.D	1	12/22/19 18:34	ALA	12/21/19 10:00	L:OP15909	L:GLG914
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.865	5.3	0.45	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.3	0.97	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	53%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

3.6
3

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Report of Analysis

Page 1 of 1

Client Sample ID: FL-9	Date Sampled: 12/16/19
Lab Sample ID: TD49110-6	Date Received: 12/19/19
Matrix: SO - Soil	Percent Solids: 95.1
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	616	52	mg/kg	10	12/20/19 23:59	PK	EPA 300.0
Solids, Percent	95.1		%	1	12/20/19	LC	SM 2540 G

RL = Reporting Limit

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Report of Analysis

Page 1 of 1

37
3

Client Sample ID: FL-10		
Lab Sample ID: TD49110-7		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8260C SW846 5030A		Percent Solids: 85.6
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487798.D	1	12/20/19 18:48	SC	12/19/19 14:49	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.05 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00058	0.00040	mg/kg	
108-88-3	Toluene	ND	0.0046	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0046	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0046	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		59-126%
2037-26-5	Toluene-D8	89%		70-139%
460-00-4	4-Bromofluorobenzene	97%		63-138%
17060-07-0	1,2-Dichloroethane-D4	110%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Page 1 of 1

37
3

Client Sample ID: FL-10							
Lab Sample ID: TD49110-7					Date Sampled: 12/16/19		
Matrix: SO - Soil					Date Received: 12/19/19		
Method: SW846 8015C SW846 5035					Percent Solids: 85.6		
Project: ETECH:New Mexico							

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356849.D	1	12/27/19 05:17	ALA	12/20/19 16:50	n/a	L:GLA2844
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.10 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	4.34	6.6	3.2	mg/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	99%		63-139%		
540-36-3	1,4-Difluorobenzene	94%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

37
3

Client Sample ID: FL-10							
Lab Sample ID: TD49110-7						Date Sampled: 12/16/19	
Matrix: SO - Soil						Date Received: 12/19/19	
Method: SW846 8015C SW846 3546						Percent Solids: 85.6	
Project: ETECH:New Mexico							

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002393.D	1	12/22/19 18:56	ALA	12/21/19 10:00	L:OP15909	L:GLG914
Run #2							

	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1.66	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.7	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	62%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

37
3

Client Sample ID: FL-10	Date Sampled: 12/16/19
Lab Sample ID: TD49110-7	Date Received: 12/19/19
Matrix: SO - Soil	Percent Solids: 85.6
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	165	29	mg/kg	5	12/21/19 00:50	PK	EPA 300.0
Solids, Percent	85.6		%	1	12/20/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-11		
Lab Sample ID: TD49110-8		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8260C SW846 5030A		Percent Solids: 86.7
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487799.D	1	12/20/19 19:15	SC	12/19/19 14:49	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.01 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00058	0.00040	mg/kg	
108-88-3	Toluene	ND	0.0046	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0046	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0046	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		59-126%
2037-26-5	Toluene-D8	90%		70-139%
460-00-4	4-Bromofluorobenzene	98%		63-138%
17060-07-0	1,2-Dichloroethane-D4	108%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-11		
Lab Sample ID: TD49110-8		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8015C SW846 5035		Percent Solids: 86.7
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LE366785.D	1	12/27/19 00:16	ALA	12/20/19 16:50	n/a	L:GLE1951
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.5	3.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	91%		63-139%		
540-36-3	1,4-Difluorobenzene	91%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-11		
Lab Sample ID: TD49110-8		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8015C SW846 3546		Percent Solids: 86.7
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002394.D	1	12/22/19 19:18	ALA	12/21/19 10:00	L:OP15909	L:GLG914
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1.44	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.7	1.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	60%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-11	Date Sampled: 12/16/19
Lab Sample ID: TD49110-8	Date Received: 12/19/19
Matrix: SO - Soil	Percent Solids: 86.7
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	192	29	mg/kg	5	12/21/19 01:07	PK	EPA 300.0
Solids, Percent	86.7		%	1	12/20/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-12		
Lab Sample ID: TD49110-9		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8260C SW846 5030A		Percent Solids: 83.5
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487800.D	1	12/20/19 19:42	SC	12/19/19 14:49	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.05 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00059	0.00042	mg/kg	
108-88-3	Toluene	ND	0.0047	0.0011	mg/kg	
100-41-4	Ethylbenzene	ND	0.0047	0.0012	mg/kg	
1330-20-7	Xylene (total)	ND	0.0047	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		59-126%
2037-26-5	Toluene-D8	90%		70-139%
460-00-4	4-Bromofluorobenzene	98%		63-138%
17060-07-0	1,2-Dichloroethane-D4	108%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-12		
Lab Sample ID: TD49110-9		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8015C SW846 5035		Percent Solids: 83.5
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LE366786.D	1	12/27/19 00:43	ALA	12/20/19 16:50	n/a	L:GLE1951
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	7.1	3.5	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	91%		63-139%		
540-36-3	1,4-Difluorobenzene	92%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

3.9
3

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-12		Date Sampled: 12/16/19
Lab Sample ID: TD49110-9		Date Received: 12/19/19
Matrix: SO - Soil		Percent Solids: 83.5
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002395.D	1	12/22/19 19:39	ALA	12/21/19 10:00	L:OP15909	L:GLG914
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.49	5.9	0.51	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.9	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	64%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

3.9
3

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-12	Date Sampled: 12/16/19
Lab Sample ID: TD49110-9	Date Received: 12/19/19
Matrix: SO - Soil	Percent Solids: 83.5
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	27.7	12	mg/kg	2	12/21/19 01:24	PK	EPA 300.0
Solids, Percent	83.5		%	1	12/20/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.10
3

Client Sample ID: FL-13		
Lab Sample ID: TD49110-10		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8260C SW846 5030A		Percent Solids: 77.8
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487801.D	1	12/20/19 20:10	SC	12/19/19 14:49	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.03 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00064	0.00045	mg/kg	
108-88-3	Toluene	ND	0.0051	0.0012	mg/kg	
100-41-4	Ethylbenzene	ND	0.0051	0.0013	mg/kg	
1330-20-7	Xylene (total)	ND	0.0051	0.0012	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		59-126%
2037-26-5	Toluene-D8	89%		70-139%
460-00-4	4-Bromofluorobenzene	97%		63-138%
17060-07-0	1,2-Dichloroethane-D4	112%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound



SGS North America Inc.

Report of Analysis

Page 1 of 1

3.10
3

Client Sample ID: FL-13							
Lab Sample ID: TD49110-10						Date Sampled: 12/16/19	
Matrix: SO - Soil						Date Received: 12/19/19	
Method: SW846 8015C SW846 5035						Percent Solids: 77.8	
Project: ETECH:New Mexico							

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LE366787.D	1	12/27/19 01:11	ALA	12/20/19 16:50	n/a	L:GLE1951
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.20 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	7.6	3.7	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	92%		63-139%		
540-36-3	1,4-Difluorobenzene	93%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.10
3

Client Sample ID: FL-13		
Lab Sample ID: TD49110-10		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8015C SW846 3546		Percent Solids: 77.8
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002396.D	1	12/22/19 20:01	ALA	12/21/19 10:00	L:OP15909	L:GLG914
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.09	6.4	0.55	mg/kg	J
	TPH-ORO (> C28-C40)	ND	6.4	1.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	63%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.10
3

Client Sample ID: FL-13	Date Sampled: 12/16/19
Lab Sample ID: TD49110-10	Date Received: 12/19/19
Matrix: SO - Soil	Percent Solids: 77.8
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	26.8	6.3	mg/kg	1	12/21/19 01:41	PK	EPA 300.0
Solids, Percent	77.8		%	1	12/20/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.11
3

Client Sample ID: FL-14		
Lab Sample ID: TD49110-11		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8260C SW846 5030A		Percent Solids: 87.8
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487802.D	1	12/20/19 20:37	SC	12/19/19 14:49	n/a	VR2354
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.05 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00056	0.00039	mg/kg	
108-88-3	Toluene	ND	0.0045	0.0010	mg/kg	
100-41-4	Ethylbenzene	ND	0.0045	0.0011	mg/kg	
1330-20-7	Xylene (total)	ND	0.0045	0.0010	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		59-126%
2037-26-5	Toluene-D8	89%		70-139%
460-00-4	4-Bromofluorobenzene	96%		63-138%
17060-07-0	1,2-Dichloroethane-D4	109%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.11
3

Client Sample ID: FL-14		Date Sampled: 12/16/19
Lab Sample ID: TD49110-11		Date Received: 12/19/19
Matrix: SO - Soil		Percent Solids: 87.8
Method: SW846 8015C SW846 5035		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LE366788.D	1	12/27/19 01:39	ALA	12/20/19 16:50	n/a	L:GLE1951
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.80 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.6	3.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	92%		63-139%		
540-36-3	1,4-Difluorobenzene	92%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.11
3

Client Sample ID: FL-14		
Lab Sample ID: TD49110-11		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/19/19
Method: SW846 8015C SW846 3546		Percent Solids: 87.8
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002397.D	1	12/22/19 20:22	ALA	12/21/19 10:00	L:OP15909	L:GLG914
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1.50	5.6	0.48	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.6	1.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	66%		31-127%

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.11

3

Client Sample ID: FL-14	Date Sampled: 12/16/19
Lab Sample ID: TD49110-11	Date Received: 12/19/19
Matrix: SO - Soil	Percent Solids: 87.8
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	29.2	5.6	mg/kg	1	12/21/19 01:58	PK	EPA 300.0
Solids, Percent	87.8		%	1	12/20/19	LC	SM 2540 G

RL = Reporting Limit



Houston, TX

Section 4

4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

10652 TD49110

PAGE 1 OF 1



CHAIN OF CUSTODY

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.acctest.com

FED-EX Tracking # 493340000692
AccuTest Quote #
Bottle Order Control # EB-12419-34
AccuTest Job # Etech 1a14439

Client / Reporting Information, Project Information, Requested Analyses, Matrix Codes, AccuTest Sample #, Field ID / Point of Collection, Date, Time, Sampled By, Matrix, # of bottles, HCl, NiOH, ZANICH, RNO3, H2SO4, NDME, Di Water, MEDH, TSP, NH4SO4, BNCORE, OTHER, Turnaround Time, Approved By, Data Deliverable Information, Comments / Special Instructions, Sample Custody must be documented below each time samples change possession, including courier delivery.

4.1 4



SGS Sample Receipt Summary

Job Number: TD49110 **Client:** ETECH **Project:** WHILES CITY RD INCIDENT
Date / Time Received: 12/19/2019 11:50:00 AM **Delv Method:** FEDEX **Airbill #'s:** 493390069670
of Coolers: 1 **Therm ID:** IR-9; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (2.8/2.8);

Test Strip Lot #s: **pH 1-12:** 10D0391 **pH 12+:** **Other: (Specify)** _____

Cooler Information

	Y	or	N	N/A
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
3. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information

	Y	or	N	N/A
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Type Of TB Received	W	or	S	N/A
	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Misc. Information

Number of terracores: _____ Number of Lab Filtered Metals: _____
 Number of 5035 Field Kits: _____
 Residual Chlorine Test Strip Lot #: _____

Comments

Sample Information

	Y	or	N	N/A
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
6. Dates/Times/IDs on COC match Sample Label	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
7. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
8. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
9. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
11. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
12. Special Instructions (compositing/filtering) clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. Voa Soil Kits/Jars received past 48hrs?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
14. % Solids Jar received?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
15. Residual Chlorine Present?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

4.1
4

TD49110: Chain of Custody

Page 2 of 4

Sample Receipt Log

Job #: TD49110 Date / Time Received: 12/19/2019 11:50:00 AM Initials: MAURICIM
 Client: ETECH

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD49110-1	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-1	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-1	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-1	4oz	4	2-105	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-2	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-2	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-2	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-2	4oz	4	2-105	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-3	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-3	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-3	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-3	4oz	4	2-105	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-4	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-4	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-4	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-4	4oz	4	2-105	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-5	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-5	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-5	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-5	4oz	4	2-105	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-6	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-6	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-6	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8

4.1
4

TD49110: Chain of Custody

Page 3 of 4

Sample Receipt Log

Job #: TD49110 Date / Time Received: 12/19/2019 11:50:00 AM Initials: MAURICIM
 Client: ETECH

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD49110-6	4oz	4	2-105	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-7	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-7	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-7	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-7	4oz	4	2-105	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-8	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-8	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-8	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-8	4oz	4	2-105	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-9	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-9	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-9	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-9	4oz	4	2-105	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-10	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-10	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-10	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-10	4oz	4	2-105	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-11	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-11	4oz	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-11	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8
1	TD49110-11	4oz	4	2-105	N/P	Note #2 - Preservative check not applicable.	IR-9	2.8	0	2.8

4.1
4

TD49110: Chain of Custody

Page 4 of 4



Houston, TX

Section 5

MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: TD49110
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR2354-MB	R03487781.D	1	12/20/19	SC	n/a	n/a	VR2354

The QC reported here applies to the following samples:

Method: SW846 8260C

TD49110-1, TD49110-2, TD49110-3, TD49110-4, TD49110-5, TD49110-6, TD49110-7, TD49110-8, TD49110-9, TD49110-10, TD49110-11

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.35	ug/kg	
100-41-4	Ethylbenzene	ND	4.0	1.0	ug/kg	
108-88-3	Toluene	ND	4.0	0.92	ug/kg	
1330-20-7	Xylene (total)	ND	4.0	0.93	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	104%	59-126%
2037-26-5	Toluene-D8	91%	70-139%
460-00-4	4-Bromofluorobenzene	96%	63-138%
17060-07-0	1,2-Dichloroethane-D4	102%	54-123%

Blank Spike Summary

Job Number: TD49110
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR2354-BS	R03487779.D	1	12/20/19	SC	n/a	n/a	VR2354

The QC reported here applies to the following samples:

Method: SW846 8260C

TD49110-1, TD49110-2, TD49110-3, TD49110-4, TD49110-5, TD49110-6, TD49110-7, TD49110-8, TD49110-9, TD49110-10, TD49110-11

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	37.4	75	58-124
100-41-4	Ethylbenzene	50	35.5	71	57-124
108-88-3	Toluene	50	35.6	71	67-119
1330-20-7	Xylene (total)	150	108	72	62-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	109%	59-126%
2037-26-5	Toluene-D8	92%	70-139%
460-00-4	4-Bromofluorobenzene	99%	63-138%
17060-07-0	1,2-Dichloroethane-D4	102%	54-123%

* = Outside of Control Limits.

5.2.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD49110
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD48974-2MS	R03487784.D	200	12/20/19	SC	n/a	n/a	VR2354
TD48974-2MSD	R03487785.D	200	12/20/19	SC	n/a	n/a	VR2354
TD48974-2	R03487782.D	200	12/20/19	SC	n/a	n/a	VR2354

The QC reported here applies to the following samples:

Method: SW846 8260C

TD49110-1, TD49110-2, TD49110-3, TD49110-4, TD49110-5, TD49110-6, TD49110-7, TD49110-8, TD49110-9, TD49110-10, TD49110-11

CAS No.	Compound	TD48974-2 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	8000 U	801000	671000	84	801000	644000	80	4	58-124/26
100-41-4	Ethylbenzene	64000 U	801000	644000	80	801000	621000	78	4	57-124/29
108-88-3	Toluene	64000 U	801000	640000	80	801000	617000	77	4	67-119/28
1330-20-7	Xylene (total)	64000 U	2400000	1950000	81	2400000	1900000	79	3	62-120/27

CAS No.	Surrogate Recoveries	MS	MSD	TD48974-2	Limits
1868-53-7	Dibromofluoromethane	104%	107%	104%	59-126%
2037-26-5	Toluene-D8	91%	92%	92%	70-139%
460-00-4	4-Bromofluorobenzene	99%	98%	96%	63-138%
17060-07-0	1,2-Dichloroethane-D4	100%	99%	101%	54-123%

* = Outside of Control Limits.

5.3.1
5



Houston, TX

Section 6

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD49110
Account: KEYENTXH - Key Energy
Project: ETECH:New Mexico

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP56112/GN3344	5.0	0.0	mg/kg	100	94.6	94.6	90-110%

Associated Samples:

Batch GP56112: TD49110-1, TD49110-2, TD49110-3, TD49110-4, TD49110-5, TD49110-6, TD49110-7, TD49110-8, TD49110-9, TD49110-10, TD49110-11

(*) Outside of QC limits

6.1
6

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD49110
Account: KEYENTXH - Key Energy
Project: ETECH:New Mexico

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP56112/GN3344	TD49110-1	mg/kg	502	509	1.4	0-20%

Associated Samples:

Batch GN3289: TD49110-1, TD49110-2, TD49110-3, TD49110-4, TD49110-5, TD49110-6, TD49110-7, TD49110-8, TD49110-9, TD49110-10, TD49110-11

Batch GP56112: TD49110-1, TD49110-2, TD49110-3, TD49110-4, TD49110-5, TD49110-6, TD49110-7, TD49110-8, TD49110-9, TD49110-10, TD49110-11

(*) Outside of QC limits

62
6

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD49110
Account: KEYENTXH - Key Energy
Project: ETECH:New Mexico

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP56112/GN3344	TD49110-1	mg/kg	502	1140	620	10.4N	80-120%

Associated Samples:

Batch GP56112: TD49110-1, TD49110-2, TD49110-3, TD49110-4, TD49110-5, TD49110-6, TD49110-7, TD49110-8, TD49110-9, TD49110-10, TD49110-11

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

63
6



Houston, TX

Section 7

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

7

SGS Sample Receipt Summary

Job Number: TD49110 Client: SGS NORTH AMERICA Project: NEW MEXICO

Date / Time Received: 12/20/2019 8:00:00 AM Delivery Method: Accutest Courier Airbill #'s: _____

Cooler Temps (Initial/Adjusted): #1: (1.6/1.6); #1: (1.6/1.6);

<u>Cooler Security</u>	<u>Y or N</u>		<u>Y or N</u>	
1. Custody Seals Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/> <input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y or N</u>	
1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Thermometer ID:	<u>DV439; DV439;</u>	
3. Cooler media:	<u>Ice (direct contact)</u>	
4. No. Coolers:	<u>1</u>	

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	<u>Intact</u>		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

TD49110: Chain of Custody

Page 2 of 2

7.1
7



Houston, TX

Section 8

GC Volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary

Page 1 of 1

Job Number: TD49110
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLA2844-MB1	LA356761.D	1	12/26/19	NN	n/a	n/a	GLA2844

The QC reported here applies to the following samples:

Method: SW846 8015C

TD49110-1, TD49110-2, TD49110-3, TD49110-4, TD49110-5, TD49110-6, TD49110-7

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	2.75	5.0	2.4	mg/kg	J

CAS No.	Surrogate Recoveries	Limits	
460-00-4	4-Bromofluorobenzene	94%	63-139%
540-36-3	1,4-Difluorobenzene	98%	52-140%

8.1.1

8

Method Blank Summary

Page 1 of 1

Job Number: TD49110
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLE1951-MB1	LE366772.D	1	12/26/19	NN	n/a	n/a	GLE1951

The QC reported here applies to the following samples:

Method: SW846 8015C

TD49110-8, TD49110-9, TD49110-10, TD49110-11

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	3.78	5.0	2.4	mg/kg	J

CAS No.	Surrogate Recoveries	Limits	
460-00-4	4-Bromofluorobenzene	92%	63-139%
540-36-3	1,4-Difluorobenzene	92%	52-140%

8.1.2
8

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD49110
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLA2844-BS2	LA356807.D	1	12/26/19	NN	n/a	n/a	GLA2844
GLA2844-BSD2	LA356809.D	1	12/26/19	NN	n/a	n/a	GLA2844

The QC reported here applies to the following samples: **Method:** SW846 8015C

TD49110-1, TD49110-2, TD49110-3, TD49110-4, TD49110-5, TD49110-6, TD49110-7

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	50	46.9	94	46.2	92	2	79-121/6

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	98%	96%	63-139%
540-36-3	1,4-Difluorobenzene	98%	98%	52-140%

8.2.1
8

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD49110
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLE1951-BS1	LE366782.D	1	12/26/19	NN	n/a	n/a	GLE1951
GLE1951-BSD1	LE366783.D	1	12/26/19	NN	n/a	n/a	GLE1951

The QC reported here applies to the following samples:

Method: SW846 8015C

TD49110-8, TD49110-9, TD49110-10, TD49110-11

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	50	44.5	89	44.2	88	1	79-121/6

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	101%	99%	63-139%
540-36-3	1,4-Difluorobenzene	99%	97%	52-140%

8.2.2
8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD49110
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA60258-19MS	LE366789.D	1	12/27/19	NN	n/a	n/a	GLE1951
LA60258-19MSD	LE366790.D	1	12/27/19	NN	n/a	n/a	GLE1951
LA60258-19	LE366793.D	1	12/27/19	NN	n/a	n/a	GLE1951

The QC reported here applies to the following samples:

Method: SW846 8015C

TD49110-8, TD49110-9, TD49110-10, TD49110-11

CAS No.	Compound	LA60258-19 Spike mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD	
	TPH-GRO (C6-C10)	ND		96.2	83.0	86	96.2	82.4	86	1	79-121/6

8.3.1
8

CAS No.	Surrogate Recoveries	MS	MSD	LA60258-19	Limits
460-00-4	4-Bromofluorobenzene	103%	102%	91%	63-139%
540-36-3	1,4-Difluorobenzene	99%	98%	92%	52-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD49110
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

	Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
(a)	TD49110-4MS	LA356949.D	1	12/28/19	NN	n/a	n/a	GLA2844
(a)	TD49110-4MSD	LA356951.D	1	12/28/19	NN	n/a	n/a	GLA2844
	TD49110-4	LA356829.D	1	12/27/19	NN	n/a	n/a	GLA2844

The QC reported here applies to the following samples:

Method: SW846 8015C

TD49110-1, TD49110-2, TD49110-3, TD49110-4, TD49110-5, TD49110-6, TD49110-7

CAS No.	Compound	TD49110-4 mg/kg	Spike Q	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	693	587	85	693	600	87	2	79-121/6

CAS No.	Surrogate Recoveries	MS	MSD	TD49110-4	Limits
460-00-4	4-Bromofluorobenzene	98%	99%	97%	63-139%
540-36-3	1,4-Difluorobenzene	100%	99%	95%	52-140%

(a) SAMPLE NOT YET APPROVED BY LAB. DO NOT REPORT.

* = Outside of Control Limits.



Houston, TX

Section 9

GC/LC Semi-volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD49110
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15909-MB	LG002379.D	1	12/22/19	PC	12/21/19	OP15909	GLG914

The QC reported here applies to the following samples:

Method: SW846 8015C

TD49110-1, TD49110-2, TD49110-3, TD49110-4, TD49110-5, TD49110-6, TD49110-7, TD49110-8, TD49110-9, TD49110-10, TD49110-11

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	5.0	0.43	mg/kg	
	TPH-ORO (> C28-C40)	ND	5.0	0.92	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	66% 31-127%

9.1.1
9

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD49110
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15909-BS1	LG002380.D	1	12/22/19	PC	12/21/19	OP15909	GLG914
OP15909-BSD1	LG002381.D	1	12/22/19	PC	12/21/19	OP15909	GLG914

The QC reported here applies to the following samples: **Method:** SW846 8015C

TD49110-1, TD49110-2, TD49110-3, TD49110-4, TD49110-5, TD49110-6, TD49110-7, TD49110-8, TD49110-9, TD49110-10, TD49110-11

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	149	110	74	117	78	6	49-118/19

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	70%	73%	31-127%

9.2.1
9

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD49110
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15909-BS2	LG002382.D	1	12/22/19	PC	12/21/19	OP15909	GLG914
OP15909-BSD2	LG002383.D	1	12/22/19	PC	12/21/19	OP15909	GLG914

The QC reported here applies to the following samples: **Method:** SW846 8015C

TD49110-1, TD49110-2, TD49110-3, TD49110-4, TD49110-5, TD49110-6, TD49110-7, TD49110-8, TD49110-9, TD49110-10, TD49110-11

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-ORO (> C28-C40)	59.7	53.2	89	56.2	94	5	60-127/10

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	69%	73%	31-127%

9.2.2
9

* = Outside of Control Limits.



Houston, TX

01/02/20

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Key Energy

ETECH:New Mexico

Whites City Rd.

SGS Job Number: TD49314

Sampling Dates: 12/16/19 - 12/17/19



Report to:

Key Energy
1301 McKinney Street
Houston, TX 77010
msticker@keyenergy.com; jbest@keyenergy.com

ATTN: Maury Sticker

Total number of pages in report: **92**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

John Watson
Technical Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-19-34) AR (14-016-0) AZ (AZ0769) FL (E87628)
KS (E-10366) LA (85695/04004) NJ (TX010) OK (2018-129) VA (10171)

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Test results relate only to samples analyzed.





Table of Contents

-1-

Section 1: Sample Summary	4
Section 2: Summary of Hits	7
Section 3: Sample Results	10
3.1: TD49314-1: FL-16	11
3.2: TD49314-1A: FL-16	13
3.3: TD49314-2: FL-17	15
3.4: TD49314-2A: FL-17	17
3.5: TD49314-3: SW-2	19
3.6: TD49314-3A: SW-2	21
3.7: TD49314-4: SW-3	23
3.8: TD49314-4A: SW-3	25
3.9: TD49314-5: SW-7	27
3.10: TD49314-5A: SW-7	29
3.11: TD49314-6: SW-4	31
3.12: TD49314-6A: SW-4	33
3.13: TD49314-7: SW-10	35
3.14: TD49314-7A: SW-10	37
3.15: TD49314-8: SW-9	39
3.16: TD49314-8A: SW-9	41
3.17: TD49314-9: SW-8	43
3.18: TD49314-9A: SW-8	45
3.19: TD49314-10: FL-18	47
3.20: TD49314-10A: FL-18	49
3.21: TD49314-11: FL-19	51
3.22: TD49314-11A: FL-19	53
3.23: TD49314-12: EW	55
3.24: TD49314-12A: EW	57
3.25: TD49314-13: FL-15	59
3.26: TD49314-13A: FL-15	61
Section 4: Misc. Forms	63
4.1: Chain of Custody	64
Section 5: MS Volatiles - QC Data Summaries	70
5.1: Method Blank Summary	71
5.2: Blank Spike/Blank Spike Duplicate Summary	72
Section 6: General Chemistry - QC Data Summaries	73
6.1: Method Blank and Spike Results Summary	74
6.2: Duplicate Results Summary	75
6.3: Matrix Spike Results Summary	76
Section 7: Misc. Forms (SGS Scott, LA)	77
7.1: Chain of Custody	78
Section 8: GC Volatiles - QC Data (SGS Scott, LA)	82
8.1: Method Blank Summary	83

Table of Contents

Sections:



-2-

8.2: Blank Spike/Blank Spike Duplicate Summary	85
8.3: Matrix Spike/Matrix Spike Duplicate Summary	87
Section 9: GC/LC Semi-volatiles - QC Data (SGS Scott, LA)	89
9.1: Method Blank Summary	90
9.2: Blank Spike/Blank Spike Duplicate Summary	91

SGS North America Inc.

Sample Summary

Key Energy

Job No: TD49314

ETECH:New Mexico
Project No: Whites City Rd.

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
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This report contains results reported as ND = Not detected. The following applies:

Organics ND = Not detected above the MDL

TD49314-1	12/16/19	02:20	12/24/19	SO	Soil	FL-16
TD49314-1A	12/16/19	02:20	12/24/19	SO	Soil	FL-16
TD49314-2	12/16/19	02:30	12/24/19	SO	Soil	FL-17
TD49314-2A	12/16/19	02:30	12/24/19	SO	Soil	FL-17
TD49314-3	12/17/19	10:00	12/24/19	SO	Soil	SW-2
TD49314-3A	12/17/19	10:00	12/24/19	SO	Soil	SW-2
TD49314-4	12/17/19	10:15	12/24/19	SO	Soil	SW-3
TD49314-4A	12/17/19	10:15	12/24/19	SO	Soil	SW-3
TD49314-5	12/17/19	10:45	12/24/19	SO	Soil	SW-7
TD49314-5A	12/17/19	10:45	12/24/19	SO	Soil	SW-7
TD49314-6	12/17/19	11:15	12/24/19	SO	Soil	SW-4
TD49314-6A	12/17/19	11:15	12/24/19	SO	Soil	SW-4

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SGS North America Inc.

Sample Summary

(continued)

Key Energy

Job No: TD49314ETECH:New Mexico
Project No: Whites City Rd.

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
TD49314-7	12/17/19	11:30	12/24/19	SO	Soil	SW-10
TD49314-7A	12/17/19	11:30	12/24/19	SO	Soil	SW-10
TD49314-8	12/17/19	10:30	12/24/19	SO	Soil	SW-9
TD49314-8A	12/17/19	10:30	12/24/19	SO	Soil	SW-9
TD49314-9	12/17/19	11:00	12/24/19	SO	Soil	SW-8
TD49314-9A	12/17/19	11:00	12/24/19	SO	Soil	SW-8
TD49314-10	12/17/19	11:45	12/24/19	SO	Soil	FL-18
TD49314-10A	12/17/19	11:45	12/24/19	SO	Soil	FL-18
TD49314-11	12/17/19	12:00	12/24/19	SO	Soil	FL-19
TD49314-11A	12/17/19	12:00	12/24/19	SO	Soil	FL-19
TD49314-12	12/17/19	12:30	12/24/19	SO	Soil	EW
TD49314-12A	12/17/19	12:30	12/24/19	SO	Soil	EW
TD49314-13	12/16/19	13:40	12/24/19	SO	Soil	FL-15

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



SGS North America Inc.

Sample Summary (continued)

Key Energy

Job No: TD49314

ETECH:New Mexico
Project No: Whites City Rd.

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
TD49314-13A	12/16/19	13:40	12/24/19	SO	Soil	FL-15

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Page 1 of 3

Job Number: TD49314
Account: Key Energy
Project: ETECH:New Mexico
Collected: 12/16/19 thru 12/17/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD49314-1	FL-16					
Chloride		299	58		mg/kg	EPA 300.0
TD49314-1A	FL-16					
TPH-DRO (C10-C28) ^a		0.979 J	5.7	0.50	mg/kg	SW846 8015C
TD49314-2	FL-17					
Chloride		374	57		mg/kg	EPA 300.0
TD49314-2A	FL-17					
TPH-DRO (C10-C28) ^a		1.18 J	5.8	0.50	mg/kg	SW846 8015C
TD49314-3	SW-2					
Chloride		18.8	11		mg/kg	EPA 300.0
TD49314-3A	SW-2					
TPH-DRO (C10-C28) ^a		1.16 J	5.7	0.50	mg/kg	SW846 8015C
TD49314-4	SW-3					
Chloride		13.6	13		mg/kg	EPA 300.0
TD49314-4A	SW-3					
TPH-DRO (C10-C28) ^a		2.61 J	6.5	0.56	mg/kg	SW846 8015C
TPH-ORO (> C28-C40) ^b		9.92	6.5	1.2	mg/kg	SW846 8015C
TD49314-5	SW-7					
Chloride		47.3	11		mg/kg	EPA 300.0
TD49314-5A	SW-7					
TPH-DRO (C10-C28) ^a		1.78 J	5.7	0.49	mg/kg	SW846 8015C
TD49314-6	SW-4					
Chloride		23.1	11		mg/kg	EPA 300.0

Summary of Hits

Page 2 of 3

Job Number: TD49314
Account: Key Energy
Project: ETECH:New Mexico
Collected: 12/16/19 thru 12/17/19

Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method	
TD49314-6A	SW-4						
		TPH-DRO (C10-C28) ^a	1.08 J	5.8	0.50	mg/kg	SW846 8015C
TD49314-7	SW-10						
		Chloride	14.7	13		mg/kg	EPA 300.0
TD49314-7A	SW-10						
		TPH-GRO (C6-C10) ^b	6.10 J	8.5	4.2	mg/kg	SW846 8015C
		TPH-DRO (C10-C28) ^a	1.11 J	6.5	0.56	mg/kg	SW846 8015C
TD49314-8	SW-9						
		Chloride	18.6	11		mg/kg	EPA 300.0
TD49314-8A	SW-9						
		TPH-DRO (C10-C28) ^a	1.66 J	5.6	0.48	mg/kg	SW846 8015C
TD49314-9	SW-8						
		Chloride	564	68		mg/kg	EPA 300.0
TD49314-9A	SW-8						
		TPH-DRO (C10-C28) ^a	1.22 J	6.8	0.58	mg/kg	SW846 8015C
TD49314-10	FL-18						
		Chloride	298	57		mg/kg	EPA 300.0
TD49314-10A	FL-18						
		TPH-DRO (C10-C28) ^a	1.21 J	5.7	0.49	mg/kg	SW846 8015C
TD49314-11	FL-19						
		Chloride	156	28		mg/kg	EPA 300.0
TD49314-11A	FL-19						
		TPH-DRO (C10-C28) ^a	1.40 J	5.7	0.49	mg/kg	SW846 8015C

Summary of Hits

Job Number: TD49314
Account: Key Energy
Project: ETECH:New Mexico
Collected: 12/16/19 thru 12/17/19

2

Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
TD49314-12	EW					
		Chloride	38.8	12	mg/kg	EPA 300.0
TD49314-12A	EW					
		TPH-DRO (C10-C28) ^a	3.58 J	5.9	0.51	mg/kg SW846 8015C
TD49314-13	FL-15					
		Chloride	170	28	mg/kg	EPA 300.0
TD49314-13A	FL-15					
		TPH-DRO (C10-C28) ^a	2.21 J	5.7	0.49	mg/kg SW846 8015C
		TPH-ORO (> C28-C40) ^a	1.11 J	5.7	1.1	mg/kg SW846 8015C

(a) Analysis performed at SGS Scott, LA. Associated CCV outside of control limits high.

(b) Analysis performed at SGS Scott, LA.



Houston, TX

Section 3



Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Page 1 of 1

31
3

Client Sample ID: FL-16		Date Sampled: 12/16/19
Lab Sample ID: TD49314-1		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 85.7
Method: SW846 8260C SW846 5030A		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487837.D	5	12/24/19 15:46	ZQ	12/24/19 14:25	n/a	VR2356
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.01 g	100 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0029	0.0020	mg/kg	
108-88-3	Toluene	ND	0.023	0.0053	mg/kg	
100-41-4	Ethylbenzene	ND	0.023	0.0059	mg/kg	
1330-20-7	Xylene (total)	ND	0.023	0.0054	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		59-126%
2037-26-5	Toluene-D8	90%		70-139%
460-00-4	4-Bromofluorobenzene	93%		63-138%
17060-07-0	1,2-Dichloroethane-D4	95%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-16	Date Sampled: 12/16/19
Lab Sample ID: TD49314-1	Date Received: 12/24/19
Matrix: SO - Soil	Percent Solids: 85.7
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	299	58	mg/kg	10	12/26/19 23:34	PK	EPA 300.0
Solids, Percent	85.7		%	1	12/26/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

32
3

Client Sample ID: FL-16		Date Sampled: 12/16/19
Lab Sample ID: TD49314-1A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 85.7
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356963.D	1	12/28/19 03:10	ALA	n/a	n/a	L:GLA2846
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.10 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.6	3.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	96%		63-139%		
540-36-3	1,4-Difluorobenzene	94%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

32
3

Client Sample ID: FL-16		
Lab Sample ID: TD49314-1A		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/24/19
Method: SW846 8015C SW846 3546		Percent Solids: 85.7
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002601.D	1	12/31/19 06:20	ALA	12/30/19 09:30	L:OP15957	L:GLG920
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28) ^b	0.979	5.7	0.50	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.7	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	73%		31-127%

(a) Analysis performed at SGS Scott, LA.

(b) Associated CCV outside of control limits high.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-17		
Lab Sample ID: TD49314-2		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/24/19
Method: SW846 8260C SW846 5030A		Percent Solids: 86.1
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487838.D	5	12/24/19 16:13	ZQ	12/24/19 14:25	n/a	VR2356
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.02 g	100 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0029	0.0020	mg/kg	
108-88-3	Toluene	ND	0.023	0.0053	mg/kg	
100-41-4	Ethylbenzene	ND	0.023	0.0058	mg/kg	
1330-20-7	Xylene (total)	ND	0.023	0.0054	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		59-126%
2037-26-5	Toluene-D8	89%		70-139%
460-00-4	4-Bromofluorobenzene	94%		63-138%
17060-07-0	1,2-Dichloroethane-D4	98%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-17	Date Sampled: 12/16/19
Lab Sample ID: TD49314-2	Date Received: 12/24/19
Matrix: SO - Soil	Percent Solids: 86.1
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	374	57	mg/kg	10	12/27/19 00:24	PK	EPA 300.0
Solids, Percent	86.1		%	1	12/26/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.4
3

Client Sample ID: FL-17		Date Sampled: 12/16/19
Lab Sample ID: TD49314-2A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 86.1
Method: SW846 8015C		
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356965.D	1	12/28/19 03:33	ALA	n/a	n/a	L:GLA2846
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.7	3.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	98%		63-139%		
540-36-3	1,4-Difluorobenzene	95%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.4
3

Client Sample ID: FL-17		Date Sampled: 12/16/19
Lab Sample ID: TD49314-2A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 86.1
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002602.D	1	12/31/19 06:41	ALA	12/30/19 09:30	L:OP15957	L:GLG920
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28) ^b	1.18	5.8	0.50	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.8	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	55%		31-127%

(a) Analysis performed at SGS Scott, LA.

(b) Associated CCV outside of control limits high.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: SW-2		Date Sampled: 12/17/19
Lab Sample ID: TD49314-3		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 87.1
Method: SW846 8260C SW846 5030A		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487839.D	5	12/24/19 16:40	ZQ	12/24/19 14:25	n/a	VR2356
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.05 g	100 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0028	0.0020	mg/kg	
108-88-3	Toluene	ND	0.023	0.0052	mg/kg	
100-41-4	Ethylbenzene	ND	0.023	0.0057	mg/kg	
1330-20-7	Xylene (total)	ND	0.023	0.0053	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		59-126%
2037-26-5	Toluene-D8	90%		70-139%
460-00-4	4-Bromofluorobenzene	94%		63-138%
17060-07-0	1,2-Dichloroethane-D4	97%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

3.5
3

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: SW-2	Date Sampled: 12/17/19
Lab Sample ID: TD49314-3	Date Received: 12/24/19
Matrix: SO - Soil	Percent Solids: 87.1
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	18.8	11	mg/kg	2	12/27/19 00:41	PK	EPA 300.0
Solids, Percent	87.1		%	1	12/26/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.6
3

Client Sample ID: SW-2		Date Sampled: 12/17/19
Lab Sample ID: TD49314-3A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 87.1
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356969.D	1	12/28/19 04:19	ALA	n/a	n/a	L:GLA2846
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.6	3.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	98%		63-139%		
540-36-3	1,4-Difluorobenzene	100%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.6
3

Client Sample ID: SW-2		Date Sampled: 12/17/19
Lab Sample ID: TD49314-3A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 87.1
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002603.D	1	12/31/19 07:02	ALA	12/30/19 09:30	L:OP15957	L:GLG920
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28) ^b	1.16	5.7	0.50	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.7	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	72%		31-127%

- (a) Analysis performed at SGS Scott, LA.
- (b) Associated CCV outside of control limits high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

37
3

Client Sample ID: SW-3		
Lab Sample ID: TD49314-4		Date Sampled: 12/17/19
Matrix: SO - Soil		Date Received: 12/24/19
Method: SW846 8260C SW846 5030A		Percent Solids: 74.9
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487840.D	5	12/24/19 17:08	ZQ	12/24/19 14:25	n/a	VR2356
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.09 g	100 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0033	0.0023	mg/kg	
108-88-3	Toluene	ND	0.026	0.0060	mg/kg	
100-41-4	Ethylbenzene	ND	0.026	0.0066	mg/kg	
1330-20-7	Xylene (total)	ND	0.026	0.0061	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		59-126%
2037-26-5	Toluene-D8	89%		70-139%
460-00-4	4-Bromofluorobenzene	93%		63-138%
17060-07-0	1,2-Dichloroethane-D4	95%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound



SGS North America Inc.

Report of Analysis

Page 1 of 1

37
3

Client Sample ID: SW-3	Date Sampled: 12/17/19
Lab Sample ID: TD49314-4	Date Received: 12/24/19
Matrix: SO - Soil	Percent Solids: 74.9
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	13.6	13	mg/kg	2	12/27/19 00:58	PK	EPA 300.0
Solids, Percent	74.9		%	1	12/26/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: SW-3		Date Sampled: 12/17/19
Lab Sample ID: TD49314-4A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 74.9
Method: SW846 8015C		
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356971.D	1	12/28/19 04:41	ALA	n/a	n/a	L:GLA2846
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.10 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	8.2	4.0	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	98%		63-139%		
540-36-3	1,4-Difluorobenzene	95%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: SW-3		Date Sampled: 12/17/19
Lab Sample ID: TD49314-4A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 74.9
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002604.D	1	12/31/19 07:23	ALA	12/30/19 09:30	L:OP15957	L:GLG920
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28) ^b	2.61	6.5	0.56	mg/kg	J
	TPH-ORO (> C28-C40)	9.92	6.5	1.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	57%		31-127%

(a) Analysis performed at SGS Scott, LA.

(b) Associated CCV outside of control limits high.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: SW-7		
Lab Sample ID: TD49314-5		Date Sampled: 12/17/19
Matrix: SO - Soil		Date Received: 12/24/19
Method: SW846 8260C SW846 5030A		Percent Solids: 86.7
Project: ETECH:New Mexico		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487841.D	5	12/24/19 17:35	ZQ	12/24/19 14:25	n/a	VR2356
Run #2							

Run #1	Initial Weight	Final Volume
Run #1	5.06 g	100 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0028	0.0020	mg/kg	
108-88-3	Toluene	ND	0.023	0.0052	mg/kg	
100-41-4	Ethylbenzene	ND	0.023	0.0058	mg/kg	
1330-20-7	Xylene (total)	ND	0.023	0.0053	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		59-126%
2037-26-5	Toluene-D8	89%		70-139%
460-00-4	4-Bromofluorobenzene	96%		63-138%
17060-07-0	1,2-Dichloroethane-D4	96%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: SW-7	Date Sampled: 12/17/19
Lab Sample ID: TD49314-5	Date Received: 12/24/19
Matrix: SO - Soil	Percent Solids: 86.7
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	47.3	11	mg/kg	2	12/27/19 01:49	PK	EPA 300.0
Solids, Percent	86.7		%	1	12/26/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.10
3

Client Sample ID: SW-7		Date Sampled: 12/17/19
Lab Sample ID: TD49314-5A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 86.7
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356973.D	1	12/28/19 05:05	ALA	n/a	n/a	L:GLA2846
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.10 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.4	3.1	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	97%		63-139%		
540-36-3	1,4-Difluorobenzene	96%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.10
3

Client Sample ID: SW-7		Date Sampled: 12/17/19
Lab Sample ID: TD49314-5A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 86.7
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002605.D	1	12/31/19 07:44	ALA	12/30/19 09:30	L:OP15957	L:GLG920
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28) ^b	1.78	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40)	ND	5.7	1.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	65%		31-127%

- (a) Analysis performed at SGS Scott, LA.
- (b) Associated CCV outside of control limits high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.11
3

Client Sample ID: SW-4		Date Sampled: 12/17/19
Lab Sample ID: TD49314-6		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 85.8
Method: SW846 8260C SW846 5030A		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487842.D	5	12/24/19 18:02	ZQ	12/24/19 14:25	n/a	VR2356
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.08 g	100 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0029	0.0020	mg/kg	
108-88-3	Toluene	ND	0.023	0.0053	mg/kg	
100-41-4	Ethylbenzene	ND	0.023	0.0058	mg/kg	
1330-20-7	Xylene (total)	ND	0.023	0.0053	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		59-126%
2037-26-5	Toluene-D8	89%		70-139%
460-00-4	4-Bromofluorobenzene	93%		63-138%
17060-07-0	1,2-Dichloroethane-D4	95%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.11

3

Client Sample ID: SW-4	Date Sampled: 12/17/19
Lab Sample ID: TD49314-6	Date Received: 12/24/19
Matrix: SO - Soil	Percent Solids: 85.8
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	23.1	11	mg/kg	2	12/27/19 02:06	PK	EPA 300.0
Solids, Percent	85.8		%	1	12/26/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.12
3

Client Sample ID: SW-4		Date Sampled: 12/17/19
Lab Sample ID: TD49314-6A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 85.8
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356975.D	1	12/28/19 05:27	ALA	n/a	n/a	L:GLA2846
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.7	3.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	96%		63-139%		
540-36-3	1,4-Difluorobenzene	99%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.12
3

Client Sample ID: SW-4		Date Sampled: 12/17/19
Lab Sample ID: TD49314-6A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 85.8
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002609.D	1	12/31/19 09:08	ALA	12/30/19 09:30	L:OP15957	L:GLG920
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28) ^b	1.08	5.8	0.50	mg/kg	J
	TPH-ORO (> C28-C40) ^c	ND	5.8	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	71%		31-127%

- (a) Analysis performed at SGS Scott, LA.
- (b) Associated CCV outside of control limits high.
- (c) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

313
3

Client Sample ID: SW-10		Date Sampled: 12/17/19
Lab Sample ID: TD49314-7		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 74.8
Method: SW846 8260C SW846 5030A		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487843.D	5	12/24/19 18:29	ZQ	12/24/19 14:25	n/a	VR2356
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.07 g	100 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0033	0.0023	mg/kg	
108-88-3	Toluene	ND	0.026	0.0061	mg/kg	
100-41-4	Ethylbenzene	ND	0.026	0.0067	mg/kg	
1330-20-7	Xylene (total)	ND	0.026	0.0061	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		59-126%
2037-26-5	Toluene-D8	89%		70-139%
460-00-4	4-Bromofluorobenzene	93%		63-138%
17060-07-0	1,2-Dichloroethane-D4	99%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.13
3

Client Sample ID: SW-10	Date Sampled: 12/17/19
Lab Sample ID: TD49314-7	Date Received: 12/24/19
Matrix: SO - Soil	Percent Solids: 74.8
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	14.7	13	mg/kg	2	12/27/19 02:23	PK	EPA 300.0
Solids, Percent	74.8		%	1	12/26/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.14
3

Client Sample ID: SW-10		Date Sampled: 12/17/19
Lab Sample ID: TD49314-7A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 74.8
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LC081074.D	1	12/27/19 12:42	ALA	n/a	n/a	L:GLC2577
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	6.10	8.5	4.2	mg/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	99%		63-139%		
540-36-3	1,4-Difluorobenzene	102%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.14
3

Client Sample ID: SW-10		Date Sampled: 12/17/19
Lab Sample ID: TD49314-7A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 74.8
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002610.D	1	12/31/19 09:29	ALA	12/30/19 09:30	L:OP15957	L:GLG920
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28) ^b	1.11	6.5	0.56	mg/kg	J
	TPH-ORO (> C28-C40) ^c	ND	6.5	1.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	71%		31-127%

- (a) Analysis performed at SGS Scott, LA.
- (b) Associated CCV outside of control limits high.
- (c) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.15
3

Client Sample ID: SW-9		
Lab Sample ID: TD49314-8		Date Sampled: 12/17/19
Matrix: SO - Soil		Date Received: 12/24/19
Method: SW846 8260C SW846 5030A		Percent Solids: 87.3
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487844.D	5	12/24/19 18:56	ZQ	12/24/19 14:25	n/a	VR2356
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.04 g	100 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0028	0.0020	mg/kg	
108-88-3	Toluene	ND	0.023	0.0052	mg/kg	
100-41-4	Ethylbenzene	ND	0.023	0.0057	mg/kg	
1330-20-7	Xylene (total)	ND	0.023	0.0053	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		59-126%
2037-26-5	Toluene-D8	90%		70-139%
460-00-4	4-Bromofluorobenzene	95%		63-138%
17060-07-0	1,2-Dichloroethane-D4	98%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound



SGS North America Inc.

Report of Analysis

Page 1 of 1

3.15
3

Client Sample ID: SW-9	Date Sampled: 12/17/19
Lab Sample ID: TD49314-8	Date Received: 12/24/19
Matrix: SO - Soil	Percent Solids: 87.3
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	18.6	11	mg/kg	2	12/27/19 02:40	PK	EPA 300.0
Solids, Percent	87.3		%	1	12/26/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.16
3

Client Sample ID: SW-9		Date Sampled: 12/17/19
Lab Sample ID: TD49314-8A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 87.3
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356983.D	1	12/28/19 06:59	ALA	n/a	n/a	L:GLA2846
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.5	3.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	96%		63-139%		
540-36-3	1,4-Difluorobenzene	95%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.16
3

Client Sample ID: SW-9		Date Sampled: 12/17/19
Lab Sample ID: TD49314-8A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 87.3
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002611.D	1	12/31/19 09:50	ALA	12/30/19 09:30	L:OP15957	L:GLG920
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28) ^b	1.66	5.6	0.48	mg/kg	J
	TPH-ORO (> C28-C40) ^c	ND	5.6	1.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	49%		31-127%

- (a) Analysis performed at SGS Scott, LA.
- (b) Associated CCV outside of control limits high.
- (c) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.17
3

Client Sample ID: SW-8		Date Sampled: 12/17/19
Lab Sample ID: TD49314-9		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 73.3
Method: SW846 8260C SW846 5030A		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487845.D	5	12/24/19 19:24	ZQ	12/24/19 14:25	n/a	VR2356
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.00 g	100 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0034	0.0024	mg/kg	
108-88-3	Toluene	ND	0.027	0.0063	mg/kg	
100-41-4	Ethylbenzene	ND	0.027	0.0069	mg/kg	
1330-20-7	Xylene (total)	ND	0.027	0.0063	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		59-126%
2037-26-5	Toluene-D8	90%		70-139%
460-00-4	4-Bromofluorobenzene	95%		63-138%
17060-07-0	1,2-Dichloroethane-D4	95%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.17
3

Client Sample ID: SW-8	Date Sampled: 12/17/19
Lab Sample ID: TD49314-9	Date Received: 12/24/19
Matrix: SO - Soil	Percent Solids: 73.3
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	564	68	mg/kg	10	12/27/19 02:57	PK	EPA 300.0
Solids, Percent	73.3		%	1	12/26/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.18
3

Client Sample ID: SW-8		Date Sampled: 12/17/19
Lab Sample ID: TD49314-9A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 73.3
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356985.D	1	12/28/19 07:21	ALA	n/a	n/a	L:GLA2846
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	8.6	4.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	99%		63-139%		
540-36-3	1,4-Difluorobenzene	96%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

318
3

Client Sample ID: SW-8		Date Sampled: 12/17/19
Lab Sample ID: TD49314-9A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 73.3
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002612.D	1	12/31/19 10:11	ALA	12/30/19 09:30	L:OP15957	L:GLG920
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28) ^b	1.22	6.8	0.58	mg/kg	J
	TPH-ORO (> C28-C40) ^c	ND	6.8	1.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	76%		31-127%

- (a) Analysis performed at SGS Scott, LA.
- (b) Associated CCV outside of control limits high.
- (c) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.19
3

Client Sample ID: FL-18		Date Sampled: 12/17/19
Lab Sample ID: TD49314-10		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 86.6
Method: SW846 8260C SW846 5030A		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487846.D	5	12/24/19 19:51	ZQ	12/24/19 14:25	n/a	VR2356
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.06 g	100 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0029	0.0020	mg/kg	
108-88-3	Toluene	ND	0.023	0.0052	mg/kg	
100-41-4	Ethylbenzene	ND	0.023	0.0058	mg/kg	
1330-20-7	Xylene (total)	ND	0.023	0.0053	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		59-126%
2037-26-5	Toluene-D8	89%		70-139%
460-00-4	4-Bromofluorobenzene	93%		63-138%
17060-07-0	1,2-Dichloroethane-D4	97%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.19

3

Client Sample ID: FL-18	Date Sampled: 12/17/19
Lab Sample ID: TD49314-10	Date Received: 12/24/19
Matrix: SO - Soil	Percent Solids: 86.6
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	298	57	mg/kg	10	12/27/19 03:14	PK	EPA 300.0
Solids, Percent	86.6		%	1	12/26/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.20
3

Client Sample ID: FL-18		Date Sampled: 12/17/19
Lab Sample ID: TD49314-10A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 86.6
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356987.D	1	12/28/19 07:44	ALA	n/a	n/a	L:GLA2846
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.90 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.7	3.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	99%		63-139%		
540-36-3	1,4-Difluorobenzene	96%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.20
3

Client Sample ID: FL-18		Date Sampled: 12/17/19
Lab Sample ID: TD49314-10A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 86.6
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002613.D	1	12/31/19 10:33	ALA	12/30/19 09:30	L:OP15957	L:GLG920
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28) ^b	1.21	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40) ^c	ND	5.7	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	77%		31-127%

- (a) Analysis performed at SGS Scott, LA.
- (b) Associated CCV outside of control limits high.
- (c) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.21
3

Client Sample ID: FL-19		Date Sampled: 12/17/19
Lab Sample ID: TD49314-11		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 87.3
Method: SW846 8260C SW846 5030A		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487847.D	5	12/24/19 20:18	ZQ	12/24/19 14:25	n/a	VR2356
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.12 g	100 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0028	0.0020	mg/kg	
108-88-3	Toluene	ND	0.022	0.0051	mg/kg	
100-41-4	Ethylbenzene	ND	0.022	0.0056	mg/kg	
1330-20-7	Xylene (total)	ND	0.022	0.0052	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		59-126%
2037-26-5	Toluene-D8	89%		70-139%
460-00-4	4-Bromofluorobenzene	92%		63-138%
17060-07-0	1,2-Dichloroethane-D4	96%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound



SGS North America Inc.

Report of Analysis

Page 1 of 1

3.21

3

Client Sample ID: FL-19	Date Sampled: 12/17/19
Lab Sample ID: TD49314-11	Date Received: 12/24/19
Matrix: SO - Soil	Percent Solids: 87.3
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	156	28	mg/kg	5	12/27/19 03:30	PK	EPA 300.0
Solids, Percent	87.3		%	1	12/26/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.22
3

Client Sample ID: FL-19		Date Sampled: 12/17/19
Lab Sample ID: TD49314-11A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 87.3
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356989.D	1	12/28/19 08:07	ALA	n/a	n/a	L:GLA2846
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.20 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.2	3.0	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	97%		63-139%		
540-36-3	1,4-Difluorobenzene	95%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.22
3

Client Sample ID: FL-19		Date Sampled: 12/17/19
Lab Sample ID: TD49314-11A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 87.3
Method: SW846 8015C SW846 3546		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002614.D	1	12/31/19 10:54	ALA	12/30/19 09:30	L:OP15957	L:GLG920
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28) ^b	1.40	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40) ^c	ND	5.7	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	73%		31-127%

- (a) Analysis performed at SGS Scott, LA.
- (b) Associated CCV outside of control limits high.
- (c) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.23
3

Client Sample ID: EW		
Lab Sample ID: TD49314-12		Date Sampled: 12/17/19
Matrix: SO - Soil		Date Received: 12/24/19
Method: SW846 8260C SW846 5030A		Percent Solids: 83.9
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487848.D	5	12/24/19 20:45	ZQ	12/24/19 14:25	n/a	VR2356
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.00 g	100 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0030	0.0021	mg/kg	
108-88-3	Toluene	ND	0.024	0.0055	mg/kg	
100-41-4	Ethylbenzene	ND	0.024	0.0060	mg/kg	
1330-20-7	Xylene (total)	ND	0.024	0.0055	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		59-126%
2037-26-5	Toluene-D8	87%		70-139%
460-00-4	4-Bromofluorobenzene	93%		63-138%
17060-07-0	1,2-Dichloroethane-D4	96%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.23

3

Client Sample ID: EW	Date Sampled: 12/17/19
Lab Sample ID: TD49314-12	Date Received: 12/24/19
Matrix: SO - Soil	Percent Solids: 83.9
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	38.8	12	mg/kg	2	12/27/19 03:47	PK	EPA 300.0
Solids, Percent	83.9		%	1	12/26/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.24
3

Client Sample ID: EW		Date Sampled: 12/17/19
Lab Sample ID: TD49314-12A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 83.9
Method: SW846 8015C		
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356991.D	1	12/28/19 08:30	ALA	n/a	n/a	L:GLA2846
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.20 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.7	3.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	99%		63-139%		
540-36-3	1,4-Difluorobenzene	96%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.24
3

Client Sample ID: EW		
Lab Sample ID: TD49314-12A		Date Sampled: 12/17/19
Matrix: SO - Soil		Date Received: 12/24/19
Method: SW846 8015C SW846 3546		Percent Solids: 83.9
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002615.D	1	12/31/19 11:16	ALA	12/30/19 09:30	L:OP15957	L:GLG920
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28) ^b	3.58	5.9	0.51	mg/kg	J
	TPH-ORO (> C28-C40) ^c	ND	5.9	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	88%		31-127%

- (a) Analysis performed at SGS Scott, LA.
- (b) Associated CCV outside of control limits high.
- (c) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.25
3

Client Sample ID: FL-15		
Lab Sample ID: TD49314-13		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/24/19
Method: SW846 8260C SW846 5030A		Percent Solids: 87.5
Project: ETECH:New Mexico		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R03487849.D	5	12/24/19 21:12	ZQ	12/24/19 14:25	n/a	VR2356
Run #2							

Run #1	Initial Weight	Final Volume
Run #1	5.15 g	100 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0028	0.0019	mg/kg	
108-88-3	Toluene	ND	0.022	0.0051	mg/kg	
100-41-4	Ethylbenzene	ND	0.022	0.0056	mg/kg	
1330-20-7	Xylene (total)	ND	0.022	0.0052	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		59-126%
2037-26-5	Toluene-D8	88%		70-139%
460-00-4	4-Bromofluorobenzene	93%		63-138%
17060-07-0	1,2-Dichloroethane-D4	97%		54-123%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.25

3

Client Sample ID: FL-15	Date Sampled: 12/16/19
Lab Sample ID: TD49314-13	Date Received: 12/24/19
Matrix: SO - Soil	Percent Solids: 87.5
Project: ETECH:New Mexico	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	170	28	mg/kg	5	12/27/19 04:04	PK	EPA 300.0
Solids, Percent	87.5		%	1	12/26/19	LC	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.26
3

Client Sample ID: FL-15		Date Sampled: 12/16/19
Lab Sample ID: TD49314-13A		Date Received: 12/24/19
Matrix: SO - Soil		Percent Solids: 87.5
Method: SW846 8015C		
Project: ETECH:New Mexico		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LA356967.D	1	12/28/19 03:56	ALA	n/a	n/a	L:GLA2846
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.4	3.1	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	99%		63-139%		
540-36-3	1,4-Difluorobenzene	96%		52-140%		

(a) Analysis performed at SGS Scott, LA.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

3.26
3

Client Sample ID: FL-15		
Lab Sample ID: TD49314-13A		Date Sampled: 12/16/19
Matrix: SO - Soil		Date Received: 12/24/19
Method: SW846 8015C SW846 3546		Percent Solids: 87.5
Project: ETECH:New Mexico		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LG002616.D	1	12/31/19 11:37	ALA	12/30/19 09:30	L:OP15957	L:GLG920
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28) ^b	2.21	5.7	0.49	mg/kg	J
	TPH-ORO (> C28-C40) ^b	1.11	5.7	1.1	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	65%		31-127%

(a) Analysis performed at SGS Scott, LA.

(b) Associated CCV outside of control limits high.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound



Houston, TX

Section 4

4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

SGS North America Inc. - Houston
10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

10935

PAGE 1 OF 2

FEDEX Tracking # 493396672460
SGS Quote # 493396672460
Matrix Order Control # AP-124614-46
SGS Job # TD49314

Client / Reporting Information: Key Energy / Eken Env
Project Name: Whites City Rd Incident
Street Address: 3100 Plains Hwy, Rural Eddy, NM
City: Lovington NM, State: NM, Zip: 88260
Project Contact: Joe Lowry, joe@ekenv.com
Phone: 432-460-4450
Sampler(s) Name(s): Joe Lowry
Collection Table with 7 samples (FL-16 to SW-10) and various analysis columns.
Data Deliverable Information: Commercial "A" (Level 1), Commercial "B" (Level 2), Commercial "C"
Sample Custody must be documented below each time samples change possession, including courier delivery.
Relinquished/Received by: Joe Lowry, Felix, P...
Date/Time: 12/20/14, 12/21/14, 12/22/14, 12/23/14, 12/24/14

4.1
4





CHAIN OF CUSTODY

SGS North America Inc. - Houston
10165 Harwin Dr. Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

10936

PAGE 2 OF 2

FED-EX Tracking # 443540092471
Bottle Order Control # AP-121619-46
SGS Quote # 16439
SGS Job # TD49314

Client / Reporting Information: Key Energy / Etech EW
Project Information: Whites City Rd Accident
Requested Analyses: Matrix Codes
Collection Table with columns: Field ID / Point of Collection, Date, Time, Sampled By, Matrix, # of bottles, etc.
Turnaround Time: Standard 10 Business Days
Data Deliverable Information: Commercial "A" (Level 1), Commercial "B" (Level 2), etc.
Chain of Custody: Relinquished by / Received By with dates and times.

4.1
4

TD49314: Chain of Custody

Page 2 of 6



SGS Sample Receipt Summary

Job Number: TD49314 **Client:** KEY ENERGY **Project:** WHITE CITY RD
Date / Time Received: 12/24/2019 12:00:00 PM **Delv Method:** FEDEX **Airbill #'s:** 493390072460
of Coolers: 2 **Therm ID:** IR-3; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (2/2); #2: (2.5/2.5);

Test Strip Lot #s: pH 1-12: 10D0391 pH 12+: _____ **Other: (Specify)** _____

Cooler Information

	Y	or	N	N/A
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
3. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information

	Y	or	N	N/A
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Type Of TB Received	W	or	S	N/A
	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Misc. Information

Number of terracores: _____ Number of Lab Filtered Metals: _____
 Number of 5035 Field Kits: _____
 Residual Chlorine Test Strip Lot #: _____

Comments

Sample Information

	Y	or	N	N/A
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
6. Dates/Times/IDs on COC match Sample Label	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
7. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
8. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
9. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
11. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
12. Special Instructions (compositing/filtering) clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. Voa Soil Kits/Jars received past 48hrs?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
14. % Solids Jar received?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
15. Residual Chlorine Present?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

4.1
4

TD49314: Chain of Custody

Page 3 of 6

Sample Receipt Log

Job #: TD49314 Date / Time Received: 12/24/2019 12:00:00 PM Initials: MAURICIM
 Client: KEY ENERGY

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD49314-1	8oz	1	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-1	4oz	2	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-1	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-1	4oz	4	TPHFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-2	8oz	1	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-2	4oz	2	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-2	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-2	4oz	4	TPHFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-3	8oz	1	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-3	4oz	2	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-3	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-3	4oz	4	TPHFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-4	8oz	1	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-4	4oz	2	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-4	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-4	4oz	4	TPHFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-5	8oz	1	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-5	4oz	2	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-5	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-5	4oz	4	TPHFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-6	8oz	1	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-6	4oz	2	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-6	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2

4.1
4

TD49314: Chain of Custody

Page 4 of 6

Sample Receipt Log

Job #: TD49314 Date / Time Received: 12/24/2019 12:00:00 PM Initials: MAURICIM
 Client: KEY ENERGY

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD49314-6	4oz	4	TPHFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-7	8oz	1	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-7	4oz	2	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-7	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
1	TD49314-7	4oz	4	TPHFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2	0	2
2	TD49314-8	8oz	1	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-8	4oz	2	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-8	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-8	4oz	4	TPHFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-9	8oz	1	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-9	4oz	2	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-9	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-9	4oz	4	TPHFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-10	8oz	1	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-10	4oz	2	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-10	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-10	4oz	4	TPHFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-11	8oz	1	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-11	4oz	2	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-11	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-11	4oz	4	TPHFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-12	8oz	1	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-12	4oz	2	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5

4.1
4

TD49314: Chain of Custody

Page 5 of 6

Sample Receipt Log

Job #: TD49314 **Date / Time Received:** 12/24/2019 12:00:00 PM **Initials:** MAURICIM

Client: KEY ENERGY

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
2	TD49314-12	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-12	4oz	4	TPHFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-13	8oz	1	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-13	4oz	2	2-109	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-13	4oz	3	VRFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5
2	TD49314-13	4oz	4	TPHFREEZ	N/P	Note #2 - Preservative check not applicable.	IR-3	2.5	0	2.5

4.1
4

TD49314: Chain of Custody

Page 6 of 6



Houston, TX

Section 5

MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD49314
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR2356-MB	R03487831.D	1	12/24/19	ZQ	n/a	n/a	VR2356

The QC reported here applies to the following samples:

Method: SW846 8260C

TD49314-1, TD49314-2, TD49314-3, TD49314-4, TD49314-5, TD49314-6, TD49314-7, TD49314-8, TD49314-9, TD49314-10, TD49314-11, TD49314-12, TD49314-13

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.35	ug/kg	
100-41-4	Ethylbenzene	ND	4.0	1.0	ug/kg	
108-88-3	Toluene	ND	4.0	0.92	ug/kg	
1330-20-7	Xylene (total)	ND	4.0	0.93	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	115%	59-126%
2037-26-5	Toluene-D8	90%	70-139%
460-00-4	4-Bromofluorobenzene	97%	63-138%
17060-07-0	1,2-Dichloroethane-D4	105%	54-123%

5.1.1
5

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD49314
Account: KEYENTXH Key Energy
Project: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR2356-BS	R03487829.D	1	12/24/19	ZQ	n/a	n/a	VR2356
VR2356-BSD	R03487834.D	5	12/24/19	ZQ	n/a	n/a	VR2356

The QC reported here applies to the following samples:

Method: SW846 8260C

TD49314-1, TD49314-2, TD49314-3, TD49314-4, TD49314-5, TD49314-6, TD49314-7, TD49314-8, TD49314-9, TD49314-10, TD49314-11, TD49314-12, TD49314-13

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	50	47.8	96	45.6	91	5	58-124/30
100-41-4	Ethylbenzene	50	43.8	88	41.1	82	6	57-124/30
108-88-3	Toluene	50	43.3	87	40.9	82	6	67-119/30
1330-20-7	Xylene (total)	150	132	88	125	83	5	62-120/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	117%	119%	59-126%
2037-26-5	Toluene-D8	90%	89%	70-139%
460-00-4	4-Bromofluorobenzene	98%	99%	63-138%
17060-07-0	1,2-Dichloroethane-D4	103%	101%	54-123%

* = Outside of Control Limits.

5.2.1
5



Houston, TX

Section 6

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries



METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD49314
Account: KEYENTXH - Key Energy
Project: ETECH:New Mexico

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP56156/GN3440	5.0	0.0	mg/kg	100	99.9	99.9	90-110%

Associated Samples:

Batch GP56156: TD49314-1, TD49314-2, TD49314-3, TD49314-4, TD49314-5, TD49314-6, TD49314-7, TD49314-8, TD49314-9, TD49314-10, TD49314-11, TD49314-12, TD49314-13

(*) Outside of QC limits

6.1
6

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD49314
Account: KEYENTXH - Key Energy
Project: ETECH:New Mexico

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP56156/GN3440	TD49314-1	mg/kg	299	299	0.0	0-20%
Solids, Percent	GN3417	TD49314-1	%	85.7	85.3	0.5	0-5%

Associated Samples:

Batch GN3417: TD49314-1, TD49314-2, TD49314-3, TD49314-4, TD49314-5, TD49314-6, TD49314-7, TD49314-8, TD49314-9, TD49314-10, TD49314-11, TD49314-12, TD49314-13

Batch GP56156: TD49314-1, TD49314-2, TD49314-3, TD49314-4, TD49314-5, TD49314-6, TD49314-7, TD49314-8, TD49314-9, TD49314-10, TD49314-11, TD49314-12, TD49314-13

(*) Outside of QC limits

62
6

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD49314
Account: KEYENTXH - Key Energy
Project: ETECH:New Mexico

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP56156/GN3440	TD49314-1	mg/kg	299	1160	563	22.7N	80-120%

Associated Samples:

Batch GP56156: TD49314-1, TD49314-2, TD49314-3, TD49314-4, TD49314-5, TD49314-6, TD49314-7, TD49314-8, TD49314-9, TD49314-10, TD49314-11, TD49314-12, TD49314-13

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

6.3
6



Houston, TX

Section 7

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

7

1.2

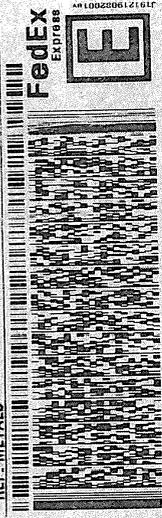
DV440

ORIGIN ID: SGRA (713) 271
SAMPLE MANAGEMENT
565 HOUSTON
SUTHERLAND DRIVE
SUITE 1500
HOUSTON, TX 77036
UNITED STATES US

TO **RON BENJAMIN**
ACCUTEST LABORATORIES
500 AMBASSADOR CAFFERY PKWY

SCOTT LA 70583

REF: METALS



FRI - 27 DEC 3:00P
STANDARD OVERNIGHT

3 of 3
MPS# 4905 2699 3715
Mett# 4906 2689 3690

XH LFTA

70583
LA-US
LFT



TD49314: Chain of Custody
Page 3 of 4

SGS Sample Receipt Summary

Job Number: TD49314 **Client:** SGS NORTH AMERICA **Project:** ETECH NEW MEXICO

Date / Time Received: 12/27/2019 9:30:00 AM **Delivery Method:** FedEx **Airbill #'s:** 4905 2699 3715

Cooler Temps (Initial/Adjusted): #1: (1.2/1.2);

<u>Cooler Security</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Thermometer ID:	<u>DV440; DV440;</u>		
3. Cooler media:	<u>Ice (direct contact)</u>		
4. No. Coolers:	<u>1</u>		

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	<u>Intact</u>		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

7.1
7

TD49314: Chain of Custody

Page 4 of 4



Houston, TX

Section 8

GC Volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary

Page 1 of 1

Job Number: TD49314
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLC2577-MB1	LC081072.D	1	12/27/19	NN	n/a	n/a	GLC2577

The QC reported here applies to the following samples:

Method: SW846 8015C

TD49314-7A

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	5.50	5.0	2.4	mg/kg	

CAS No.	Surrogate Recoveries	Limits	
460-00-4	4-Bromofluorobenzene	92%	63-139%
540-36-3	1,4-Difluorobenzene	97%	52-140%

8.1.1

8

Method Blank Summary

Job Number: TD49314
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLA2846-MB1	LA356889.D	1	12/27/19	NN	n/a	n/a	GLA2846

The QC reported here applies to the following samples:

Method: SW846 8015C

TD49314-1A, TD49314-2A, TD49314-3A, TD49314-4A, TD49314-5A, TD49314-6A, TD49314-8A, TD49314-9A, TD49314-10A, TD49314-11A, TD49314-12A, TD49314-13A

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.4	mg/kg	

CAS No.	Surrogate Recoveries	Limits	
460-00-4	4-Bromofluorobenzene	98%	63-139%
540-36-3	1,4-Difluorobenzene	98%	52-140%

8.1.2

8

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD49314
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLC2577-BS1	LC081070.D	1	12/27/19	NN	n/a	n/a	GLC2577
GLC2577-BSD1	LC081071.D	1	12/27/19	NN	n/a	n/a	GLC2577

The QC reported here applies to the following samples:

Method: SW846 8015C

TD49314-7A

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	50	53.0	106	51.4	103	3	79-121/6

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	112%	107%	63-139%
540-36-3	1,4-Difluorobenzene	102%	99%	52-140%

8.2.1
8

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD49314
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLA2846-BS2	LA356885.D	1	12/27/19	NN	n/a	n/a	GLA2846
GLA2846-BSD2	LA356887.D	1	12/27/19	NN	n/a	n/a	GLA2846

The QC reported here applies to the following samples: **Method:** SW846 8015C

TD49314-1A, TD49314-2A, TD49314-3A, TD49314-4A, TD49314-5A, TD49314-6A, TD49314-8A, TD49314-9A, TD49314-10A, TD49314-11A, TD49314-12A, TD49314-13A

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	50	41.7	83	42.9	86	3	79-121/6

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	98%	98%	63-139%
540-36-3	1,4-Difluorobenzene	99%	98%	52-140%

8.2.2
8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD49314
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA60298-5MS	LC081075.D	1	12/27/19	NN	n/a	n/a	GLC2577
LA60298-5MSD	LC081076.D	1	12/27/19	NN	n/a	n/a	GLC2577
LA60298-5	LC081079.D	1	12/27/19	NN	n/a	n/a	GLC2577

The QC reported here applies to the following samples:

Method: SW846 8015C

TD49314-7A

CAS No.	Compound	LA60298-5 mg/kg	Spike Q mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	3.81	96.2	89.2	89	96.2	92.6	92	4	79-121/6

CAS No.	Surrogate Recoveries	MS	MSD	LA60298-5	Limits
460-00-4	4-Bromofluorobenzene	110%	112%	99%	63-139%
540-36-3	1,4-Difluorobenzene	97%	98%	97%	52-140%

8.3.1
8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD49314
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA60258-8MS	LA356955.D	1	12/28/19	NN	n/a	n/a	GLA2846
LA60258-8MSD	LA356957.D	1	12/28/19	NN	n/a	n/a	GLA2846
LA60258-8	LA356953.D	1	12/28/19	NN	n/a	n/a	GLA2846

The QC reported here applies to the following samples: **Method:** SW846 8015C

TD49314-1A, TD49314-2A, TD49314-3A, TD49314-4A, TD49314-5A, TD49314-6A, TD49314-8A, TD49314-9A, TD49314-10A, TD49314-11A, TD49314-12A, TD49314-13A

CAS No.	Compound	LA60258-8 mg/kg	Spike Q	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	481	401	83	481	413	86	3	79-121/6

CAS No.	Surrogate Recoveries	MS	MSD	LA60258-8	Limits
460-00-4	4-Bromofluorobenzene	98%	98%	96%	63-139%
540-36-3	1,4-Difluorobenzene	98%	100%	97%	52-140%

* = Outside of Control Limits.





Houston, TX

Section 9

GC/LC Semi-volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD49314
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15957-MB	LG002596.D	1	12/31/19	PC	12/30/19	OP15957	GLG920

The QC reported here applies to the following samples: **Method:** SW846 8015C

TD49314-1A, TD49314-2A, TD49314-3A, TD49314-4A, TD49314-5A, TD49314-6A, TD49314-7A, TD49314-8A, TD49314-9A, TD49314-10A, TD49314-11A, TD49314-12A, TD49314-13A

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	5.0	0.43	mg/kg	
	TPH-ORO (> C28-C40)	ND	5.0	0.92	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	88% 31-127%

9.1.1
9

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD49314
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15957-BS1	LG002597.D	1	12/31/19	PC	12/30/19	OP15957	GLG920
OP15957-BSD1	LG002598.D	1	12/31/19	PC	12/30/19	OP15957	GLG920

The QC reported here applies to the following samples: **Method:** SW846 8015C

TD49314-1A, TD49314-2A, TD49314-3A, TD49314-4A, TD49314-5A, TD49314-6A, TD49314-7A, TD49314-8A, TD49314-9A, TD49314-10A, TD49314-11A, TD49314-12A, TD49314-13A

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	150	138	92	145	97	5	49-118/19

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	88%	94%	31-127%

9.2.1
9

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD49314
Account: ALGC SGS Houston, TX
Project: KEYENTXH: ETECH:New Mexico

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15957-BS2	LG002599.D	1	12/31/19	PC	12/30/19	OP15957	GLG920
OP15957-BSD2	LG002600.D	1	12/31/19	PC	12/30/19	OP15957	GLG920

The QC reported here applies to the following samples: **Method:** SW846 8015C

TD49314-1A, TD49314-2A, TD49314-3A, TD49314-4A, TD49314-5A, TD49314-6A, TD49314-7A, TD49314-8A, TD49314-9A, TD49314-10A, TD49314-11A, TD49314-12A, TD49314-13A

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-ORO (> C28-C40)	59.7	53.5	90	54.7	91	2	60-127/10

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	84%	84%	31-127%

9.2.2
9

* = Outside of Control Limits.



Houston, TX

01/08/20

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Key Energy

ETECH: Whites City, Rd.

SGS Job Number: TD49693

Sampling Date: 01/03/20



Report to:

Key Energy
1301 McKinney Street
Houston, TX 77010
msticker@keyenergy.com; jbest@keyenergy.com;
joel@etechnv.com
ATTN: Maury Sticker

Total number of pages in report: 21



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

John Watson
Technical Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-19-34) AR (14-016-0) AZ (AZ0769) FL (E87628)
KS (E-10366) LA (85695/04004) NJ (TX010) OK (2018-129) VA (10171)

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Test results relate only to samples analyzed.





Table of Contents

-1-

- Section 1: Sample Summary 3**
- Section 2: Summary of Hits 4**
- Section 3: Sample Results 5**
 - 3.1: TD49693-1: FL-3B 6**
 - 3.2: TD49693-2: FL-4B 7**
 - 3.3: TD49693-3: FL-7B 8**
 - 3.4: TD49693-4: FL-9B 9**
 - 3.5: TD49693-5: WW-B 10**
 - 3.6: TD49693-6: NW-4B 11**
 - 3.7: TD49693-7: SW-1B 12**
 - 3.8: TD49693-8: SW-5B 13**
- Section 4: Misc. Forms 14**
 - 4.1: Chain of Custody 15**
- Section 5: General Chemistry - QC Data Summaries 18**
 - 5.1: Method Blank and Spike Results Summary 19**
 - 5.2: Duplicate Results Summary 20**
 - 5.3: Matrix Spike Results Summary 21**

SGS North America Inc.

Sample Summary

Key Energy

Job No: TD49693

ETECH: Whites City, Rd.

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
TD49693-1	01/03/20	13:00	01/07/20	SO	Soil	FL-3B
TD49693-2	01/03/20	12:30	01/07/20	SO	Soil	FL-4B
TD49693-3	01/03/20	12:00	01/07/20	SO	Soil	FL-7B
TD49693-4	01/03/20	11:30	01/07/20	SO	Soil	FL-9B
TD49693-5	01/03/20	10:00	01/07/20	SO	Soil	WW-B
TD49693-6	01/03/20	11:00	01/07/20	SO	Soil	NW-4B
TD49693-7	01/03/20	13:30	01/07/20	SO	Soil	SW-1B
TD49693-8	01/03/20	10:30	01/07/20	SO	Soil	SW-5B

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Page 1 of 1

Job Number: TD49693
Account: Key Energy
Project: ETECH: Whites City, Rd.
Collected: 01/03/20

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD49693-1	FL-3B					
Chloride		13.2	5.9		mg/kg	EPA 300.0
TD49693-2	FL-4B					
Chloride		11.1	6.0		mg/kg	EPA 300.0
TD49693-3	FL-7B					
Chloride		16.2	5.9		mg/kg	EPA 300.0
TD49693-4	FL-9B					
Chloride		34.2	5.9		mg/kg	EPA 300.0
TD49693-5	WW-B					
Chloride		17.9	5.4		mg/kg	EPA 300.0
TD49693-6	NW-4B					
Chloride		11.9	5.4		mg/kg	EPA 300.0
TD49693-7	SW-1B					
Chloride		12.1	5.4		mg/kg	EPA 300.0
TD49693-8	SW-5B					
Chloride		12.0	5.4		mg/kg	EPA 300.0



Houston, TX

Section 3



Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-3B	Date Sampled: 01/03/20
Lab Sample ID: TD49693-1	Date Received: 01/07/20
Matrix: SO - Soil	Percent Solids: 83.6
Project: ETECH: Whites City, Rd.	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	13.2	5.9	mg/kg	1	01/07/20 22:06	PK	EPA 300.0
Solids, Percent	83.6		%	1	01/08/20	PK	SM 2540 G

RL = Reporting Limit

31
3

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-4B	Date Sampled: 01/03/20
Lab Sample ID: TD49693-2	Date Received: 01/07/20
Matrix: SO - Soil	Percent Solids: 83.6
Project: ETECH: Whites City, Rd.	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	11.1	6.0	mg/kg	1	01/07/20 22:57	PK	EPA 300.0
Solids, Percent	83.6		%	1	01/08/20	PK	SM 2540 G

RL = Reporting Limit

32
3

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: FL-7B	Date Sampled: 01/03/20
Lab Sample ID: TD49693-3	Date Received: 01/07/20
Matrix: SO - Soil	Percent Solids: 83.7
Project: ETECH: Whites City, Rd.	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	16.2	5.9	mg/kg	1	01/07/20 23:13	PK	EPA 300.0
Solids, Percent	83.7		%	1	01/08/20	PK	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

34
3

Client Sample ID: FL-9B	Date Sampled: 01/03/20
Lab Sample ID: TD49693-4	Date Received: 01/07/20
Matrix: SO - Soil	Percent Solids: 84.2
Project: ETECH: Whites City, Rd.	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	34.2	5.9	mg/kg	1	01/07/20 23:30	PK	EPA 300.0
Solids, Percent	84.2		%	1	01/08/20	PK	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: WW-B	Date Sampled: 01/03/20
Lab Sample ID: TD49693-5	Date Received: 01/07/20
Matrix: SO - Soil	Percent Solids: 91.9
Project: ETECH: Whites City, Rd.	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	17.9	5.4	mg/kg	1	01/07/20 23:47	PK	EPA 300.0
Solids, Percent	91.9		%	1	01/08/20	PK	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: NW-4B	Date Sampled: 01/03/20
Lab Sample ID: TD49693-6	Date Received: 01/07/20
Matrix: SO - Soil	Percent Solids: 92.0
Project: ETECH: Whites City, Rd.	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	11.9	5.4	mg/kg	1	01/08/20 00:04	PK	EPA 300.0
Solids, Percent	92		%	1	01/08/20	PK	SM 2540 G

RL = Reporting Limit

3.6
3

SGS North America Inc.

Report of Analysis

Page 1 of 1

37
3

Client Sample ID: SW-1B	Date Sampled: 01/03/20
Lab Sample ID: TD49693-7	Date Received: 01/07/20
Matrix: SO - Soil	Percent Solids: 91.9
Project: ETECH: Whites City, Rd.	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	12.1	5.4	mg/kg	1	01/08/20 00:55	PK	EPA 300.0
Solids, Percent	91.9		%	1	01/08/20	PK	SM 2540 G

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID: SW-5B	Date Sampled: 01/03/20
Lab Sample ID: TD49693-8	Date Received: 01/07/20
Matrix: SO - Soil	Percent Solids: 92.0
Project: ETECH: Whites City, Rd.	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	12.0	5.4	mg/kg	1	01/08/20 01:12	PK	EPA 300.0
Solids, Percent	92		%	1	01/08/20	PK	SM 2540 G

RL = Reporting Limit



Houston, TX

Section 4

4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

10650



CHAIN OF CUSTODY

SGS North America Inc. - Houston
10185 Harwin Dr. Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsus

PAGE ___ OF ___

FED-EX Tracking # 41833 9006 9681
Bottle Order Control # AP-12 619-416
SGS Job # Eteck Env 14436 TD 49693

Form containing Client/Reporting Information, Project Information, Requested Analyses, Matrix Codes, and a collection table with columns for Field ID, Date, Time, Sampled By, Matrix, # of bottles, and various chemical analysis parameters.

4.1
4

TD49693: Chain of Custody
Page 1 of 3

SGS Sample Receipt Summary

Job Number: TD49693 **Client:** ETECH ENV **Project:** WHITE CITY RD
Date / Time Received: 1/7/2020 9:00:00 AM **Delv Method:** FEDEX **Airbill #'s:** 493390069681
of Coolers: 1 **Therm ID:** IR-3; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (2.1/2.1);

Test Strip Lot #s: **pH 1-12:** 10D0391 **pH 12+:** **Other: (Specify)** _____

Cooler Information

	Y	or	N	N/A
1. Custody Seals Present:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Custody Seals Intact:	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
3. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information

	Y	or	N	N/A
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Type Of TB Received	W	or	S	N/A
	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Misc. Information

Number of terracores: _____ Number of Lab Filtered Metals: _____
 Number of 5035 Field Kits: _____
 Residual Chlorine Test Strip Lot #: _____

Comments

Sample Information

	Y	or	N	N/A
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
6. Dates/Times/IDs on COC match Sample Label	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
7. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
8. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
9. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
11. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
12. Special Instructions (compositing/filtering) clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. Voa Soil Kits/Jars received past 48hrs?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
14. % Solids Jar received?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
15. Residual Chlorine Present?	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

4.1
4

TD49693: Chain of Custody

Page 2 of 3

Sample Receipt Log

Job #: TD49693 **Date / Time Received:** 1/7/2020 9:00:00 AM **Initials:** DAG

Client: ETECH ENV

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD49693-1	4oz	1	4-14	N/P	Note #2 - Preservative check not applicable.	IR-3	2.1	0	2.1
1	TD49693-2	4oz	1	4-14	N/P	Note #2 - Preservative check not applicable.	IR-3	2.1	0	2.1
1	TD49693-3	4oz	1	4-14	N/P	Note #2 - Preservative check not applicable.	IR-3	2.1	0	2.1
1	TD49693-4	4oz	1	4-14	N/P	Note #2 - Preservative check not applicable.	IR-3	2.1	0	2.1
1	TD49693-5	4oz	1	4-14	N/P	Note #2 - Preservative check not applicable.	IR-3	2.1	0	2.1
1	TD49693-6	4oz	1	4-14	N/P	Note #2 - Preservative check not applicable.	IR-3	2.1	0	2.1
1	TD49693-7	4oz	1	4-14	N/P	Note #2 - Preservative check not applicable.	IR-3	2.1	0	2.1
1	TD49693-8	4oz	1	4-14	N/P	Note #2 - Preservative check not applicable.	IR-3	2.1	0	2.1

4.1
4

TD49693: Chain of Custody

Page 3 of 3



Houston, TX

Section 5

General Chemistry

5

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD49693
Account: KEYENTXH - Key Energy
Project: ETECH: Whites City, Rd.

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP56265/GN3614	5.0	0.0	mg/kg	100	98.9	98.9	90-110%

Associated Samples:

Batch GP56265: TD49693-1, TD49693-2, TD49693-3, TD49693-4, TD49693-5, TD49693-6, TD49693-7, TD49693-8

(*) Outside of QC limits

5.1
5

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD49693
Account: KEYENTXH - Key Energy
Project: ETECH: Whites City, Rd.

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP56265/GN3614	TD49693-1	mg/kg	13.2	12.7	3.9	0-20%
Solids, Percent	GN3613	TD49579-1	%	99.5	99.5	0.0	0-5%

Associated Samples:

Batch GN3613: TD49693-1, TD49693-2, TD49693-3, TD49693-4, TD49693-5, TD49693-6, TD49693-7, TD49693-8

Batch GP56265: TD49693-1, TD49693-2, TD49693-3, TD49693-4, TD49693-5, TD49693-6, TD49693-7, TD49693-8

(*) Outside of QC limits

5.2
5

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD49693
Account: KEYENTXH - Key Energy
Project: ETECH: Whites City, Rd.

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP56265/GN3614	TD49693-1	mg/kg	13.2	118	130	98.8	80-120%

Associated Samples:

Batch GP56265: TD49693-1, TD49693-2, TD49693-3, TD49693-4, TD49693-5, TD49693-6, TD49693-7, TD49693-8

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

5.3
5

Appendix D

Photographic Log